

1 M E D L V S V G I T H K E A E V E E L E K A R F E S D E A V R D I V E S F G G L S  
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 UniRef90\_V5CCX4  
 UniRef90\_Q65GJ9

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 M N T I F A L G I N H K T A P V A L R E K L A F A P E Q A L V H Q L A T Q L Q I N M  
 H I I V V G I N Y R T A P V E V R E R F A F A E Q E A I E M L K Q T P S I L  
 H V V V G I N H Q T A P V D L R E R V A F A G D Q A L G S L R A L T S V P R V S R  
 L V T L G I N H R T A P V E L R E R V A F A G D Q A L G S L R A L T S V P R V S R  
 L W L I G L N H Q T A P V D L R E R V A F A G D Q A L G S L R A L T S V P R V S R  
 M H H L F V L G V N H Q T A S L S L R E R V A F A G D Q A L G S L R A L T S V P R V S R  
 H I L T I G L N Y R T A P V E E I R E R F A F D K P E A L A K L Q N T K S I L  
 H I L V V G V N H R T A P V E E I R E R L S F S E K E A L I K L N A L P A I S  
 N F L V I G L S H K T A P V E E I R E R I S F S S D D V L R A I T A L P G I S  
 I I A V G V N H R T A P V E E I R E R L S F S D E A S L A R L N S Y P A I E  
 L L A L G L N Y K T A P V E E I R E R F T F S D D R A L L H L S Q T K S I A  
 D I L L L G L N Y K T A P V E E I R E R F T F S D D R A L L H L S Q T K S I A  
 Y L L V V G L N H K T A P V E E I R E R L S F P E A E A L A E V K K I K A V R  
 L L T L G I N H R T A P V E L R E R V A F G P D D A L L H D L V Q Q P G V S S  
 S L L A L G I N H K T A S V S L R E R V A F G P D D A L L H D L V Q Q P G V S S  
 F H V I G L N H A T A P V D V R E R V A F A G D D A L L H D L S Q T K S I V V  
 E I L L L G L N Y K T A P V E E I R E R F T F S D D R A L L H L S Q T K S I A  
 I F V V G L N H K S A P V E E V R E R K L S F T E S E A L L H K L Q G M A G I E  
 H I I T V G L N Y R T A P V E E V R E R K E F A F Q E E A L E Q L K Q T K S I M  
 P L L T I G I N H N T A S V E E I R E R K V A F S P D D A L L H S M S E V K D  
 N H F L L L G I S H K T A P V E E I R E R F Y F D N S A V L R D I H S I P G V D  
 H I L V V G I N H R T A P V E E V R E R K L T F D V S Q A M K S L N Q Q K S V L  
 F L A L G I N H K T A S V E E I R E R V A F S P E Q A L K Q L C Q R T A S R  
 Q I V V V G V D Y K S A P V E E I R E R K L A F A E A E A M K Q L A K Q K S V L  
 H I L V I G V N H R T A P V E E I R E R F S I G P E E V L G Q L R E T R S V L  
 S L I A F G L N H K T A P V D V R E R R I A F G P E R A L E G L I H G C G A K  
 I I A L G I N H K T A S V E L R E R K V A F S P E Q A L K Q L K H H P V I K  
 F I A L G I N H K T A S V A V R E R V A F S P E E A L R Q L C Q V V G S R  
 D I F V V G L S H K T A P V A V R E R K V A F P P E N M L E Q V L A L P G I A  
 I I A L G I N H K S A P V K L R E R K V A F S P D D K A L Q S C P Q Y T S A E  
 F L A F G I N H R T A T V D V R E R V A F A P D Q A L Q L R D E T L S R  
 F L A I G I N Y N T A P V E I R E R L A F P A D T L L D L R Q V I S E I S  
 H I L V V G I N Y K T A P V E I R E R K V S F S P E E A M K A L K E T K S I L  
 L L A L G I N H K T A T V E V R E Q V A F T P A E A L A E L K S L P G V N  
 S L L A L G L N H R T A P V A V R E R K V A F A P D T A L R D L L A I E D I A  
 N I V V V G L S H K T A S V E D I L R E R K V A F G P E E A L K Q L S E N P V V N  
 S L L A I G I N H N T A S V E E I R E R K V A F G P E E A L K Q L C R L T P S R  
 L W V L G L N H Q T A P V D L R E R V A F G D A A L Q S L R A L Q H S S Q F K  
 I I A L G I N H K T A P V E E V R E R K V A F S P E E A L H Q L Q H S S Q F K  
 L L I A L G L N H Q L A P V E E V R E R K V A F S P D D Q A L R E L Q S L H I P G V S S  
 L L I A L G L N H Q T A P V E E V R E R K V A F S P D D Q A L R E L Q S L H I P G V S S  
 H I I V V G I N Y Q T A P V E I R E R L A F E S D A M T A L K N K K S I L  
 L L A L G I N H R T A P V E E V R E R K V A F S P D D Q A L R E L Q S L H I P G V S S  
 S L L A I G I N H Q T A P V E I R E R K V A F S P D D Q A L R E L Q S L H I P G V S S  
 H I I V V G M N Y R T A P V E I R E R L A F E S D A M T A L K N K K S I L  
 L L F V I S I G I N H K T A P V A I V R E R K V A F G P E D A L E R Q L R C R P D I D  
 I A V I G V N H R T A P V E E V R E R K V A F S P E E A L H Q L L Q T K S V L  
 D H I T A G I N H R T A P V I T L R E R Q V A F S A D Q A L Q S A R S H T G I E  
 H I V A G I N H R T A P V E I R E R K V A F S P E E A L H Q L L Q T K S V L  
 L F T V G I N H K T A P V G I R E R K V V F P P E R M G E A L R R L H G V D  
 I T V V G L N H R T A P V L A V R E R K L S F P E K E V L R G L S D R E G V D E  
 F L A L G I N H R T A P V D V R E R R V A F M P D D A L R E A C E L Q P L  
 D H I L V I G V N Y K T A P V E E I R E R L T F N Q S D L V D A M K K L K S I L  
 M S K I I L I G A N H K T A P V E E I R E R K L S F S D E E A L F L K Q D K D I K  
 P L F A L G I N H Q T A S V A L R E R K V V A F S A D D A Y Q A L L L A Q P T V L  
 P L I A L G L N H L T A P V S L I R E Q F A F S E D E A L H E L A R E P G V E  
 H I L V A G I N D Y K T A P V D I V R E Q F A F S E D E A L H D Q L R N M K S V L  
 I W A L G I N H K T A P V A V R E R K V V A F D P S Q V L N T I Q S L E S V S S  
 I V A L G I N H K T A P V E E L R E R K V V A F S A E Q A L Q Q L Q Q A N L V M  
 L L I A I G I N H Y N T A P V A I R E R K V V A F D P A D N T L K N L S D V R D I S  
 L L A L G I N H K T A P V S I L R E R K V V A F S P D D Q A L H S L L Q Q P L V Q  
 Q L T V I G L N H Q T A P V L S I R E R K L A F A A P E A V Q A L S S L H Q Q A D I N  
 H L I C F G I N H T T A P V I A L R E Q F S F D P A A L T S L H Q Q A D I N  
 P L I T V G I N H D S A P I E V R E R K V V A F A P E E A L G D A R K A L D C R  
 H I L T V G L N H Y K T A P V E E I R E R L T F D P S D A M S K L N G K K S I L  
 D N F L V V G I N H K T A P V E E I R E R F T F N D D E I L T R V Y E I S G I R  
 Q L F A L G I N H H T A P V L A V R E Q V A F D P G Q A L H D L L R A K T V  
 S L L V L G I N H K T A P V E L R E R K V V A F S P E Q A L G Q L S E H P Q V R  
 N I I V V G L S H K T A P V D F R E K L S I P K G E A I R I H D Q E G I E  
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 UniRef90\_V5CCX4  
 UniRef90\_Q65GJ9

| QUERY                  | 50                          | 60                              | 70  | 80                |
|------------------------|-----------------------------|---------------------------------|---|-------------------|
| UniRef90_I9DT21        | G S V L L Q T S N R V E V   | Y A S G A R D R A E E           | L G D L I H D D A W                       | V K R G S E       |
| UniRef90_L0EFU5        | D A V I L S T C N R T E E   | Y F S G A A E Q A E Q           | V L H W L A Q H                           | L Y L Y Q E Q E   |
| UniRef90_A0A023DAX5    | E C V I V A T C N R T E E   | Y A V V D R H V L H F           | M E Q W F G M Y L                         | Y M Y E D E A     |
| UniRef90_E4PP86        | E N V I V S T C N R T E E   | Y A V V D Q Y I K A F           | L R W M A G F L                           | N V L E N E A     |
| UniRef90_UP10004655362 | E A A I L S T C N R T E E   | Y L A G D D D C A P M           | V L R W M A G F                           | L Y V J H R D G D |
| UniRef90_C4LBL4        | E A A L L S T C N R T E E   | Y A V A E D G W L D S           | H A E G L G N Y L                         | Y K H R D A D     |
| UniRef90_U1YHH9        | E G V I V G T C N R T E E   | Y C A V D S G A S E E           | V A L W L S R F L                         | Y Q M Q D A E     |
| UniRef90_C8W5F0        | G C V I V S T C N R T E E   | Y A A T M E D I W R F           | L S N R I K N Y T                         | Y S H S L Y D     |
| UniRef90_Q3A008        | E G M I L S T C N R V E V   | Y A A S G D P A Q R F           | M A E H H K P H L                         | Y I H S G R D D   |
| UniRef90_F6CIY0        | G C I I L S T C N R T E E   | Y A A T R E A I W D F           | L S R K I K N Y T                         | Y A H T L Y D     |
| UniRef90_UP10003B37532 | E A A I L S T C N R T E E   | Y C A T E Q A D R H             | L L V N W F E P Y L                       | Y V H T D A E Q   |
| UniRef90_C0ZAG9        | E C I I L S T C N R T E E   | Y V V C D R F L A E             | W F G E Q F K D H                         | L Y I K E N E Q   |
| UniRef90_D5XEC7        | G C A I L S T C N R T E E   | Y E Q G L R G I R E             | F L A R R C R N Y L                       | Y N Y T L F D D   |
| UniRef90_N6W2J1        | E A A I L S T C N R T E E   | Y L A A E D E C S E             | T V L R W L A G F                         | F Y T H V N E D   |
| UniRef90_N9VL02        | E A V I V S T C N R T E E   | Y C N L D A G Q G               | Q V L H W L Q R F                         | T Y L H D D E E   |
| UniRef90_UP10003F4F1F3 | E A A L L S T C N R T E E   | Y V E S D D D L A Q             | W L A T R S S V Y L                       | Y R H R D A D D   |
| UniRef90_UP10003806749 | E S V I L S T C N R T E E   | Y V I C D Q L H T N             | F L A E W F G G P H L                     | Y I K E N D E     |
| UniRef90_Q9ZGG6        | G C C I L S T C N R T E E   | Y G A S T D E W G Q             | L Q P Q D F S K Y F                       | Y V H T L Y D     |
| UniRef90_UP100028A3DDE | E C V I V G T C N R T E E   | Y A V V D R F I E E             | W G Q E F N P H L                         | Y V K E D E R     |
| UniRef90_V5F0D9        | G S V I L S T C N R T E E   | Y I D A A N N I V D             | W L D F H K P S L                         | Y H Y S D E E     |
| UniRef90_X0U387        | E C V I L S T C N R T E E   | Y T V I S E P L E E             | V R K K L E D F Y                         | F Y Y H Q G N N   |
| UniRef90_UP100041509D9 | E N V I I I S T C N R T E E | Y A V V D Q Y I K Q             | F L A E W F D M H L                       | A I Y E A D G S   |
| UniRef90_UP100037BF0C7 | E A A I L S T C N R S E E   | Y T V A A E Q V L A             | W L A D Y H R A C A                       | Y I H A D D S     |
| UniRef90_L8A2F0        | E N V I V S T C N R T E E   | Y A V V D Q L H T A             | F L A E W F A P Y L                       | R V L E G E A     |
| UniRef90_D5WUM2        | E S V I L S T C N R T E E   | Y A V V D A L H P G             | F L A D D F T R Y I                       | Y L H V N D A     |
| UniRef90_D0KZK6        | E A A I V S T C N R T E E   | Y T R S E E N L V I             | E W L A A F H K P Y V Y D H R D E         | L                 |
| UniRef90_L8D237        | E A V I V S T C N R S E E   | Y C N V E G A N S Q             | V L L S W L A S F V Y I                   | H Q N N D         |
| UniRef90_UP10003B6D414 | E A A I L S T C N R S E E   | Y C A Q P R A V L               | D W L Q F H H A C A Y V H E D D A         |                   |
| UniRef90_Q1JVU1        | E A V I V S T C N R V E I   | Y A V G P D A L V Q             | L D D E M L E D H L Y S L S G D D         |                   |
| UniRef90_G4QH62        | Q V V I L S T C N R T E E   | Y I I Q A K E P L S E           | W L A D F H R Q H S Y V K H G D D         |                   |
| UniRef90_A0A031M612    | E V A I L S T C N R T E E   | Y I Y C T Q D Q P D             | P A A L D W V A R Y S Y A H K D A G       |                   |
| UniRef90_V5BET8        | E A A I L S T C N R T E E   | Y F Y C N A N T S D             | E K F L I D W F K P Y L Y T H A D N Q     |                   |
| UniRef90_UP10004278E12 | E C V I I S T C N R T E E   | Y Y A V V D Q I H T A           | F L A D D F W S P F L L I K E S D H       |                   |
| UniRef90_Q1QXC7        | E A A V L S T C N R T E E   | Y Y C V G E R E V L             | D W L G R F H A Q S A Y H Y L D G E       |                   |
| UniRef90_W6MA81        | E A A I L S T C N R T E E   | Y Y I S T D D Q R I             | T Q W L G D Y H Q P Y L Y Q H T E Q G     |                   |
| UniRef90_Q39QM8        | E A V I V S T C N R V E I   | Y Y C D V K G A S K S           | K I I D W L S Q F I Y T H E E Q A         |                   |
| UniRef90_E8M4H3        | G S V I V S T C N R S E E   | Y Y L E Q D Q E V L             | K W L A D Y H R A C A Y V H S E Q D D     |                   |
| UniRef90_A4XR60        | E A A I L S T C N R S E E   | Y Y L Y A I A D Q Q L           | A D W L N S H A R S H L Y Q H Q D A D     |                   |
| UniRef90_D2UBH4        | E A A L L S T C N R T E E   | Y Y C S L E S A D P Q           | A L G W L S D F V Y V Y H M N Q D         |                   |
| UniRef90_U1K6C5        | E S V I V S T C N R T E E   | Y Y C S L E S A D P Q           | A L G W L S D F V Y V Y H M N Q D         |                   |
| UniRef90_A5CW97        | A C I I L S T C N R V E I   | Y Y V N S D N E N P K           | E V R D R I N P Y L N Y F E D N E Q       |                   |
| UniRef90_H8L5B9        | E A L I L S T C N R T E E   | Y Y V D V E E G H H Q           | V Q S E Q Q I A P Y L Y D H R D D Q       |                   |
| UniRef90_UP1000363BF23 | E A A I L S T C N R T E E   | Y Y Y A A S T T N Q Q           | I L I D W F T P Y L Y S H T D S G         |                   |
| UniRef90_UP100037814C3 | E N V I V S T C N R T E E   | Y Y Y A V V D Q Y I K           | E F L A E W F S D H F I H E H D R         |                   |
| UniRef90_F5LJR0        | E C V V V A T C N R T E E   | Y Y Y A V V D R V H I           | E E W F E I P R N H L Y I Y E H D R       |                   |
| UniRef90_A0A023Y6K2    | E A V L L S T C N R T E E   | Y Y Y A V A E A Q W L E         | S H A G Q L H G Y L Y Q H A D A D G       |                   |
| UniRef90_UP100047BCE1A | E V A L L S T C N R T E E   | Y Y Y A C A D D D A A L         | W L A D D L H A Y L Y R H A G E G         |                   |
| UniRef90_Q8DFF8        | G S V I L S T C N R T E E   | Y Y Y C D A R S K V I           | D W L L S Q F H K P S L Y V Y E E Q A     |                   |
| UniRef90_W4DVB9        | E G V V V A T C N R T E E   | Y Y Y C S L A E R N S Q         | T L I K R F L A D Y H E P H L Y A H H G E |                   |
| UniRef90_Z5XS54        | E A V I V S T C N R T E E   | Y Y Y C S L E S A D P Q         | T L I K R F L A D Y H E P H L Y A H H G E |                   |
| UniRef90_K8X1Y8        | E G V V L S T C N R T E E   | Y Y Y L S I D E Q L T Q         | W L C E F H E P S L Y W H E G D Q         |                   |
| UniRef90_UP10004291616 | E V A L L S T C N R T E E   | Y Y Y A V T D D D L V           | D W L A T H P R A Y L Y R H Q D G         |                   |
| UniRef90_S9SSM1        | E C V M V S T C N R T E E   | Y Y Y Y C D A R S K V I         | D W L L S Q F H K P S L Y V Y E D D Q     |                   |
| UniRef90_C0N5V3        | E V V I L S T C N R T E E   | Y Y Y Y C C L D D D S           | D N Q I L A W H Q Y L Y H Y Q S D D       |                   |
| UniRef90_Q2SL96        | E V T I L S T C N R T E E   | Y Y Y Y C A T P G E L I         | E W L G Q Y H Q V S L T I Y N D E D       |                   |
| UniRef90_UP10004780C0D | E L A I L S T C N R T E E   | Y Y Y Y C S T D D E A G         | L S E S L Q W L G E Y I Y A H W D E Q     |                   |
| UniRef90_F6DSA6        | G C A I I L S T C N R T E E | Y Y Y Y C Y A P V E S           | V W F S F L S E K I K N Y T F C H T L Y D |                   |
| UniRef90_UP100037E45FC | E I A I I L S T C N R T E E | Y Y Y Y C A L H S S A A E       | T I E M Y Y G K H A Y L F Y D Q E         |                   |
| UniRef90_K8GH50        | E V A I I L S T C N R M E I | Y Y Y Y C A V A D E D           | H S K L P A T Y L R Q Y L F V L L H H D   |                   |
| UniRef90_F8A990        | E V L F L S T C N R V E I   | Y Y Y Y I L V T R N P E         | A E V W G K A N H Q H L Y Y F Y N Q E     |                   |
| UniRef90_F8FNS4        | E C V I V G T C N R T E E   | Y Y Y Y Y V A V D T Q Q         | G P K E Q F N K H L Y V Y E N E K         |                   |
| UniRef90_UP100036B5997 | E A A I I L S T C N R T E E | Y Y Y Y Y F T D D E R           | V A H W L G E Y H H P Y L Y H R E E D     |                   |
| UniRef90_B114J1        | S C V V I I S T C N R T E E | Y Y Y Y Y A V L S E E I         | W C F L A E R C K S H T Y N Y S F G E     |                   |
| UniRef90_E1VKV2        | E V A I I L S T C N R M E I | Y Y Y Y Y C V A E D D A         | P K E L F G W L G R Y A Y Q F W D D Q     |                   |
| UniRef90_UP100047E3E05 | E N I I I L S T C N R T E E | Y Y Y Y Y A V V D Q Y I K       | E F L S E W F S P Y L F V Y E E D G       |                   |
| UniRef90_K1NE20        | E G L V F S T C N R T E E   | Y Y Y Y Y Y I P E A Q L         | K Q I D I S E F K S A L Y V Y R E D D     |                   |
| UniRef90_A1SV88        | E A V I V S T C N R T E E   | Y Y Y Y Y C H L K Q D N C       | D E V I K W L C S F L Y C Y S E Y Q       |                   |
| UniRef90_M4NBS6        | E A M I I L S T C N R T E E | Y Y Y Y Y V A G A E D I         | P Q A W L N R H H F L Y R H D E D D       |                   |
| UniRef90_UP100036FDD59 | E C V I I S T C N R T E E   | Y Y Y Y Y A V V D Q L H         | T K F L S H W S R H T L T I K E N D E     |                   |
| UniRef90_M5DPB6        | E V V V L S T C N R T E E   | Y Y Y Y Y C S S A D T           | G P A E I I E W L L H L Y N L G A D E     |                   |
| UniRef90_A4CFK7        | E S V I V S T C N R T E E   | Y Y Y Y Y C S L E Q T           | L L S W L A Q F H Q D H T Y C Y V N D R   |                   |
| UniRef90_B8PZU6        | E V A L L S T C N R T E E   | Y Y Y Y Y A V A E D D L         | G D W L A S H H P R A Y L Y R H Q D D A   |                   |
| UniRef90_F9ZXN7        | E A A I I L S T C N R T E E | Y Y Y Y Y C R T D S D D         | D Q T P L I E W I A P Y L Y S Y K D S Q   |                   |
| UniRef90_C6CHL6        | G G V L L S T C N R T E E   | Y Y Y Y Y L S V E E Q           | H E Q L I A W L C D Y H L Y W H E G N A   |                   |
| UniRef90_G2DT12        | E A V I I L S T C N R T E E | Y Y Y Y Y C F G D S E           | I I E W W A K H H H P Y L Y G N R E       |                   |
| UniRef90_I1YJZ0        | E V V I I I S T C N R T E E | Y Y Y Y Y C H V D E D Y         | D N G I S T W L Q Q Y H Y Q Y H D T D     |                   |
| UniRef90_F6CRJ6        | E A V I V S T C N R V E I   | Y Y Y Y Y C S V E Q E           | V V D W L Q D Y H Y Q Y C Y T H V A D D   |                   |
| UniRef90_UP10003815F69 | E L A I I L S T C N R T E E | Y Y Y Y Y Y G N L E A E         | L L R W L A E Y H R G C S Y A H T G E A   |                   |
| UniRef90_UP100031556A5 | E N V I I L S T C N R T E E | Y Y Y Y Y A V V D Q I           | H T E F L S E W F S P Y L F V Y E Q D G   |                   |
| UniRef90_UP100046F20F2 | E N I I I L S T C N R T E E | Y Y Y Y Y A V V D Q L H         | T N F L T E W F D N H L I I K E E D E     |                   |
| UniRef90_UP10003B6A19C | E C V I I L S T C N R T E E | Y Y Y Y Y A L A D Q F I         | L E F T G E R D D F Y L Y Y L N G T D     |                   |
| UniRef90_W4CK51        | E G V V V A T C N R T E E   | Y Y Y Y Y Y V V D R L           | H M N V P R E E F T Q H Y L Y E D D Q     |                   |
| UniRef90_W0SBL4        | E A A I I L S T C N R T E E | Y Y Y Y Y Y C A A E Q P A       | A D W L A E Y H S P Y L Y Q H P Q Q D     |                   |
| UniRef90_UP100046FD92C | S C V I V S T C N R T E E   | Y Y Y Y Y Y A E L N Q P         | G V G V L V I E W L T R F I Y Y H E E Q S |                   |
| UniRef90_P48077        | E V A I I L S T C N R L E I | Y Y Y Y Y Y Q G I R E A         | T Q F L A D D S R Q H L F I L L H Q D     |                   |
| UniRef90_R6AA87        | E A V V I L S T C N R T E E | Y Y Y Y Y Y A V L K D E         | T A K E S E A K D E Y F F Y F E G E A     |                   |
| UniRef90_G4CJB8        | E A V I I L S T C N R T E E | Y Y Y Y Y Y C V G E D D         | I V R W L A G Y H H P Y L Y R Y Q T E E   |                   |
| UniRef90_Q3JDR3        | E A A I I L S T C N R T E E | Y Y Y Y Y Y C G C A P Q G Q     | E A V I E W L R Q Y L Y T H P D H S       |                   |
| UniRef90_Q12QR9        | E A V I I L S T C N R T E E | Y Y Y Y Y Y C A V A T E         | V I E W L A D Y H D L N L Y Q H E D Q A   |                   |
| UniRef90_V5CCX4        | G G V V L S T C N R T E E   | Y Y Y Y Y Y L S V E Q Q D H E Q | L D W L C D Y L Y W H Y G N D             |                   |
| UniRef90_Q65GJ9        | E N I I I V S T C N R T E E | Y Y Y Y Y Y Y A V V D Q L H     | T G F L A N W F S P Y L K F Y E N D G     |                   |

| QUERY                  | R | H | L | F | R | V | A | S | G | L | E | S | M | M | V | G | E | Q | I | L | R | Q | V | K | K | A | Y | D | R | A | R | L | G | T | D |   |   |   |   |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UniRef90_I9DT21        | A | V | K | H | L | M | R | V | A | G | D | S | L | V | L | G | E | P | Q | I | L | G | Q | V | K | Q | A | Y | N | S | R | Q | A | G | T | I |   |   |   |
| UniRef90_L0EFU5        | A | V | K | H | L | M | R | V | A | C | G | D | S | M | I | I | G | E | T | Q | I | L | G | Q | V | R | D | A | F | L | L | A | Q | R | E | R | A | T |   |
| UniRef90_A0A023DAX5    | A | I | R | H | L | F | R | V | A | S | G | D | S | M | I | L | G | E | T | Q | I | L | G | Q | V | K | T | S | Y | L | L | A | Q | E | A | G | T | T |   |
| UniRef90_E4PP86        | A | V | E | H | L | F | R | V | A | S | G | D | S | M | I | L | G | E | P | Q | I | L | G | Q | V | K | D | A | Y | S | L | A | R | E | H | G | A | S |   |
| UniRef90_UP10004655362 | A | V | R | H | L | M | R | V | A | A | G | D | S | M | V | L | G | E | P | Q | I | L | G | Q | V | K | D | A | Y | S | L | A | R | E | H | G | A | S |   |
| UniRef90_C4LBL4        | A | V | R | H | L | M | R | V | A | A | G | D | S | L | V | L | G | E | P | Q | I | L | G | Q | V | K | Q | A | L | D | T | A | S | K | Q | G | S | V |   |
| UniRef90_U1YHH9        | A | V | R | H | L | F | R | V | S | S | G | D | S | M | V | L | G | E | T | Q | I | L | G | Q | V | K | D | A | Y | A | L | S | Q | S | Q | G | A | T |   |
| UniRef90_C8WF50        | T | V | R | H | L | F | R | V | A | S | G | D | S | M | I | L | G | E | P | Q | I | L | G | Q | V | K | D | A | Y | E | L | S | R | K | G | S | T | N |   |
| UniRef90_Q3A008        | A | I | R | H | L | F | R | V | A | S | G | D | S | M | I | L | G | E | P | Q | I | L | G | Q | V | K | E | A | Y | N | L | A | E | S | S | C | T | A |   |
| UniRef90_F6CIY0        | T | I | R | H | L | F | R | V | A | A | G | D | S | M | I | L | G | E | T | Q | I | L | G | Q | V | R | H | A | Y | Q | L | A | C | Q | Y | G | A | T |   |
| UniRef90_UP10003B37532 | F | I | R | H | L | F | R | V | A | C | G | D | S | M | V | L | G | E | P | Q | I | L | G | Q | V | K | M | T | A | Y | R | T | A | H | Q | A | G | T |   |
| UniRef90_C0ZAG9        | A | I | E | H | L | F | R | V | S | S | G | D | S | M | V | L | G | E | T | Q | I | L | G | Q | V | R | D | A | F | L | L | G | Q | E | H | Q | T | T |   |
| UniRef90_D5XEC7        | V | I | H | L | F | R | V | A | S | G | D | S | M | V | L | G | E | P | Q | I | L | G | Q | V | K | R | A | Y | E | I | A | C | E | L | G | A | S |   |   |
| UniRef90_N6W2J1        | A | V | R | H | L | M | R | V | A | A | G | D | S | M | V | L | G | E | P | Q | I | L | G | Q | V | K | E | A | Y | A | L | A | R | S | H | G | A | S |   |
| UniRef90_N9VL02        | A | V | R | H | L | M | R | V | A | C | G | D | S | L | V | L | G | E | P | Q | I | L | G | Q | V | K | Q | S | Y | G | T | A | Q | V | V | G | G |   |   |
| UniRef90_UP10003F4F1F3 | A | V | R | H | L | F | R | V | A | T | G | D | S | L | V | L | G | E | P | Q | I | L | G | Q | V | K | D | A | W | A | T | A | R | A | G | T | L |   |   |
| UniRef90_UP10003806749 | A | I | E | H | L | F | R | V | T | C | G | D | S | M | V | L | G | E | T | Q | I | L | G | Q | V | K | R | D | A | F | L | L | A | Q | N | G | T | T |   |
| UniRef90_Q9ZGG6        | A | I | R | H | L | F | R | V | A | S | G | D | S | M | V | L | G | E | T | Q | I | L | G | Q | V | K | R | T | A | Y | Q | R | S | C | N | E | D | C | S |
| UniRef90_UP100028A3DDE | A | I | H | H | L | F | R | V | A | S | G | D | S | M | I | I | G | E | T | Q | I | L | G | Q | V | K | N | A | F | L | L | A | K | E | N | T | T |   |   |
| UniRef90_V5F0D9        | T | I | Q | H | L | M | R | V | S | C | G | D | S | L | V | L | G | E | P | Q | I | L | G | Q | V | K | Q | A | Y | A | D | A | K | E | R | G | V | V |   |
| UniRef90_X0U387        | V | I | E | H | L | F | R | V | S | S | G | D | S | M | V | L | G | E | P | Q | I | F | G | Q | V | K | D | A | Y | S | T | A | C | D | N | K | C | T |   |
| UniRef90_UP100041509D9 | A | V | E | H | L | F | R | V | T | S | G | D | S | M | V | L | G | E | T | Q | I | L | G | Q | V | K | M | Q | A | F | L | L | A | D | Q | A | L | G |   |
| UniRef90_UP100037BF0C7 | A | V | R | H | M | M | R | V | A | S | G | D | S | L | V | L | G | E | P | Q | I | L | G | Q | V | K | M | S | A | F | A | V | A | R | E | A | G | T |   |
| UniRef90_L8A2F0        | A | I | K | H | L | F | R | V | A | A | G | D | S | M | V | L | G | E | T | Q | I | L | G | Q | V | K | D | S | Y | L | L | A | Q | E | V | G | T |   |   |
| UniRef90_D5WUM2        | A | I | H | H | L | F | R | V | A | A | G | D | S | M | V | L | G | E | T | Q | I | L | G | Q | V | K | R | D | A | F | E | H | A | Q | A | G | N | T |   |
| UniRef90_D0KZK6        | A | I | R | H | L | M | R | V | A | C | G | D | S | M | V | L | G | E | P | Q | I | L | G | Q | V | K | M | T | A | D | F | E | H | A | Q | A | G | N |   |
| UniRef90_L8D237        | A | V | H | I | L | M | R | V | A | C | G | D | S | L | V | L | G | E | P | Q | I | L | G | Q | V | K | Q | A | F | N | S | A | K | L | N | G | G |   |   |
| UniRef90_UP10003B6D414 | A | I | R | H | M | M | R | V | A | C | G | D | S | L | V | L | G | E | P | Q | I | L | G | Q | V | K | T | A | Y | A | V | R | E | A | G | T | L |   |   |
| UniRef90_Q1JVU1        | A | I | R | H | V | F | R | V | T | A | S | D | S | M | V | L | G | E | P | Q | I | L | G | Q | V | K | T | A | Y | G | Y | A | V | E | F | K | S | V |   |
| UniRef90_G4QH62        | A | I | R | H | L | M | R | V | A | C | G | D | S | L | I | V | G | E | P | Q | I | L | G | Q | V | K | Q | A | Y | T | E | S | K | N | A | G | K | I |   |
| UniRef90_A0A031M612    | A | V | K | H | M | M | R | V | A | S | G | D | S | M | V | L | G | E | P | Q | I | L | G | Q | V | K | M | D | A | W | Y | A | R | T | G | A | T |   |   |
| UniRef90_V5BET8        | L | I | R | H | M | F | R | V | A | C | G | D | S | M | I | L | G | E | P | Q | I | L | G | Q | V | K | R | D | S | F | L | L | G | Q | K | E | G | T |   |
| UniRef90_Q1QXC7        | A | A | R | H | L | M | R | V | A | A | G | D | S | M | V | L | G | E | P | Q | I | L | G | Q | V | K | T | A | Y | Q | L | A | R | D | N | A | G | L |   |
| UniRef90_W6MA81        | A | V | R | H | I | L | M | R | V | A | S | G | D | S | M | V | L | G | E | P | Q | I | L | G | Q | V | K | T | A | Y | Q | T | A | N | S | A | G | T |   |
| UniRef90_Q39QM8        | A | I | R | H | V | F | R | V | A | S | S | D | S | M | V | L | G | E | P | Q | I | L | G | Q | V | K | T | A | Y | G | Y | A | E | F | K | T | S |   |   |
| UniRef90_E8M4H3        | A | I | R | H | L | M | R | V | S | C | G | D | S | L | V | L | G | E | P | Q | I | L | G | Q | V | K | Q | A | Y | S | D | A | R | E | G | K | A | V |   |
| UniRef90_A4XR60        | A | V | R | H | M | M | R | V | A | C | G | D | S | M | V | L | G | E | P | Q | I | L | G | Q | V | K | S | A | Y | A | V | R | E | A | G | T | V |   |   |
| UniRef90_D2UBH4        | A | V | R | H | L | F | R | V | A | T | G | D | S | M | V | L | G | E | P | Q | I | L | G | Q | V | K | D | A | W | A | L | R | E | H | G | A | M |   |   |
| UniRef90_U1KC65        | A | V | N | H | L | M | R | V | A | C | G | D | S | L | V | L | G | E | P | Q | I | L | G | Q | V | K | Q | A | F | S | T | A | K | Q | H | A | I |   |   |
| UniRef90_A5CW97        | A | L | T | H | V | C | N | V | A | T | G | D | S | L | V | L | G | E | P | Q | I | L | G | Q | V | K | N | A | Y | H | M | A | K | E | A | T | L |   |   |
| UniRef90_H8L5B9        | A | V | R | H | M | F | R | V | T | S | G | D | S | M | V | L | G | E | P | Q | I | L | G | Q | V | K | V | D | A | Y | Q | L | A | R | Q | T | R | L |   |
| UniRef90_UP1000363BF23 | S | I | R | H | M | F | R | V | A | C | G | D | S | M | I | L | G | E | P | Q | I | L | G | Q | V | K | M | T | A | Y | Q | A | D | G | T | G | T |   |   |
| UniRef90_UP100037814C3 | A | I | E | H | L | Y | K | V | S | C | G | D | S | M | I | L | G | E | T | Q | I | L | G | Q | V | K | R | D | S | F | L | L | A | Q | E | N | G | T |   |
| UniRef90_F5LJR0        | A | I | E | H | L | F | R | V | A | S | G | D | S | M | I | L | G | E | T | Q | I | L | G | Q | V | K | V | D | A | F | L | E | A | Q | R | L | G | A |   |
| UniRef90_A0A023Y6K2    | A | V | R | H | L | F | R | V | A | T | G | D | S | M | V | L | G | E | P | Q | I | L | G | Q | V | K | V | D | A | W | A | I | R | H | G | L | G | T |   |
| UniRef90_UP100047BCE1A | A | A | R | H | L | M | F | R | V | A | C | G | D | S | M | V | L | G | E | P | Q | I | L | G | Q | V | K | Q | A | W | S | M | A | R | E | S | G | T |   |
| UniRef90_Q8DF8         | A | I | R | H | L | M | R | V | S | C | G | D | S | L | V | L | G | E | P | Q | I | L | G | Q | V | K | Q | A | Y | S | D | S | R | E | G | V | T |   |   |
| UniRef90_W4DVB9        | A | I | A | H | L | M | R | V | T | C | G | D | S | M | V | L | G | E | P | Q | I | L | G | Q | V | K | R | S | A | F | L | T | A | Q | E | G | V |   |   |
| UniRef90_Z5XS54        | A | I | N | H | L | M | R | V | S | C | G | D | S | L | V | L | G | E | P | Q | I | L | G | Q | V | K | R | S | A | Y | H | N | A | K | T | H | D | A |   |
| UniRef90_K8X1Y8        | A | V | S | H | L | M | R | V | A | S | G | D | S | L | V | L | G | E | P | Q | I | L | G | Q | V | K | R | S | A | Y | H | N | A | K | T | H | D | A |   |
| UniRef90_UP10004291616 | A | V | R | H | L | F | R | V | A | T | G | D | S | M | V | L | G | E | P | Q | I | L | G | Q | V | K | R | S | A | Y | W | A | T | R | G | A | T | L |   |
| UniRef90_S9SSM1        | A | V | E | H | L | F | R | V | S | C | G | D | S | M | V | L | G | E | T | Q | I | L | G | Q | V | K | N | A | Y | F | L | A | Q | N | E | G | V | T |   |
| UniRef90_C0N5V3        | A | I | R | H | L | L | R | V | A | C | G | D | S | M | V | L | G | E | P | Q | I | L | G | Q | V | K | D | A | Y | S | Q | S | L | N | A | V | T |   |   |
| UniRef90_Q2SL96        | A | A | Q | H | L | M | R | V | A | S | G | D | S | L | V | L | G | E | P | Q | I | L | G | Q | V | K | M | E | A | H | S | R | G | A | S | G | L |   |   |
| UniRef90_UP1000367009  | A | A | R | H | L | M | R | V | A | S | G | D | S | L | V | L | G | E | P | Q | I | L | G | Q | V | K | D | A | Y | S | Q | N | E | G | T | L |   |   |   |
| UniRef90_M5DPB6        | A | V | R | H | T | M | R | V | A | S | G | D | S | L | V | L | G | E | P | Q | I | L | G |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

QUERY

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E | A | L | K | I | V | F | R | R | A | I | N | L | G | K | R | A | R | E | E | T | R |   |
| P | Q | F | E | R | L | F | Q | K | T | F | A | V | A | K | E | V | R | T | E | T | D |   |
| T | L | F | N | M | L | F | K | Q | A | V | T | L | G | K | R | A | H | T | E | T | S |   |
| T | I | F | N | H | L | F | K | Q | A | V | T | F | A | K | R | A | H | S | E | T | E |   |
| S | F | L | S | R | L | F | E | H | T | F | S | V | V | A | K | R | V | R | T | Q | T | A |
| G | N | L | D | R | L | F | Q | Q | T | F | A | V | V | A | K | R | A | R | T | D | T | R |
| G | L | L | N | R | L | F | Q | R | T | F | S | V | V | A | K | R | V | R | T | E | T | E |
| T | V | F | N | K | L | F | Q | Q | A | I | T | L | A | K | R | A | H | S | E | T | E |   |
| R | V | I | N | T | L | F | Q | Q | A | L | A | V | G | K | K | V | R | S | E | T | G |   |
| P | V | L | N | R | L | F | P | R | A | F | A | A | A | K | R | V | R | N | E | T | A |   |
| R | V | L | N | T | L | F | Q | Q | A | I | T | V | G | K | R | V | R | T | E | T | G |   |
| K | T | L | N | R | L | F | Q | H | T | F | S | A | A | K | K | V | R | T | D | T | A |   |
| T | V | F | N | T | L | F | K | Q | A | I | T | V | G | K | R | V | R | T | E | T | A |   |
| G | V | L | N | T | L | F | L | R | A | I | T | V | G | K | R | V | R | T | E | T | E |   |
| S | L | L | S | R | L | F | E | Q | S | F | S | V | V | A | K | R | V | R | T | E | T | A |
| A | I | L | E | R | L | F | Q | K | A | F | S | V | V | A | K | R | V | R | T | D | T | E |
| T | R | L | D | R | L | F | Q | H | A | F | S | T | A | K | R | A | R | T | D | T | R |   |
| T | V | F | N | T | L | F | K | Q | A | V | T | L | A | K | R | A | H | T | E | T | A |   |
| G | I | V | N | T | W | F | Q | Q | A | I | T | V | G | K | R | V | R | T | E | T | G |   |
| V | L | F | N | T | L | F | K | Q | A | I | T | V | G | K | R | V | R | T | E | T | G |   |
| G | N | L | D | K | L | F | Q | K | A | F | S | V | V | A | K | R | V | R | T | E | T | D |
| P | T | I | N | R | L | F | R | H | H | A | F | R | V | G | K | L | I | R | N | N | T | S |
| T | I | Y | N | E | L | F | K | Q | A | V | T | L | A | K | R | A | H | K | E | T | E |   |
| P | L | G | R | L | F | Q | A | T | F | S | T | A | K | T | V | R | T | D | T | A |   |   |
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| L | I | L | N | R | F | L | H | K | A | F | S | V | V | A | K | R | V | R | T | E | T | N |
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| G | Q | L | D | R | L | F | Q | H | A | F | V | T | A | K | R | A | R | T | E | T | R |   |
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| S | E | L | E | R | L | F | Q | K | S | F | S | V | V | A | K | R | V | R | T | E | T | E |
| G | Q | L | D | R | L | F | Q | H | A | F | V | T | A | K | R | A | R | T | E | T | R |   |
| A | E | L | G | R | L | F | Q | K | T | F | S | V | V | A | K | Q | V | R | T | E | T | D |
| V | V | N | T | F | F | F | Q | Q | A | I | T | T | G | K | R | I | R | T | E | T | G |   |
| T | W | F | N | T | V | F | K | Q | A | V | T | L | G | K | R | A | H | S | E | T | S |   |
| V | T | F | D | R | L | F | Q | K | T | F | S | V | V | A | K | Q | V | R | T | E | T | D |
| S | E | L | E | R | L | F | Q | K | S | F | S | V | V | A | K | R | V | R | T | E | T | E |
| G | Q | L | D | R | L | F | Q | H | A | F | V | T | A | K | R | A | R | T | E | T | R |   |
| T | W | F | N | T | V | F | K | Q | A | V | T | L | G | K | R | I | R | N | A | T | S |   |
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| V | I | L | N | R | L | F | Q | K | A | I | T | T | G | K | R | I | R | N | A | T | S |   |
| R | E | L | G | R | L | F | Q | H | A | F | S | V | V | A | K | N | V | R | T | S | T | A |
| W | L | L | N | C | A | F | Q | Q | A | L | A | V | V | G | K | R | V | R | T | E | T | G |
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| V | I | L | N | R | L | F | H | K | T | F | S | V | V | A | K | R | A | H | S | E | T | G |
| R | E | L | G | R | L | F | Q | H | A | F | S | V | V | A | K | N | V | R | T | S | T | A |
| S | E | L | H | R | V | F | Q | R | V | F | T | V | V | A | K | K | V | R | T | E | T | G |
| A | P | M | D | R | L | F | Q | H | T | F | A | V | V | A | K | R | V | R | T | D | T | R |
| T | I | F | N | E | L | F | K | Q | A | V | T | F | A | K | R | A | H | S | E | T | A |   |
| A | E | L | G | R | L | F | R | Q | T | F | S | I | A | K | R | V | R | T | D | T | A |   |
| V | M | L | E | R | L | F | Q | K | T | F | A | V | A | K | R | A | R | T | E | T | R |   |
| S | Q | L | D | R | L | F | Q | H | A | F | V | V | A | K | K | V | R | T | D | T | A |   |
| K | T | L | S | K | L | F | Q | H | T | F | S | V | V | A | K | K | V | R | T | D | T | A |
| G | D | L | E | R | L | F | Q | K | S | F | T | V | V | A | K | R | V | R | T | E | T | D |
| S | S | L | N | A | L | F | Q | K | T | F | S | V | V | A | K | E | V | R | S | G | T | A |
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| T | V | F | N | Y | L | F | K | Q | A | V | T | L | G | K | R | A | H | E | T | D |   |   |

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|------------------------|---|---|--|--|
| UniRef90_F9U5T9        | L L V L G L N H K T A P V D V R E R L A F G P D G A L R I N C D G I A               |   |  |  |
| UniRef90_W8A970        | H T I V V G V N Y K S A P V E I R E K L A F D E E Q A L R T S K S I M               |   |  |  |
| UniRef90_W1NCX2        | L L A L G I N H R T A A I E V R E R V A F G P S Q A L T R A L P R V R K             |   |  |  |
| UniRef90UPI0002625168  | I F C F G L S H T A P I D I R E R L T F G P D G A L R S L T E R A G V D             |   |  |  |
| UniRef90_L0H2J7        | L L A L G L N H T A P I D I R E R F S V S D K G A L Q Q L A E A D E L L             |   |  |  |
| UniRef90UPI000363BB81  | N I V V V G L N Y R T A P V E I R E R F S V S D K G A L Q Q L A E A D E L L         |   |  |  |
| UniRef90UPI0003F79590  | I F A L G V N H K T A S V D I R E R F S V S D K G A L Q Q L A E A D E L L           |   |  |  |
| UniRef90UPI00047BEF3C  | H I L V V G L N Y K T A P V E I R E K L S F Q P N E A M K Q L K K Q K S I L         |   |  |  |
| UniRef90Q15SQ8         | L I A F G I N H K T A P V E I L R E R V A F S P D E A L L K S L A H L T G A D       |   |  |  |
| UniRef90U7FXD9         | N L V A V G V N H T T A D V E I L R E R V A F S T Q Q A L L A S L R D V P G V C     |   |  |  |
| UniRef90UPI000376EF2B  | S I L V V G V N H K T A P V A I R E Q V A F S P E R L A D A L Q S A K L V A         |   |  |  |
| UniRef90D4K15          | Q I V V L G L N H T A P V S V E I R E K F T F A Q E D A L L R H D N Y N G I S       |   |  |  |
| UniRef90UPI00036A8BF9  | H I V V A G L N Y R T A P V S I V E I R E K F T F A Q E D A L K K L Q E T K S I M   |   |  |  |
| UniRef90G8QM28         | H L F T L G I N H H S A P V S S V R E E Q V A F H A E E A L A G L V R A K P V K     |   |  |  |
| UniRef90C4L4J5         | H I V V V G L N H N K T A P V A I R E Q F S F G E Q E I V D A M R E E K S I F       |   |  |  |
| UniRef90UPI00040BDBABA | S I L T L G L N H N S A P V L I R E R L V F P A E R A L R N L I Q P P I             |   |  |  |
| UniRef90R1GM33         | S L L V L G I N H K T A A V D L V R E R V A F S P Q Q A I L H Q L K E K Q V V Q S   |   |  |  |
| UniRef90E0NW12         | R R L L T L G L N H R T A P I D V R E R V S F S R E E L L Q N L G D Y D G V V S     |   |  |  |
| UniRef90E3BMD0         | S L L A I G I N H N T A S V E L V R E R V A F G P E E A I L K Q L S E H S A V F F   |   |  |  |
| UniRef90U5T4R4         | P V V S L G L N H E S A P V L A I V R E E Q V V L P A E A A L S A L A D R P G V R   |   |  |  |
| UniRef90UPI0002D5823B  | Y V V V V G L N Y K T A P V E I R E K L T F D P A D A H V T L L R E K K S I V L     |   |  |  |
| UniRef90K6CHH9         | H V L K V G L N Y K T A P V E I R E K L T F D P S E A H I K L R E Q K K S V V L     |   |  |  |
| UniRef90UPI0003813B29  | I R L L G V N H H T A P I E E L R E R L A I A P E E A A L A L L G T P G V V S       |   |  |  |
| UniRef90UPI0003FD6EEC  | S L F A L G I N H Q T A P V S I V E I R E K L A F A A Q D A V V K Q I V Q N R A A R |   |  |  |
| UniRef90UPI00036B8EB4  | Q L T A I G L N H Q T A P V S I V E I R E K L A F S A D E A L A G L T D S G A A R   |   |  |  |
| UniRef90L1NY31         | L L A V G I N Y N T A P V S I V E I R E R L A Y P A D S S L K D L W H L K D I S     |   |  |  |
| UniRef90G4SU87         | L L A L G I N H K T A S V E V E R E R V A F A P E E A L Q E A K C R A D L S         |   |  |  |
| UniRef90UPI0002558802  | N I A V I G L N H K T A S V D V R E R V A F S V P E E R A T S H L C S Y P H L Q     |   |  |  |
| UniRef90K9RQH3         | F L A L G I N H K T A S V D V R E R V A F T P D E A L L R Q L C R V T P T R         |   |  |  |
| UniRef90A4VPC0         | P L F A I G L N H D S A P V A V R E S L A F N A E D A L Q S A R S E T G A D         |   |  |  |
| UniRef90A1WVQ7         | L L A V G I N Y Y T T A P L A V R E R V A F T P E I L L Q D L L K V K G I S         |   |  |  |
| UniRef90UPI00036CE448  | N I A V V G L N H K T A P V A V R E R L S I P E E A A I A H I K A Y P H I S         |   |  |  |
| UniRef90UPI0002D3DB53  | M G E I F V A G V N F F K V A P V E V R E K L A C S L E E V L P I L K R E T P L E   |   |  |  |
| UniRef90V4JL17         | N L I L V G V N H K T T P V E I R E K L A F T K E E S V D R L F N F P D I I I       |   |  |  |
| UniRef90X2MDT2         | H I L V V G I N H Y R T A P L A V R E R V A F T P D Q A L D S L L A Q P M V Q M     |   |  |  |
| UniRef90K2GD45         | H I L A V S I L Y Y R T A P L A V R E R V A F T P D Q A L D S L L A Q P M V Q M     |   |  |  |
| UniRef90UPI00040D7B88  | H I L V V G I N H Y R T A P L A V R E R V A F T P D Q A L D S L L A Q P M V Q M     |   |  |  |
| UniRef90O67314         | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90UPI0002D60609  | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S         |   |  |  |
| UniRef90UPI0003641FC4  | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90F2F2F8         | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S         |   |  |  |
| UniRef90F7RV90         | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
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| UniRef90R4KPF8         | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90B8FL1          | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90K9PGV8         | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90L0DZ42         | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90M4U5D1         | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90R7CN15         | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
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| UniRef90K9UPV3         | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90UPI0003629C8E  | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90V6IXU3         | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90W7C1G3         | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90UPI000348112E  | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90W0PFJ1         | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90C9LXX7         | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90H5V4Z0         | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90Q1AUK2         | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90UPI00046F2B30  | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90A9A0C2         | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90UPI000421E521  | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90M1YP13         | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90UPI00037A644B  | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90A6F6J9         | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90K9WNJ4         | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90B8KJ93         | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90UPI00046F58FF  | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90UPI00028967B2  | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90A0A024Q3N0     | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90UPI0002E7FA8A  | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90A0A014NQJ7     | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90A7Z7A7         | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
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| UniRef90A3YI10         | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
| UniRef90Q8EPM7         | UniRef90UPI0002558802   | N I A V V G L N H K S A P V E I R E R L S I P E E A A I A H I K A Y P H I S |  |  |
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E G V V L | S T C N R T E | I Y C A S E E A A R H W L | S R F H G P F L | Y A H I G R D  
 E C V I L | S T C N R T E | I Y V V A D Q I H T G F L | L A N W F S I Y L T I K E N D H  
 E A A V L | S T C N R T E | I Y C D G E Q D V L D W L | S R F H A R C A Y H Y V D G D  
 E A L | V S T C N R T E | I Y V H G R Q A L Q N W L | C A F H D G H I Y Y S S D A E  
 E A A I L | S T C N R T E | I Y C A A E T G V K T W L | S S F H G M Y L Y A H V D Q H  
 E T V I V S T C N R T E | I Y A V T D A P I I Q F L | A D V F L P Y L Y T H V D D Q  
 E A V I V S T C N R T E | I Y C T A D D L L G W L | A G Y H G T H S Y C H T D A K  
 E N V I V S T C N R T E | I Y A V V D Q Y I K A F L | A D W F S P Y L T I L E Q D G  
 E S V I V S T C N R T E | I Y A Q A E N L T A D A L | A D E L G L N S Y I Y H Q E E  
 E A A L L | S T C N R T E | I Y C L T D D S A P D L V | A W M A E R R L Y Q H Q G E E  
 E N I L L | S T C N R T E | I Y A A Y Q E Q L I D D W L | A H F H K P Y L F T Y H H E E  
 E V V I L | S T C N R T E | I Y A V V D Q D V K E F F D | A K D E Y F Y Y H V D K D  
 E C V I V G T C N R T E | I Y V V D D R Q Q L C A H H Q E F N K H | L Y V Y E N E Q  
 E A A I L | S T C N R T E | I Y C A T E E A A A D D W L | A E Y H R P Y L Y T L P Q P E  
 E S V I L | S T C N R T E | I Y V V T D Q L H T R F L A N W F N P Y L S I R E G E E  
 E A A I L | S T C N R T E | I Y C D I E T D A Q D I L I D W F Q P Y L Y F H T D A E  
 S G V I V S T C N R T E | I Y C E V D Q P V V D W L | Q D F H Q P C L Y T H H D Q A  
 G L V V L | S T C N R T E | I Y V A G E R S V R Q F L | G D D D L D A Y L Y T Y T D D  
 S G V I V S T C N R T E | I Y C D G K S R L I E W L | S C F H A P S L Y I H E E Q A  
 E A A V L | S T C N R T E | I Y A V V A P E A T P A I | A D W L E P Y L T I Y E N D  
 E N V I V S T C N R T E | I Y A V V D Q Y I K A F L | A W F A P Y L T I Y E N D  
 E D V I I S T C N R T E | I Y A V V E Q I H T A F L | A S W F N P Y L S I Y E N D  
 E G M I V S T C N R V E | I Y E Q T A P D V M D F L I D A L R P H | L Y E Y E G T D  
 E A V I I S T C N R C | I Y C H F E G D S S S I | R W F D D N F Y C Y Q D Q E E  
 E A V I L | S T C N R T E | I Y C V G A N D I V H W L | A D Y H R P Y L Y T L D S D E  
 E A V I L | S T C N R T E | I Y C V G D A E V T G W L | A E E I R P Y L Y T Y Y G C S D  
 E A A I L | S T C N R T E | I Y C E S S N E N K H | L I I E H M T P Y L Y T Y N D N Q  
 E V A I L | S T C N R T E | I Y C T S C T E L E G T R A L | W L G Q Y S Y A Y W D E E  
 E A T I L | S T C N R L | I Y I V G V R E V N Q F L | S E W S H P Y L F I L L H Q D  
 E A A I L | S T C N R S E | I Y L Q Q D E V E A E A V | L A W L A S Y A Y V H V D D  
 E V A I L | S T C N R T E | I Y I R L P H T D P E V V I | G W V R P H | L Y V R R S T E  
 E A A I L | S T C N R T E | I Y C T A S A N Q Q I | L I V D W V A Q Y | L Y S H I D S Q  
 E V A I L | S T C N R L | I Y Y V G V R E I I Q F L | S E Q L R R P H | L F T L L H Q D  
 E A V I L | S T C N R T E | I Y C A S D A A L C H W L | G R F H G P H | L Y V H H D R E  
 E V A I L | S T C N R L | I Y Y L S V E E Q L I R W L | C D Y H R N S L | Y W H Q D N D  
 E A V I L | S T C N R T E | I Y Y V V A D Q I H T D F L | E K W F S P H | L I V Y E A D G  
 E C V I V S T C N R T E | I Y A V V D Q L H T A F L | L S D W F D M F L Q I R E D E S  
 E V A I L | S T C N R L | I Y Y A D V D R Y H A A E L | S D E L D P Y | L Y A R Y G D E E  
 E A V I L | S T C N R V E | I Y Y D S A I K A I Q K F I | C D F H E D H F Y S Y R N E E  
 E N V I I S T C N R T E | I Y A V V D Q L H T Q F L | A N W F E D H | F I R E E D D  
 E T V I I V S T C N R T E | I Y C H A D A S E Q Q E I | I N W L S Q Y I Y Q H E D S A  
 E S S I I V S T C N R T E | I Y C D V T H S G P G V M | I D W L A K F L Y F H E E Q A  
 E V A I L | S T C N R L | I Y Y F V G V W E V I Q F L | S E H S P H | F T L L H Q D  
 E A A I L | S T C N R T E | I Y C N T D D P A L E W L A N Y H R P Y L M Y T L P Q E N E  
 E E A I L | S T C N R V E | I Y Y L A T D A P D A Q W L | A E Y H R P Y L Y T Y P E R A  
 E I A I L | S T C N R T E | I Y Y C S A D K C S A D A L | L N W L S V Y V Y C H T D Q A  
 E A V I L | S T C N R V E | I Y Y L I V A E P D M A A F | E E C F R E H | L Y H H R E A E  
 E E L A I L | S T C N R T E | I Y Y A V V E N S E K A L P | A V R E N Y | L F Y H T G E D  
 E A A I L | S T C N R L | I Y Y L T E S E V I Q F L | L A E H S R P H | F I L L L H H D  
 E V A I V S T C N R L | I Y Y A V G V R E I C Q F L | L A E T G R R Y | L F T L L H Q D  
 E A A I L | S T C N R L | I Y Y L V G V R Q T M Q F L | L A E Q Q L R P H | F T L L Y Q D  
 E N V I V S T C N R T E | I Y Y E S G L E T I R S F L | A M I K Y T Y A F T Q H N  
 G C V I I S T C N R T E | I Y Y A A A C Q D P D E G I A A E N F E Q N | L F V Y K G D E  
 E A A V I L | S T C N R V E | I Y Y I V T P R E V T Q F L | L A E Y S R Q H | L F T L L H D D  
 E A A I L | S T C N R T E | I Y Y F D G E E R V L D W L | L G G F H E N Y | L Y R H H D S E  
 E A V I V S T C N R S E | I Y Y C N L S G E S C Q V V I N W L | C H F L Y C Y T N D K  
 E A V I L | S T C N R T E | I Y Y A V G D A G S R E G L | S E S R D E Y F F Y E G E E  
 E V M I I S T C N R V E | I Y Y L V S A S D K K E E | I I D E L K G Y | L Y V K E D I D  
 E A T I L | S T C N R L | I Y Y I V G V Q D A I Q F L | S E Y S R Q H | L F M L L H K D  
 E V A V I V S T C N R L | I Y Y L V T S R E V N Q F L | S E H S R P Y | L F T L L H Q D  
 E D V I L | S T C N R T E | I Y Y I V C D Q L H T K F F V | D W F K M Y | L V I K E D Q E  
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E L I I L | S T C N R T E | I Y L L T N D P A A A R K S E Q L A P Y | L Y L H A A D A  
 E A A I L | S T C N R T E | I Y Y C A T E Q P A A E W L | A E Y H S P F L Y T L S P R D  
 E N V I I S T C N R T E | I Y Y A V V D N L R A R F L | S E W F R I H | L Y V Y T G S E  
 E A A I L | S T C N R T E | I Y Y C A A E E A A I E W L | A S H S H E P Y | L Y A L P T E E  
 E A V I I S T C N R T E | I Y Y C K I E Q G Q L P E W L | V D F H R D C T Y R Y Y D G D  
 E V A I L | S T C N R L | I Y Y I V G V Q E L T Q F L | L S E Q L R H | F I L L L H Q D  
 E V V V I S T C N R T E | I Y Y A V A P A D K A L E | L I D W M A G Y A Y H E G E A  
 E N V I I S T C N R T E | I Y Y A V V D Q A H T D F L | S E W F Q I Y L F I Y E Q D E  
 E N I I I S T C N R T E | I Y Y A V V D Q Y I K Q F L | L S Q W F G P Y | T I F E D E G  
 G G V I I S T C N R T E | I Y Y L S V Q Q Q L V Q W L | C D Y H K N S L Y W H H G N E  
 E N V I I S T C N R T E | I Y Y A V V D Q Y I K Q F L | S N W F S T Y L R | I T E D D G  
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 E D V I I S T C N R T E | I Y Y A V V D Q Y I K Q F L | S N W F S T Y L R | I T E D D G  
 E V V V I S T C N R T E | I Y Y C A V P D Q I Q W L | S E Y H Q Q Y C Y A H Q D D E  
 E N I I I S T C N R T E | I Y Y A V V D Q Y I K Q F L | S N W F S T Y L R | I T E D D G  
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|                         | 90 |   |   |   |   |   |   |   |   |   | 100 |   |   |   |   |   |   |   |   |   | 110 |   |   |       |   |   |   |   |   |   | 120 |   |   |   |   |   |   |   |   |   |
|-------------------------|----|---|---|---|---|---|---|---|---|---|-----|---|---|---|---|---|---|---|---|---|-----|---|---|-------|---|---|---|---|---|---|-----|---|---|---|---|---|---|---|---|---|
| UniRef90_F9U5T9         | A  | V | T | H | L | □ | R | V | C | S | G   | L | D | S | M | V | L | G | E | P | Q   | L | G | Q     | V | K | N | A | Y | Q | T   | A | T | D | C | T | A | T | G |   |
| UniRef90_W8A970         | A  | V | E | H | L | F | R | V | S | C | G   | L | D | S | M | V | I | G | E | T | Q   | L | G | Q     | A | K | Q | A | F | Q | L   | A | Q | S | L | Q | V | T | G |   |
| UniRef90_W1NCX2         | A  | A | R | H | L | M | R | V | A | V | G   | L | D | S | M | V | L | G | E | P | Q   | L | G | Q     | L | K | D | A | Y | Q | V   | A | R | E | A | Q | G | L | G |   |
| UniRef90_UP10002625168  | A  | V | R | H | L | F | R | V | A | C | G   | L | D | S | M | V | L | G | E | P | Q   | L | G | Q     | V | K | T | S | F | Q | T   | A | C | D | C | G | T | V | G |   |
| UniRef90_L0H2J7         | A  | V | R | H | L | □ | Q | V | A | S | G   | L | D | S | M | V | L | G | E | P | Q   | L | G | Q     | V | R | D | A | F | L | H   | A | Q | E | L | K | V | T | G |   |
| UniRef90_UP1000363BB81  | A  | V | R | H | L | F | R | V | T | C | G   | L | D | S | M | V | L | G | E | T | Q   | L | G | Q     | V | K | Q | A | Y | Q | V   | A | R | E | A | Q | G | L | G |   |
| UniRef90_UP10003F79590  | A  | I | D | H | L | M | Q | V | A | S | G   | L | D | S | □ | I | L | G | E | T | Q   | L | G | Q     | V | R | S | S | F | L | Q   | A | Q | E | N | H | T | I | G |   |
| UniRef90_UP100047BEF3C  | A  | L | E | H | L | C | K | V | A | C | G   | L | D | S | M | I | L | G | E | P | Q   | L | G | Q     | V | R | K | Q | A | F | V   | S | A | K | D | S | G | V | I | K |
| UniRef90_Q15SQ8         | A  | I | K | H | L | M | R | V | A | C | G   | L | D | S | L | I | L | G | E | P | Q   | L | G | Q     | V | R | K | Q | A | F | V   | S | A | K | D | S | G | V | I | K |
| UniRef90_U7FXD9         | A  | L | E | H | M | M | R | V | A | G | G   | L | D | S | L | V | L | G | E | P | Q   | L | G | Q     | M | R | E | A | Y | A | R   | A | H | E | A | G | L | L | N |   |
| UniRef90_UP1000376EF2B  | A  | V | Q | H | A | L | R | V | A | C | G   | L | D | S | L | V | I | G | E | P | Q   | L | G | Q     | L | K | D | A | L | Q | N   | A | S | E | A | H | A | T | G |   |
| UniRef90_D4K15          | C  | I | R | H | L | F | R | V | A | S | G   | L | D | S | M | V | I | G | E | T | Q   | L | S | Q     | V | K | Y | A | S | M | A   | R | E | A | Q | A | T | S | G | V |
| UniRef90_UP100036A8BF9  | A  | I | R | H | L | F | R | V | A | S | G   | L | D | S | M | V | I | G | E | P | Q   | L | G | Q     | V | R | D | A | F | M | L   | A | Q | S | D | K | T | T | T | G |
| UniRef90_G8QM28         | A  | V | R | H | A | F | R | V | A | S | G   | L | D | S | M | V | I | G | E | P | Q   | L | G | Q     | M | K | D | A | V | R | V   | A | E | E | A | G | T | L | G |   |
| UniRef90_C4L4J5         | A  | I | R | H | L | F | R | V | T | S | G   | L | D | S | M | I | L | G | E | T | Q   | L | G | Q     | V | K | T | S | F | F | R   | A | Q | E | H | G | T | T | G |   |
| UniRef90_UP100040BDBABA | T  | I | R | H | M | F | R | V | A | C | G   | L | D | S | L | I | G | E | P | Q | L   | G | Q | M     | K | S | A | Y | Q | A | A   | E | A | G | T | L | G |   |   |   |
| UniRef90_R1GM33         | A  | A | Q | H | L | M | R | V | A | S | G   | L | D | S | L | V | L | G | E | P | Q   | L | G | Q     | V | K | Q | A | Y | A | E   | S | V | E | Q | N | S | V | N |   |
| UniRef90_E0NW12         | A  | I | E | H | L | F | R | V | A | S | S   | L | D | S | L | V | L | G | E | G | Q   | L | S | Q     | V | K | G | A | Y | A | L   | R | E | A | G | V | T | G |   |   |
| UniRef90_E3BMD0         | A  | I | R | H | L | M | R | V | A | C | G   | L | D | S | L | V | L | G | E | P | Q   | L | G | Q     | V | K | Q | A | F | F | D   | S | R | G | S | Q | V | V | D |   |
| UniRef90_U5T4R4         | A  | V | V | H | L | R | V | T | A | G | G   | L | D | S | L | V | L | G | E | P | Q   | L | G | Q     | K | A | L | Y | R | S | A   | D | A | G | L | L | L | G |   |   |
| UniRef90_UP10002D5823B  | A  | I | E | H | L | F | R | V | T | C | G   | L | D | S | M | V | L | G | E | T | Q   | L | G | Q     | V | R | D | S | F | L | A   | Q | E | E | N | T | T | T | G |   |
| UniRef90_K6CHH9         | A  | I | E | H | L | F | R | V | T | C | G   | L | D | S | M | V | L | G | E | T | Q   | L | G | Q     | V | R | D | S | F | L | A   | Q | E | E | N | T | T | T | G |   |
| UniRef90_UP10003813B29  | A  | V | R | H | L | F | R | V | A | S | S   | L | D | S | M | V | L | G | E | P | Q   | L | G | Q     | V | K | E | A | Y | T | A   | A | R | A | V | G | A | V | Q |   |
| UniRef90_UP10003FD6EEC  | A  | V | S | H | L | F | R | V | S | C | G   | L | D | S | L | V | L | G | E | P | Q   | L | G | Q     | I | K | Q | A | F | A | V   | S | H | A | K | S | V | N |   |   |
| UniRef90_UP100036B8EB4  | T  | I | R | H | A | F | R | V | S | C | G   | L | D | S | M | V | L | G | E | P | Q   | L | G | Q     | L | K | D | A | V | R | V   | A | Q | E | Q | A | S | I |   |   |
| UniRef90_L1NY31         | T  | V | R | H | A | F | R | V | A | C | G   | L | D | S | M | V | L | G | E | P | Q   | L | G | Q     | L | K | D | A | V | Q | T   | A | Q | E | Q | N | A | L | G |   |
| UniRef90_G4SU87         | L  | I | R | H | M | F | R | V | A | C | G   | L | D | S | M | V | L | G | E | P | Q   | L | G | Q     | M | K | A | A | Y | Q | A   | A | N | E | A | G | T | L | G |   |
| UniRef90_UP10002558802  | A  | V | R | H | M | M | R | V | A | S | G   | L | D | S | L | V | L | G | E | P | Q   | L | G | Q     | L | K | S | A | Y | S | V   | A | Q | E | G | L | A | S |   |   |
| UniRef90_K9RQH3         | A  | I | M | H | L | M | R | V | A | S | G   | L | D | S | L | V | L | G | E | G | Q   | L | S | Q     | V | K | R | A | H | Y | Q   | K | G | V | O | I | K |   |   |   |
| UniRef90_A4VPC0         | A  | V | R | H | M | M | R | V | A | S | G   | L | D | S | M | V | L | G | E | P | Q   | L | G | Q     | M | K | S | A | Y | A | V   | R | E | A | G | S | V | G |   |   |
| UniRef90_A1WVQ7         | A  | M | R | H | L | M | R | V | S | A | G   | L | D | S | L | V | L | G | E | P | Q   | L | G | Q     | V | K | D | A | V | Y | H   | A | N | A | G | C | L | L |   |   |
| UniRef90_UP100036CE448  | L  | I | R | H | M | F | R | V | A | C | G   | L | D | S | M | I | L | G | E | P | Q   | L | G | Q     | M | K | S | A | Y | Q | A   | A | S | Q | A | G | T | L | G |   |
| UniRef90_UP10002D3DB53  | A  | L | R | H | L | M | R | V | A | A | G   | L | D | S | L | V | L | G | E | G | Q   | L | A | Q     | V | K | T | T | H | A | R   | A | Q | S | G | A | G | L | G |   |
| UniRef90_V4JL17         | S  | V | R | H | L | □ | R | V | A | S | G   | L | D | S | M | V | L | G | E | P | Q   | L | G | Q     | V | K | A | A | F | Q | T   | A | C | D | S | G | S | A |   |   |
| UniRef90_X2MDT2         | A  | V | S | H | L | M | R | V | A | S | G   | L | D | S | L | V | L | G | E | P | Q   | L | G | Q     | V | K | K | A | F | A | D   | S | Q | K | G | H | L | N |   |   |
| UniRef90_K2GD45         | A  | I | E | H | L | M | R | V | S | A | G   | L | D | S | M | V | L | G | E | T | Q   | L | G | Q     | V | K | Q | A | F | Q | L   | S | Q | G | S | T | G | T |   |   |
| UniRef90_UP100040D7B88  | A  | V | E | H | L | Y | R | V | T | C | G   | L | D | S | M | I | V | G | E | T | Q   | L | G | Q     | G | I | R | N | S | F | T   | V | A | Q | N | E | G | T |   |   |
| UniRef90_O67314         | A  | V | Y | H | I | F | K | V | A | S | S   | L | D | S | M | V | I | G | E | P | Q   | L | G | Q     | V | K | E | A | Y | R | V   | A | K | E | A | G | T | V | G |   |
| UniRef90_UP10002D60609  | A  | V | T | H | L | F | T | V | A | C | G   | L | D | S | M | V | V | G | E | P | Q   | L | G | Q     | G | K | L | D | A | L | Q   | D | E | Q | S | A | G | H |   |   |
| UniRef90_UP10003641FC4  | A  | V | E | H | L | F | R | V | S | S | S   | L | D | S | M | V | L | G | E | A | Q   | L | G | Q     | V | K | D | A | Y | S | L   | R | T | G | G | T | T | G |   |   |
| UniRef90_F2F2F8         | S  | L | N | H | L | F | R | V | T | A | G   | L | D | S | M | V | L | G | E | T | Q   | L | G | Q     | V | K | K | S | F | L | Q   | G | Q | E | L | G | T | T | G |   |
| UniRef90_F7RV90         | A  | V | S | H | L | M | S | V | A | A | G   | L | D | S | L | V | L | G | E | P | Q   | L | G | Q     | V | K | Q | S | Y | Y | S   | S | Q | E | Y | D | A | I | H |   |
| UniRef90_Q6LN83         | A  | A | R | H | L | M | R | V | A | C | G   | L | D | S | L | V | L | G | E | P | Q   | L | G | Q     | V | K | Q | S | Y | Y | S   | S | Q | E | Y | D | A | I | H |   |
| UniRef90_UP10003498B10  | A  | V | M | H | V | L | R | V | A | A | G   | L | D | S | L | V | L | G | E | G | Q   | L | A | Q     | V | K | M | H | Q | L | A   | Q | Y | Q | G | V | O | G |   |   |
| UniRef90_Q1GYE9         | A  | V | K | H | A | F | R | V | A | S | G   | L | D | S | M | V | L | G | E | P | Q   | L | G | Q     | M | K | A | V | R | I | A   | E | N | A | G | T | L | G |   |   |
| UniRef90_Q1NM66         | A  | V | N | H | V | F | R | V | A | A | S   | L | D | S | M | V | L | G | E | P | Q   | L | G | Q     | L | K | D | A | Y | R | L   | A | V | E | H | G | T | T | G |   |
| UniRef90_R5SV52         | C  | I | R | H | L | F | R | V | V | S | G   | L | D | S | M | V | L | G | E | S | Q   | L | N | Q     | I | K | T | A | Y | T | G   | A | L | A | V | H | A | T | R | G |
| UniRef90_UP1000255A1EA  | A  | V | R | H | M | M | R | V | A | C | G   | L | D | S | L | V | L | G | E | P | Q   | L | G | Q     | L | K | S | A | Y | V | A   | R | S | G | S | V | G | G |   |   |
| UniRef90_C6WT80         | A  | V | K | H | A | F | R | V | A | S | G   | L | D | S | M | V | L | G | E | P | Q   | L | G | Q     | M | K | E | A | V | R | A   | D | E | A | G | T | L | G |   |   |
| UniRef90_A0A011NUT0     | A  | V | R | H | V | F | R | V | A | S | G   | L | D | S | M | V | L | G | E | P | Q   | L | G | Q     | M | K | E | A | V | R | A   | D | E | A | G | T | L | G |   |   |
| UniRef90_S6GFT0         | A  | V | Q | H | M | M | R | V | A | C | G   | L | D | S | L | V | L | G | E | P | Q   | L | G | Q     | L | K | S | S | F | A | V   | S | Q | K | L | R | L | M | K |   |
| UniRef90_C1F252         | A  | V | R | H | L | F | R | V | A | S | S   | L | D | S | M | L | V | G | E | S | Q   | L | G | Q</td |   |   |   |   |   |   |     |   |   |   |   |   |   |   |   |   |

130                    140

|                         |   |
|-------------------------|---|
| UniRef90_F9U5T9         | K   L   G   R   L   F   Q   H   A   F   S   V   A   K   T   V   R   T   E   T   A                 |
| UniRef90_W8A970         | T   V   F   N   Q   L   F   K   Q   A   I   T   L   G   K   R   A   H   S   S   T   A             |
| UniRef90_W1NCX2         | G   E   L   E   R   L   F   Q   H   T   F   A   V   A   K   Q   V   R   T   E   T   G             |
| UniRef90_UPI0002625168  | P   V   L   N   R   L   F   H   W   T   F   R   V   A   K   R   V   R   S   E   T   A             |
| UniRef90_L0H2J7         | K   L   L   G   R   L   F   Q   H   T   F   S   V   A   K   Q   V   R   T   D   T   A             |
| UniRef90_UPI000363BB81  | P   T   F   N   N   L   F   K   R   A   V   T   L   A   K   Q   A   H   S   Q   T   E             |
| UniRef90_UPI0003F79590  | S   I   L   E   R   L   F   Q   Q   T   F   H   I   A   K   R   V   R   S   E   T   A             |
| UniRef90_UPI00047BEF3C  | T   V   F   N   Q   L   F   K   Q   V   I   T   L   A   K   R   S   H   S   E   T   E             |
| UniRef90_Q15SQ8         | S   D   F   E   R   L   F   Q   Q   T   F   S   V   A   K   R   V   R   S   E   T   E             |
| UniRef90_U7FXD9         | G   E   L   S   R   L   F   Q   E   V   F   S   V   A   K   R   I   R   T   E   T   G             |
| UniRef90_UPI000376EF2B  | L   E   L   N   R   L   M   Q   H   A   F   S   T   A   K   R   V   R   T   Q   T   S             |
| UniRef90_D4K15          | T   I   L   N   T   L   F   H   R   A   I   T   T   G   K   R   V   R   T   E   T   R             |
| UniRef90_UPI00036A8BF9  | I   M   F   N   T   L   F   K   Q   A   I   T   M   A   K   R   A   H   S   E   T   G             |
| UniRef90_G8QM28         | T   M   L   N   K   L   F   Q   R   S   F   A   V   A   K   E   V   R   S   T   T   A             |
| UniRef90_C4L4J5         | T   V   F   N   K   L   F   K   E   A   V   T   L   A   K   R   A   H   T   D   T   Q             |
| UniRef90_UPI00040BDBABA | K   T   L   L   S   K   L   F   Q   H   T   F   T   A   A   K   K   V   R   T   D   T   A         |
| UniRef90_R1GM33         | G   S   I   E   R   L   F   H   K   T   F   T   V   A   K   R   V   R   T   E   T   D             |
| UniRef90_E0NW12         | T   I   L   L   N   L   L   F   H   R   A   I   A   T   G   K   R   V   R   T   E   T   R         |
| UniRef90_E3BMD0         | S   A   M   E   K   L   F   Q   K   A   F   S   V   A   K   R   V   R   T   E   T   D             |
| UniRef90_U5T4R4         | Q   I   L   E   R   L   F   Q   H   A   F   S   L   A   K   R   V   R   T   E   T   A             |
| UniRef90_UPI0002D5823B  | T   V   F   N   E   L   F   K   Q   A   I   T   L   A   K   K   A   H   N   E   T   E             |
| UniRef90_K6CHH9         | T   I   F   N   E   L   F   K   Q   A   I   T   L   A   K   K   A   H   N   E   T   E             |
| UniRef90_UPI0003813B29  | S   S   L   E   R   L   L   Q   T   T   F   T   V   A   K   R   V   R   T   E   T   Q             |
| UniRef90_UPI0003FD6EEC  | K   S   L   N   K   W   F   Q   Y   A   F   K   V   V   A   K   K   V   R   T   D   T   Q         |
| UniRef90_UPI00036B8EB4  | T   T   L   N   N   L   F   Q   K   T   F   S   V   A   K   E   V   R   S   N   T   A             |
| UniRef90_L1NY31         | S   W   L   N   A   L   F   Q   K   T   F   S   V   A   K   E   I   R   S   G   T   A             |
| UniRef90_G4SU87         | K   Y   L   G   K   L   F   Q   H   T   F   F   A   A   K   K   V   R   T   D   T   A             |
| UniRef90_UPI0002558802  | V   E   L   G   R   L   F   R   T   T   F   N   V   A   K   Q   V   R   S   Q   T   A             |
| UniRef90_K9RQH3         | P   I   L   N   R   L   F   K   D   A   I   A   G   K   R   V   R   T   D   T   N                 |
| UniRef90_A4VPC0         | P   L   L   G   R   L   F   Q   A   T   F   S   T   A   K   T   V   R   T   D   T   A             |
| UniRef90_A1WVQ7         | A   V   L   E   R   L   F   Q   H   A   F   A   V   A   K   Q   V   R   T   D   T   D             |
| UniRef90_UPI00036CE448  | K   R   I   L   G   K   L   F   Q   H   T   F   M   A   A   K   K   V   R   T   D   T   A         |
| UniRef90_UPI0002D3DB53  | R   L   L   D   R   L   F   K   Q   A   M   T   A   G   K   R   V   R   S   E   T   S             |
| UniRef90_V4JL17         | R   M   L   G   R   L   F   Q   H   T   F   S   V   A   K   Q   I   R   T   D   T   A             |
| UniRef90_X2MDT2         | S   A   L   E   R   M   F   Q   K   S   F   S   V   A   K   R   V   R   T   E   T   D             |
| UniRef90_K2GD45         | T   V   F   N   Q   L   F   K   Q   A   V   T   V   A   K   K   G   H   K   E   T   A             |
| UniRef90_UPI00040D7B88  | T   I   F   N   H   L   F   K   E   S   I   T   L   A   K   R   A   H   S   E   T   S             |
| UniRef90_O67314         | K   I   L   L   N   R   V   Y   E   K   A   L   R   A   S   K   R   V   R   T   E   T   G         |
| UniRef90_UPI0002D60609  | R   Q   L   N   E   L   F   Q   R   A   L   R   V   G   K   R   A   H   S   E   T   G             |
| UniRef90_UPI0003641FC4  | L   V   L   N   Q   L   F   E   K   A   F   S   I   A   K   K   V   R   E   E   T   G             |
| UniRef90_F2F2F8         | T   V   Y   N   Q   L   F   K   Q   A   V   T   F   A   K   R   A   H   S   E   T   A             |
| UniRef90_F7RV90         | S   V   F   E   R   L   F   Q   S   T   F   A   A   K   V   I   R   T   E   T   E                 |
| UniRef90_Q6LN83         | G   T   L   E   K   L   F   H   K   T   F   T   V   A   K   R   V   R   T   E   T   D             |
| UniRef90_UPI0003498B10  | R   L   L   N   R   L   L   K   Q   A   I   T   A   G   K   R   V   R   T   E   T   N             |
| UniRef90_Q1GYE9         | T   L   L   H   K   L   F   Q   R   T   F   S   V   A   K   E   V   R   T   N   T                 |
| UniRef90_Q1NM66         | P   I   L   H   R   L   L   S   K   S   F   S   T   A   K   R   I   R   T   E   T   N             |
| UniRef90_R5SV52         | T   I   L   N   T   L   F   H   R   A   I   T   T   G   K   R   V   R   T   E   T   R             |
| UniRef90_UPI000255A1EA  | P   T   I   L   H   S   V   F   Q   Q   V   F   S   V   A   K   K   V   R   T   E   T   A         |
| UniRef90_C6WT80         | T   L   L   H   K   L   F   Q   R   T   F   E   V   V   A   K   E   V   R   T   N   T             |
| UniRef90_A0A011NUT0     | T   T   I   L   H   K   L   F   Q   Q   S   F   V   A   V   A   K   E   V   R   S   T   T   A     |
| UniRef90_S6GFT0         | G   E   L   G   Q   L   F   Q   Q   A   F   T   V   V   A   K   K   V   R   T   D   T   A         |
| UniRef90_C1F252         | S   Q   L   D   R   L   L   Q   E   T   F   A   L   A   K   R   V   R   T   E   T   E             |
| UniRef90_F7NJ61         | T   M   L   N   T   L   F   H   R   A   I   T   V   G   K   K   V   R   T   Q   T   R             |
| UniRef90_X5JT67         | T   I   L   N   R   L   F   K   Q   A   I   T   A   G   K   R   V   R   T   E   T   S             |
| UniRef90_B1XLK6         | R   L   L   D   R   M   F   K   R   A   I   T   A   G   K   R   V   R   S   E   T   N             |
| UniRef90_Q2JWU6         | R   I   L   N   R   L   F   K   A   A   I   T   A   G   K   R   I   R   T   E   T   G             |
| UniRef90_UPI00018510C5  | T   V   F   N   Q   L   F   K   Q   S   V   T   L   A   K   K   A   H   S   E   T   E             |
| UniRef90_R4KPF8         | K   V   I   N   T   L   F   K   H   A   I   T   V   G   K   R   A   R   S   E   T   G             |
| UniRef90_B8FL1          | A   V   L   N   R   L   M   H   R   C   F   M   T   A   K   R   V   R   K   E   T   G             |
| UniRef90_K9PGV8         | T   I   L   N   R   L   F   K   Q   A   I   T   A   G   K   R   V   R   T   E   T   S             |
| UniRef90_L0DZ42         | L   S   L   E   R   L   F   Q   H   A   F   A   T   A   K   D   V   R   T   S   T   A             |
| UniRef90_M4U5D1         | K   V   L   Q   Q   W   F   Q   Q   T   F   T   V   A   K   Q   V   R   T   D   T   Q             |
| UniRef90_R7CN15         | T   I   L   N   T   L   F   H   R   A   I   T   T   G   K   R   V   R   T   E   T   Q             |
| UniRef90_UPI0003B7330F  | A   T   I   L   N   R   I   M   R   K   A   F   H   C   A   K   V   V   R   S   K   T   D         |
| UniRef90_K9UPV3         | S   I   L   N   R   L   F   R   Q   A   M   T   A   G   K   R   V   R   T   E   T   S             |
| UniRef90_UPI0003629C8E  | R   I   L   N   Q   L   F   K   Q   G   I   S   A   G   K   R   V   R   T   E   T   S             |
| UniRef90_V6IXU3         | T   F   F   N   E   L   F   K   E   A   I   T   L   A   K   R   A   Q   D   E   T   Q             |
| UniRef90_W7C1G3         | T   I   L   N   Q   L   F   R   E   A   V   H   F   A   K   N   M   H   H   Q   T   K             |
| UniRef90_UPI000348112E  | S   I   F   N   H   L   F   K   Q   A   V   T   L   A   K   R   S   H   S   E   T   D             |
| UniRef90_W0PFJ1         | T   L   L   H   Q   L   F   Q   K   T   F   S   V   V   A   K   R   V   R   T   Q   T   A         |
| UniRef90_C9LXX7         | T   V   L   N   T   L   F   H   R   A   I   T   G   K   R   V   R   T   E   T   R                 |
| UniRef90_H5V4Z0         | S   E   L   E   R   M   F   Q   K   S   F   S   V   V   A   K   R   V   R   T   E   T   D         |
| UniRef90_Q1AUK2         | P   V   L   N   R   L   F   H   T   A   L   R   V   G   K   R   V   V   R   A   E   T   G         |
| UniRef90_UPI00046F2B30  | V   T   L   D   R   L   F   Q   T   N   F   S   V   V   A   K   K   V   V   R   T   E   T   E     |
| UniRef90_A9A0C2         | V   I   L   N   R   L   I   H   K   T   F   L   V   V   A   K   R   V   V   R   S   E   T   G     |
| UniRef90_UPI000421E521  | M   H   L   H   K   L   F   Q   R   A   F   A   V   V   A   K   E   V   V   R   T   S   T   A     |
| UniRef90_M1YP13         | T   I   F   N   T   L   F   K   Q   A   V   T   L   A   K   K   A   H   S   Q   T   E             |
| UniRef90_UPI00037A644B  | S   L   L   N   K   L   F   Q   R   T   F   S   V   V   A   K   A   V   V   R   S   E   T   E     |
| UniRef90_A6F6J9         | Q   T   I   L   D   K   L   F   Q   K   T   F   T   A   A   K   R   V   V   R   T   E   T   E     |
| UniRef90_K9WNJ4         | R   L   L   N   R   L   F   K   Q   A   I   T   A   G   K   R   V   V   R   T   E   T   S         |
| UniRef90_B8KJ93         | S   E   L   G   R   L   F   P   R   V   F   T   I   A   K   K   V   V   R   T   D   T   A         |
| UniRef90_UPI00046F58FF  | T   I   F   N   H   L   F   K   Q   S   I   T   L   A   K   R   A   H   S   Q   T   E             |
| UniRef90_UPI00028967B2  | T   I   F   N   H   L   F   K   Q   S   I   T   L   A   K   R   A   H   S   Q   T   E             |
| UniRef90_A0A024Q3N0     | T   I   F   N   Q   L   F   K   Q   A   I   T   F   G   K   R   M   Q   K   E   T   T             |
| UniRef90_UPI0002E7FA8A  | T   I   F   N   Q   L   F   K   Q   S   V   T   F   A   K   R   V   V   R   T   E   T   E         |
| UniRef90_A0A014NQJ7     | S   E   L   E   R   M   F   Q   K   S   F   S   V   V   A   K   R   V   V   R   T   E   T   D     |
| UniRef90_A7Z7A7         | T   I   F   N   E   L   F   K   Q   A   V   T   V   G   K   R   T   H   A   E   T   D             |
| UniRef90_J7ISR3         | K   V   I   N   V   F   F   Q   T   A   L   A   V   G   K   R   V   V   R   T   D   T   M         |
| UniRef90_A3YI10         | Q   S   L   Q   A   L   F   Q   R   T   F   S   I   A   K   K   V   V   R   T   D   T   A         |
| UniRef90_Q8EPM7         | T   I   F   N   E   L   F   K   Q   A   I   T   F   G   K   R   A   H   K   E   T   A             |
| UniRef90_Q9KW52         | V   V   L   N   R   L   L   H   K   F   A   F   S   V   V   A   K   R   V   V   R   T   E   T   G |
| UniRef90_B6EHH4         | G   V   V   E   K   L   F   Q   S   D   F   S   V   V   A   K   R   V   V   R   T   E   T   N     |

|                        | 1 | 10 | 20 | 30 |
|------------------------|---|----|----|----|
| UniRef90_E6QMA2        | N | I  | L  | G  |
| UniRef90_G9Y2E8        | S | L  | A  | L  |
| UniRef90_F5RHJ3        | S | L  | F  | A  |
| UniRef90_UPI000362E705 | Q | L  | Y  | A  |
| UniRef90_S3E190        | P | L  | L  | V  |
| UniRef90_COGG59        | T | E  | I  | V  |
| UniRef90_Y0KKF6        | Q | L  | Y  | T  |
| UniRef90_UPI000380F6EE | Q | L  | F  | C  |
| UniRef90_F8C2X8        | M | E  | N  | I  |
| UniRef90_UPI000362E43B | N | F  | F  | V  |
| UniRef90_UPI000373D6B2 | N | F  | S  | F  |
| UniRef90_Q1NI5         | N | L  | A  | T  |
| UniRef90_UPI00030F793E | N | I  | A  | V  |
| UniRef90_K2GGD9        | N | P  | I  | A  |
| UniRef90_Q11714        | H | I  | T  | A  |
| UniRef90_K2ADE1        | H | A  | V  | G  |
| UniRef90_K9R941        | H | I  | V  | A  |
| UniRef90_W4QFR5        | N | L  | V  | I  |
| UniRef90_K0CK15        | N | L  | F  | A  |
| UniRef90_B5JU12        | N | P  | S  | V  |
| UniRef90_C8N8R9        | H | I  | T  | A  |
| UniRef90_UPI00037A2539 | H | M  | V  | V  |
| UniRef90_10GTK4        | E | L  | M  | L  |
| UniRef90_UPI00046D1F00 | M | N  | S  | S  |
| UniRef90_C8X2V5        | M | N  | S  | S  |
| UniRef90_UPI000248D0DE | H | I  | V  | V  |
| UniRef90_D5CLA9        | Q | L  | F  | T  |
| UniRef90_K2B222        | Q | L  | I  | A  |
| UniRef90_UPI0003FD905F | S | L  | L  | V  |
| UniRef90_A0A033V2J6    | H | I  | A  | V  |
| UniRef90_B5IK0         | H | H  | L  | K  |
| UniRef90_UPI0002627011 | H | H  | L  | K  |
| UniRef90_B2IA84        | Y | I  | L  | S  |
| UniRef90_W7DSY2        | Y | I  | L  | S  |
| UniRef90_Q2KZZ5        | Y | V  | L  | A  |
| UniRef90_G2FVW2        | Y | V  | L  | A  |
| UniRef90_D3DG42        | M | D  | R  | R  |
| UniRef90_UPI000381BFA1 | H | I  | F  | V  |
| UniRef90_I4C6T5        | S | I  | L  | V  |
| UniRef90_T1CDM7        | S | I  | L  | A  |
| UniRef90_S6JE42        | S | I  | L  | A  |
| UniRef90_M7N9A5        | S | I  | L  | V  |
| UniRef90_UPI0003711560 | N | I  | A  | V  |
| UniRef90_D3EQ68        | N | I  | A  | V  |
| UniRef90_W0DE58        | N | M  | F  | A  |
| UniRef90_B4VG2         | N | N  | L  | A  |
| UniRef90_B6WSE2        | D | I  | V  | L  |
| UniRef90_M7NTK9        | H | H  | V  | T  |
| UniRef90_A4BMQ4        | S | N  | L  | V  |
| UniRef90_G4E2C1        | S | N  | L  | V  |
| UniRef90_M1Z1B9        | K | S  | V  | L  |
| UniRef90_E8X352        | K | S  | V  | L  |
| UniRef90_E4T7M3        | H | H  | L  | V  |
| UniRef90_E1SS96        | H | H  | L  | V  |
| UniRef90_UPI0001FFDF92 | S | S  | V  | L  |
| UniRef90_Q6AIM2        | K | Q  | V  | F  |
| UniRef90_U2FV49        | K | Q  | V  | F  |
| UniRef90_UPI00030DFC1B | M | L  | K  | L  |
| UniRef90_J9ZEX1        | Q | L  | F  | A  |
| UniRef90_Q0AHU2        | S | L  | T  | V  |
| UniRef90_X2HB18        | S | L  | T  | V  |
| UniRef90_I2JGQ0        | N | I  | L  | V  |
| UniRef90_K9SQ56        | N | I  | A  | V  |
| UniRef90_UPI000305DC43 | D | V  | L  | T  |
| UniRef90_C5BSZ7        | D | V  | L  | T  |
| UniRef90_UPI000366C658 | D | V  | L  | T  |
| UniRef90_X2H928        | S | I  | T  | L  |
| UniRef90_V6KJ92        | S | L  | L  | V  |
| UniRef90_UPI0002FC4665 | N | F  | V  | A  |
| UniRef90_UPI00034C93AB | H | H  | I  | A  |
| UniRef90_UPI00026C791F | H | H  | I  | A  |
| UniRef90_B9DND0        | N | I  | F  | V  |
| UniRef90_F8IDJ9        | N | D  | F  | L  |
| UniRef90_S7VCZ5        | N | N  | I  | A  |
| UniRef90_K9T461        | N | N  | I  | A  |
| UniRef90_K1KIR0        | H | H  | L  | A  |
| UniRef90_P95525        | S | L  | L  | V  |
| UniRef90_E4ND91        | S | L  | L  | V  |
| UniRef90_UPI00037B1E81 | Q | L  | L  | A  |
| UniRef90_Q7U769        | H | I  | A  | V  |
| UniRef90_S7V5Q6        | D | I  | V  | L  |
| UniRef90_A8FYZ1        | S | S  | L  | V  |
| UniRef90_UPI000470A44A | Q | S  | L  | V  |
| UniRef90_L9PJN9        | Q | S  | L  | V  |
| UniRef90_D8HXP1        | Q | S  | L  | V  |
| UniRef90_B4V348        | S | S  | L  | V  |
| UniRef90_C7MT06        | S | S  | L  | V  |
| UniRef90_Q0K6G3        | Q | S  | L  | V  |
| UniRef90_B9E745        | H | I  | V  | V  |
| UniRef90_Q3SG11        | Q | L  | T  | L  |
| UniRef90_Q49Y44        | H | I  | L  | A  |
| UniRef90_R7WPF7        | S | V  | L  | V  |

UniRef90\_E6QMA2  
 UniRef90\_G9Y2E8  
 UniRef90\_F5RHJ3  
 UniRef90\_UPI000362E705  
 UniRef90\_S3E190  
 UniRef90\_C0GG59  
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 UniRef90\_KOCK15  
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 UniRef90\_M7N9A5  
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 UniRef90\_UPI00030DFC1B  
 UniRef90\_J9ZEX1  
 UniRef90\_Q0AHU2  
 UniRef90\_X2HB18  
 UniRef90\_I2JGQ0  
 UniRef90\_K9SQ56  
 UniRef90\_UPI000305DC43  
 UniRef90\_C5BSZ7  
 UniRef90\_UPI000366C658  
 UniRef90\_X2H928  
 UniRef90\_V6KJ92  
 UniRef90\_UPI0002FC4665  
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 UniRef90\_K9T461  
 UniRef90\_K1KIR0  
 UniRef90\_P95525  
 UniRef90\_E4ND91  
 UniRef90\_UPI00037B1E81  
 UniRef90\_Q7U769  
 UniRef90\_S7V5Q6  
 UniRef90\_A8FYZ1  
 UniRef90\_UPI000470A44A  
 UniRef90\_L9PJN9  
 UniRef90\_D8HXP1  
 UniRef90\_B4V348  
 UniRef90\_C7MT06  
 UniRef90\_Q0K6G3  
 UniRef90\_B9E745  
 UniRef90\_Q3SG11  
 UniRef90\_Q49Y44  
 UniRef90\_R7WPF7

|   | 50 | 60 | 70 | 80 |
|---|----|----|----|----|
| E A M I L S T C N R V E M   L A A A D S D   V A F   Q Q H   R P H   Y E Y R D R A   |    |    |    |    |
| A G   V V L S T C N R T E L   Y L S M E Q D   L H K Q I V D W L   C A Y   L Y W Y Q D N D   |    |    |    |    |
| E A A I L S T C N R T E L   Y C   A T N D P A   L D W M A Q Y H R P   Y I Y R   L E H Q Q   |    |    |    |    |
| S S V I L S T C N R S E I I Y C D L K A S T K E R V V D W F F R F I   Y I Y E E Q A K   |    |    |    |    |
| E E C A I L T T C N R T E I I Y V Q S E R P V I D W L A N Y H K P   Y T Y T F S N Q E K   |    |    |    |    |
| E S V V L S T C N R M E V Y A C   A E D S E Q A Q L D A D D E K H F Y   I H V A G E E K   |    |    |    |    |
| E G L F   S T C N R V E F Y F   V L D P D K K N Q F L K D F S   P Y   L Y F   F E N E K   |    |    |    |    |
| E C M A L S T C N R V E I T V V A A E G V P E H   L S H W S A E H   L V Y R H R G   L E   |    |    |    |    |
| E A V I L S T C N R T E I Y C R L E R R L L E W   G D F H R   G A Y W Y R D G E   |    |    |    |    |
| E G M I V S T C N R V E M V A R S S V N G N A D M R G A Q Y E Q Y   L Y E Y R S T E   |    |    |    |    |
| E A V V V S T C N R T E I Y V L N A P Q Y S K Q S A I D W L   A E H   V Y F Y H   H D D A   |    |    |    |    |
| E A A L L S T C N R T E I Y C L T S S D D T P D   L T Q W L A R W H   L Y R   H E N D A   |    |    |    |    |
| E V G I L S T C N R L E I Y V V G   R E V T Q F L   S E Q L R   P H   L F M   L L H E D   |    |    |    |    |
| E A V L L S T C N R S E I Y C N A D D I N K I V D W F   C R   H   A Y F Y Q D E R   |    |    |    |    |
| E V T I L S T C N R L E I Y I V G   R E V T Q F L   S E Y S R P H   L F M   L L H Q D   |    |    |    |    |
| E C T I I V S T C N R T E I V Y V V A D Q L H T S F L   A D W F Q P Y   L D   R E N E H   |    |    |    |    |
| E A A L L S T C N R T E I Y C L V D P D F S D W L   A R A R R M S V Y Q Y R D E Q   |    |    |    |    |
| E A V V V S T C N R S E F Y T R V D D Q R Q W L   D Q N E Q H   L Y Q Y H   H D A E   |    |    |    |    |
| E E I A L L S T C N R S E I Y A V G R A R L V Q W L   A A H   K E N   L T F   H Y R D R D   |    |    |    |    |
| E G V I V G T C N R T E I L Y V V V D R L   H M M N F M E Q W F G Q   H   L Y M H E D E R   |    |    |    |    |
| E A V V L L S T C N R S E M Y A V V E K A L K Q F L   L F D N I   D E Y   L Y H Y A D E E   |    |    |    |    |
| E V M I V S T C N R V E V L Y V S E G D V K D R   V D Y   L S K H   L Y V K E G   L E   |    |    |    |    |
| E G L L L S T C N R V E I L L F V G S A D G S G E E P E R   R   P Y   I Y S Y R G   L D   |    |    |    |    |
| E C V V V G T C N R T E I L Y V A V D R Q P C A H Y   L R E F Q E H   L Y V Y E N E R   |    |    |    |    |
| E A T I I L S T C N R T E I I Y C S T S A P A V G W L   A D Y   H H P   Y   I Y R   L P Q Q E   |    |    |    |    |
| E A A I L S T C N R T E I I Y C Q T E N S V I S W S L   L Q W R K P Y   L Y V H   K N T A Q   |    |    |    |    |
| E T V I V S T C N R T E I I Y A H L P K D V P E Q L   W L V   E Y   L Y T Y Q Q Q Q   |    |    |    |    |
| E C V I I L S T C N R T E I V Y A V V D Q I H T S F L   A D W F D H Y   T N V L T E N D   |    |    |    |    |
| E A S I I L S T C N R L E I I Y T Q G I S S S V G A F L   S Q H S G P H   L F T Y H   H E D   |    |    |    |    |
| E N V I I V S T C N R T E I V Y A V T D Q Y I K Q F   L A D W L   D P Y   L R   T E S D A   |    |    |    |    |
| E A A L L S T C N R T E I I L Y A E T T N N W L   E Q H   P G L   Q N H   L Y Q Y R D A A   |    |    |    |    |
| E N V I I I S T C N R T E I I I A V V D Q L H T A F L   A N W F N   N Q Y   L F F Y E E N Q   |    |    |    |    |
| E A A I I L S T C N R T E I V Y C A A D A A V A E W L   A D H   H H C M H   L Y R   L H Q N D   |    |    |    |    |
| E G V I I L S T C N R T E I V Y A A G I R S K F L   D F N   L H H R   Q Y   L H V   H T   L Y E   |    |    |    |    |
| E E L I I L S T C N R V E I L Y A V A Q E Y A C M E A S W D L   K R Y S F L L   Q G K E   |    |    |    |    |
| E A V V V S T C N R T E I L Y C A V D D G G E E T V R   H W V N   P F   L Y A H   A G R D   |    |    |    |    |
| E E V M I I L S T C N R A E E V F V V A D D A E A K R K E A E P I   R   D F   L Y I K T E A E D   |    |    |    |    |
| E A A L I I L S T C N R T E I I Y C S A E D T P A D W L   H E R   H C   D F   L Q R W R E Q D   |    |    |    |    |
| S A V I I L S T C N R T E I V Y F H W Q R Q C   D W L   S E L   H H H   S L   Y V K Q N Q F   |    |    |    |    |
| E N V I I V S T C N R T E I I Y A V G D Q Y V K R F   L A K W F G   M Y   L T I E V Q D E   |    |    |    |    |
| E A A V I I S T C N R T E I I L Y A I L K N A I   P A D L   R R W   H Q F   L Y E Y E E L A   |    |    |    |    |
| E V A V I I S T C N R L E I E V Y A V G V I E I I Q F   L S E T S H   R   H   F I L L Y Q D   |    |    |    |    |
| E E L V I I L N T C N R V E I I Y A V A V A E D Y Y   Q M H   L S P R Y K Y S F   F L E G K E   |    |    |    |    |
| E V A V I I L N T C N R L E I I Y M V A I R E V T   F E L   Q A Q G Y Q H   L F I L R Q Q D   |    |    |    |    |
| E A A M I I L S T C N R V E I I Y A R V N D D Y   H Q I   P I   D V L   D E H   F Y S Y T E D K   |    |    |    |    |
| E G G I I L S T C N R V E I L Y T V T S P D L   L R F   L H E Y F S P   P H   L Y E F R E R E   |    |    |    |    |
| E A A V I I S T C N R T E I I Y C H I D E E Y Y D N   P V L   S W L   H   D Y   H Q Q S E K D D   |    |    |    |    |
| E A A V I I S T C N R T E I I Y A V L A P E A T   P D   L   Q   W   L   A   Q   Y   L Y L L   N G E A                                   |    |    |    |    |
| E A A L I I L S T C N R T E I I Y C S A E D T P A D   W L   H E R   H C   D F   L Q R W R E Q D   |    |    |    |    |
| S A V I I L S T C N R T E I V Y F H W Q R Q C   D W L   S E L   H H H   S L   Y V K Q N Q F   |    |    |    |    |
| E N V I I V S T C N R T E I I Y V V S D Q Y V K K F   L A D W F S   M F   L E   K E E K E   |    |    |    |    |
| E A A M I I L S T C N R V E I I L Y V V T A H   V S P   D F L   Q E T   H R   P Y   L Y H   L T G Q E                                   |    |    |    |    |
| E A A A I I I S T C N R T E I I Y C N T D T P D   K A W L   A D F   H H P   Y   L Y K   L L R E Q Q                                     |    |    |    |    |
| E A A M I I L S T C N R T E I I Y C T G N A T T   A Q W L   A D Y   H A P   Y   L Y Q F   H N K Q Q                                     |    |    |    |    |
| E E L A I I L S T C N R T E I I Y G V T V H S M   V D W L   A A Y   H R   I C   Y D   C R   G Q D                                       |    |    |    |    |
| E C C A I I L S T C N R L E I I Y I V G   R E I   T Q F L   S E F S R   P H   L F V L L   R Q D   |    |    |    |    |
| E A A A I I L S T C N R T E I I Y C A A E P H   V S D   W L   A D F   N R   P H   L Y R   Y Q Q N E                                     |    |    |    |    |
| E V A V I I S T C N R T E I I Y C E T G A E A Q   H W   L A E   H K   A A S   A Y A R   W G D D   |    |    |    |    |
| E E G A I I L S T C N R V E I I Y A V T D A P   G D G S L   R R W M A   P Y   F Y   I H   R D R E                                       |    |    |    |    |
| E N V I I V S T C N R T E I I Y Y V V S D Q Y V K K F   L A D W F S   M F   L E   K E E K E   |    |    |    |    |
| E A A M I I L S T C N R V E I I L Y V V T A H   V S P   D F L   Q E T   H R   P Y   L Y H   L T G Q E                                   |    |    |    |    |
| E A A A I I I S T C N R T E I I Y C N T D T P D   K A W L   A D F   H H P   Y   L Y K   L L R E Q Q                                     |    |    |    |    |
| E A A M I I L S T C N R T E I I Y C T G N A T T   A Q W L   A D Y   H A P   Y   L Y Q F   H N K Q Q                                     |    |    |    |    |
| E E G A I I L S T C N R T E I I Y G V T V H S M   V D W L   A A Y   H R   I C   Y D   C R   G Q D                                       |    |    |    |    |
| E C S V I I V S T C N R L E I I Y A V A D Q I   H T R   F L   A R K   F   G   L   E   V   F   V   G   D E                               |    |    |    |    |
| E A A V I I L S T C N R T E I I Y A D V K F   H A A E   L   S   T   M   L   S   R   H   L   Y   V   H   Y   E   D   R                   |    |    |    |    |
| E V A V I I S T C N R T E I I Y C A G E Q D I   G E S   Q   V   D   S   L   Q   S   H   I   Y   R   L   E   G   D   A                   |    |    |    |    |
| E E I A I I I S T C N R L E I I Y G V A T N D   K A Q M   L   R   Q   L   R   P   N   L   F   T   L   L   R   E   D                     |    |    |    |    |
| E A A A I I L S T C N R T E I I Y C D I Q D   P   L   Q   W   L   A   K   E   Y   S   P   Y   I   H   E   D   H   Q                     |    |    |    |    |
| E E G I I L S T C N R V E I I Y A D V D   K   F   H   A A E   L   S   D   E   L   T   P   H   L   Y   L   F   E   A   E   D             |    |    |    |    |
| E A A V I I L S T C N R T E I I Y A V A D Q I   H T R   F L   A R K   F   G   L   E   V   F   V   G   D E                               |    |    |    |    |
| E S V V I I V S T C N R L E I I Y G S A V A   H   L   T   G   V   D   R   D   L   K   R   Y   A   Y   V   V   R   E   G   E             |    |    |    |    |
| E A A M A I I L S T C N R V E I I Y L A V G   S   G   D   V   I   G   H   V   A   Q   V   L   E   E   A   A   Y   V   H   R   E   L   D |    |    |    |    |
| E V A V I I I S T C N R L E I I Y D Q G   V   R   E   I   N   Q   F   L   S   E   I   G   H   R   Y   L   F   I   L   L   H   Q   D     |    |    |    |    |
| E A A A I I I S T C N R T E I I Y C A A E   D   T   D   A   A   F   I   C   E   R   K   E   P   H   I   Y   T   F   T   Q   E   E   Q   |    |    |    |    |
| E A A M I I I S T C N R L E I I Y C E T   G   A   E   A   Q   H   W   L   A   E   H   K   A   A   S   A   Y   A   R   W   G   D   D     |    |    |    |    |
| E V A V I I I S T C N R T E I I Y V E T   A   C   P   T   L   A   E   N   S   K   L   Y   V   K   V   N   D   E   Q                     |    |    |    |    |
| E G C V I I L S T C N R T E I I Y L N   Y   E   H   Q   V   E   N   W   L   G   E   Q   Y   K   N   S   L   Y   W   Y   E   G   Q   Q   |    |    |    |    |
| E A A A V I I L S T C N R T E I I Y A D   V   D   K   F   H   A A E   L   S   T   M   L   S   R   H   L   Y   V   H   Y   E   D   R     |    |    |    |    |
| E V A V I I I S T C N R T E I I Y C A G   E   Q   D   I   G   E   S   Q   V   D   S   L   Q   S   H   I   Y   R   L   E   G   D   A     |    |    |    |    |
| E E I A I I I S T C N R L E I I Y G V A T   N   D   K   A   Q   M   L   R   Q   L   R   P   N   L   F   T   L   L   R   E   D           |    |    |    |    |
| E A A A I I I S T C N R T E I I Y C D   I   Q   D   P   I   L   Q   W   L   A   K   E   Y   S   P   Y   I   H   E   D   H   Q           |    |    |    |    |
| E E G I I L S T C N R V E I I Y A D V D   K   F   H   A A E   L   S   D   E   L   T   P   H   L   Y   L   F   E   A   E   D             |    |    |    |    |
| E A A V I I I S T C N R T E I I Y A V A D Q   I   H   T   R   F   L   A   R   K   F   G   L   E   V   F   V   G   D   E                 |    |    |    |    |
| E S V V I I I S T C N R L E I I Y G S A V A   H   L   T   G   V   D   R   D   L   K   R   Y   A   Y   V   V   R   E   G   E             |    |    |    |    |
| E A A M A I I I S T C N R V E I I Y L A V G   S   G   D   V   I   G   H   V   A   Q   V   L   E   E   A   A   Y   V   H   R   E   L   D |    |    |    |    |
| E V A V I I I S T C N R L E I I Y D Q G   V   R   E   I   N   Q   F   L   S   E   I   G   H   R   Y   L   F   I   L   L   H   Q   D     |    |    |    |    |
| E A A A I I I S T C N R T E I I Y C A A E   D   T   D   A   A   F   I   C   E   R   K   E   P   H   I   Y   T   F   T   Q   E   E   Q   |    |    |    |    |
| E A A M I I I S T C N R L E I I Y C E T   G   A   E   A   Q   H   W   L   A   E   H   K   A   A   S   A   Y   A   R   W   G   D   D     |    |    |    |    |
| E V A V I I I S T C N R T E I I Y V E T   A   C   P   T   L   A   E   N   S   K   L   Y   V   K   V   N   D   E   Q                     |    |    |    |    |
| E G C V I I L S T C N R T E I I Y L N   Y   E   H   Q   V   E   N   W   L   G   E   Q   Y   K   N   S   L   Y   W   Y   E   G   Q   Q   |    |    |    |    |
| E A A A V I I I S T C N R T E I I Y A D   V   D   K   F   H   A A E   L   S   T   M   L   S   R   H   L   Y   V   H   Y   E   D   R     |    |    |    |    |
| E V A V I I I S T C N R L E I I Y C A G   E   Q   D   I   G   E   S   Q   V   D   S   L   Q   S   H   I   Y   R   L   E   G   D   A     |    |    |    |    |
| E E I A I I I S T C N R L E I I Y G V A T   N   D   K   A   Q   M   L   R   Q   L   R   P   N   L   F   T   L   L   R   E   D           |    |    |    |    |
| E A A A I I I S T C N R T E I I Y C D   I   Q   D   P   I   L   Q   W   L   A   K   E   Y   S   P   Y   I   H   E   D   H   Q           |    |    |    |    |
| E E G I I L S T C N R V E I I Y A D V D   K   F   H   A A E   L   S   D   E   L   T   P   H   L   Y   L   F   E   A   E   D             |    |    |    |    |
| E A A V I I I S T C N R T E I I Y A V A D Q   I   H   T   R   F   L   A   R   K   F   G   L   E   V   F   V   G   D   E                 |    |    |    |    |
| E S V V I I I S T C N R L E I I Y G S A V A   H   L   T   G   V   D   R   D   L   K   R   Y   A   Y   V   V   R   E   G   E             |    |    |    |    |
| E A A M A I I I S T C N R V E I I Y L A V G   S   G   D   V   I   G   H   V   A   Q   V   L   E   E   A   A   Y   V   H   R   E   L   D |    |    |    |    |
| E V A V I I I S T C N R L E I I Y D Q G   V   R   E   I   N   Q   F   L   S   E   I   G   H   R   Y   L   F   I   L   L   H   Q   D     |    |    |    |    |
| E A A A I I I S T C N R T E I I Y C A A E   D   T   D   A   A   F   I   C   E   R   K   E   P   H   I   Y   T   F   T   Q   E   E   Q   |    |    |    |    |
| E A A M I I I S T C N R L E I I Y C E T   G   A   E   A   Q   H   W   L   A   E   H   K   A   A   S   A   Y   A   R   W   G   D   D     |    |    |    |    |
| E V A V I I I S T C N R T E I I Y V E T   A   C   P   T   L   A   E   N   S   K   L   Y   V   K   V   N   D   E   Q                     |    |    |    |    |
| E G C V I I L S T C N R T E I I Y L N   Y   E   H   Q   V   E   N   W   L   G   E   Q   Y   K   N   S   L   Y   W   Y   E   G   Q   Q   |    |    |    |    |
| E A A A V I I I S T C N R T E I I Y A D   V   D   K   F   H   A A E   L   S   T   M   L   S   R   H   L   Y   V   H   Y   E   D   R     |    |    |    |    |
| E V A V I I I S T C N R L E I I Y C A G   E   Q   D   I   G   E   S   Q   V   D   S   L   Q   S   H   I   Y   R   L   E   G   D   A     |    |    |    |    |
| E E I A I I I S T C N R L E I I Y G V A T   N   D   K   A   Q   M   L   R   Q   L   R   P   N   L   F   T   L   L   R   E   D           |    |    |    |    |
| E A A A I I I S T C N R T E I I Y C D   I   Q   D   P   I   L   Q   W   L   A   K   E   Y   S   P   Y   I   H   E   D   H   Q           |    |    |    |    |
| E E G I I L S T C N R V E I I Y A D V D   K   F   H   A A E   L   S   D   E   L   T   P   H   L   Y   L   F   E   A   E   D             |    |    |    |    |
| E A A V I I I S T C N R T E I I Y A V A D Q   I   H   T   R   F   L   A   R   K   F   G   L   E   V   F   V   G   D   E                 |    |    |    |    |
| E S V V I I I S T C N R L E I I Y G S A V A   H   L   T   G   V   D   R   D   L   K   R   Y   A   Y   V   V   R   E   G   E             |    |    |    |    |
| E A A M A I I I S T C N R V E I I Y L A V G   S   G   D   V   I   G   H   V   A   Q   V   L   E   E   A   A   Y   V   H   R   E   L   D |    |    |    |    |
| E V A V I I I S T C N R L E I I Y D Q G   V   R   E   I   N   Q   F   L   S   E   I   G   H   R   Y   L   F   I   L   L   H   Q   D     |    |    |    |    |
| E A A A I I I S T C N R T E I I Y C A A E   D   T   D   A   A   F   I   C   E   R   K   E   P   H   I   Y   T   F   T   Q   E   E   Q   |    |    |    |    |
| E A A M I I I S T C N R L E I I Y C E T   G   A   E   A   Q   H   W   L   A   E   H   K   A   A   S   A   Y   A   R   W   G   D   D     |    |    |    |    |
| E V A V I I I S T C N R T E I I Y V E T   A   C   P   T   L   A   E   N   S   K   L   Y   V   K   V   N   D   E   Q                     |    |    |    |    |
| E G C V I I L S T C N R T E I I Y L N   Y   E   H   Q   V   E   N   W   L   G   E   Q   Y   K   N   S   L   Y   W   Y   E   G   Q   Q   |    |    |    |    |
| E A A A V I I I S T C N R T E I I Y A D   V   D   K   F   H   A A E   L   S   T   M   L   S   R   H   L   Y   V   H   Y   E   D   R     |    |    |    |    |
| E V A V I I I S T C N R L E I I Y C A G   E   Q   D   I   G   E   S   Q   V   D   S   L   Q   S   H   I   Y   R   L   E   G   D   A     |    |    |    |    |
| E E I A I I I S T C N R L E I I Y G V A T   N   D   K   A   Q   M   L   R   Q   L   R   P   N   L   F   T   L   L   R   E   D           |    |    |    |    |
| E A A A I I I S T C N R T E I I Y C D   I   Q   D   P   I   L   Q   W   L   A   K   E   Y   S   P   Y   I   H   E   D   H   Q           |    |    |    |    |
| E E G I I L S T C N R V E I I Y A D V D   K   F   H   A A E   L   S   D   E   L   T   P   H   L   Y   L   F   E   A   E   D             |    |    |    |    |
| E A A V I I I S T C N R T E I I Y A V A D Q   I   H   T   R   F   L   A   R   K   F   G   L   E   V   F   V   G   D   E                 |    |    |    |    |
| E S V V I I I S T C N R L E I I Y G S A V A   H   L   T   G   V   D   R   D   L   K   R   Y   A   Y   V   V   R   E   G   E             |    |    |    |    |
| E A A M A I I I S T C N R V E I I Y L A V G   S   G   D   V   I   G   H   V   A   Q   V   L   E   E   A   A   Y   V   H   R   E   L   D |    |    |    |    |
| E V A V I I I S T C N R L E I I Y D Q G   V   R   E   I   N   Q   F   L   S   E   I   G   H   R   Y   L   F   I   L   L   H   Q         |    |    |    |    |

|                        |   | 90                                      | 100 | 110 | 120 |
|------------------------|---|---|-----|-----|-----|
| UniRef90_E6QMA2        | A V R H L F R V A A S L D S M V V G E S Q     | L G Q V K D A Y T V A R E A G T V S     |     |     |     |
| UniRef90_G9Y2E8        | A V S H L M R V A S G L D S L V L G E P Q     | L G Q V K K A Y T E S Q R E Q S M S     |     |     |     |
| UniRef90_F5RHJ3        | A V R H V F R V A S G L D S M V L G E P Q     | L G Q M K Q A V R L A E G A G T L G     |     |     |     |
| UniRef90_UPI000362E705 | A I K H S F R V A S G L D S M V L G E P Q     | L G Q V K K A Y T E S Q R E Q S M S     |     |     |     |
| UniRef90_S3E190        | T I K H L M R V S C G L D S L V L G E P Q     | L G Q V K K A Y S Y A R K F G T V N G   |     |     |     |
| UniRef90_C0GG59        | A V E H L F T V T A G L D S M V L G E T Q     | L G Q V K D A Y A K A T E A G T L V     |     |     |     |
| UniRef90_Y0KKF6        | A V K H A F R V A S G L D S M V L G E P Q     | L G Q F Q K Q S I K V A Q E A G T L G   |     |     |     |
| UniRef90_UPI000380F6EE | A V R H L C R V V S G V N S M V L G E T E     | F G Q V K Q A Y N A L Q A S A T G G     |     |     |     |
| UniRef90_F8C2X8        | A V K H L F E V A C G L D S M V L G E P Q     | L G Q L K D A Y R A S V E S G T A G     |     |     |     |
| UniRef90_UPI000362E43B | A V N H L F V V A C S L D S M M G E P Q       | L G Q L K S A Y K D A L N Y R T S G G   |     |     |     |
| UniRef90_UPI000373D6B2 | A A R H L M R V A C G L D S L V L G E P Q     | L G Q L K Q S Y A V A E Q H S F V G     |     |     |     |
| UniRef90_Q1IN15        | A V R H M F R V A S G L D S M V L G E P Q     | L G Q L K Q S Y A V A E Q H S F V G     |     |     |     |
| UniRef90_UPI00030F793E | A I T H L M R V A C G L D S M V L G E P Q     | L G Q L K Q S Y A V A E Q H S F V G     |     |     |     |
| UniRef90_K2GGD9        | A L R H M M R V A G G L D S L V L G E P Q     | L G Q M R D A Y A R A H E S G A L G     |     |     |     |
| UniRef90_Q117I4        | S I M H L M R V A S G L D S L V L G E G Q     | L A Q V K Q T H K G Q K Y K G G         |     |     |     |
| UniRef90_K2ADE1        | A V L H I M E V A C G L D S M V L G E S Q     | L G Q M K E A F S E S C A A G V I G     |     |     |     |
| UniRef90_K9R941        | A V M H L M R V S S G L D S L V L G E G Q     | L A Q V K T T H K G Q Q Y K G L K       |     |     |     |
| UniRef90_W4QFR5        | A V E H L F R V A C G L D S M I L G E T Q     | L G Q V K S S F L L A Q E E T A T G     |     |     |     |
| UniRef90_KOCK15        | A L E H M M R V A G G L D S L V L G E P Q     | L G Q M R E A Y A R A H E A G L L N     |     |     |     |
| UniRef90_B5JU12        | A V R H L F R V A S G L D S L V L G E P Q     | L G Q L K T A Y Q A A R D C H S V G     |     |     |     |
| UniRef90_C8N8R9        | A I R H I Y R V A S G L D S L I L G E P Q     | L G Q L K Q A Y H L G K K A G T L G     |     |     |     |
| UniRef90_UPI00037A2539 | A V E H L M K V C G L D S M V L G E T Q       | L G Q V K Q A F L T A Q A E K A T G     |     |     |     |
| UniRef90_I0GTK4        | C I D H L F R V A S S L D S L V L G E G Q     | L S Q V K E A Y A M S R E A G T T S G   |     |     |     |
| UniRef90_UPI00046D1F00 | A V R H L F R V A S S L D S M V L G E P Q     | L G Q V K I D A Y K W S V E F L T S G   |     |     |     |
| UniRef90_C8X2V5        | A V R H M T V A S S L D S L V V G E P Q       | L G Q L K D A Y K T A V D C G L T G     |     |     |     |
| UniRef90_UPI000248D0DE | A I E H L F R V T S G L D S M V I G E T Q     | L G Q V R D A F L L A Q R E K T T G     |     |     |     |
| UniRef90_D5CLA9        | A V K H A F R V A S G L D S M V L G E P Q     | L G Q M K Q A V R Q A E Q A G T L G     |     |     |     |
| UniRef90_K2B22         | V V K H L L R V A S G L D S M V L G E P Q     | F G Q I K Q A F S T A Q S E G T L G     |     |     |     |
| UniRef90_UPI0003FD905F | A V G H L M S V A S G L D S L V L G E P Q     | L G Q V K Q A Y T E A R E A G A V S G   |     |     |     |
| UniRef90_A0A033V2J6    | A V E H L F R V T S G L D S M V L G E T Q     | L G Q M K D A F Q L A Q T E V T T G     |     |     |     |
| UniRef90_B51KA0        | A V A H L L R V A A G L D S L V L G E G Q     | L S Q V K K M V R L G Q E H H S V G     |     |     |     |
| UniRef90_UPI0002627011 | T V E H L F R V A S G L D S M V L G E T Q     | L G Q V K D A F L T A Q E N Q A T G     |     |     |     |
| UniRef90_B21A84        | A V R H L F R V A T G L D S M V L G E S Q     | L G Q V K D S W S M A R T H G T L G     |     |     |     |
| UniRef90_W7DSY2        | A V K H F E V A S G L D S L V L G E T Q       | L G Q V K H A F L T A Q T V D T T G     |     |     |     |
| UniRef90_Q2KZZ5        | A V R R H A F R V A S G L D S M V L G E P Q   | L G Q M K D A V R A A E E A G S L G     |     |     |     |
| UniRef90_G2FVW2        | A V R H L F R V V S G L D S M V R G E T Q     | L G Q V G N A Y Q Q A N D A E V T N G   |     |     |     |
| UniRef90_D3DG42        | A I H H I F K V A S S L D S M V V G E T Q     | T S Q V K F D A F S L A R N V G T V G   |     |     |     |
| UniRef90_UPI000381BFA1 | A V T H L L R V A C G L D S M V L G E P Q     | L G Q V K S S F H T A T D C T A T G     |     |     |     |
| UniRef90_I4C6T5        | A V R H V F R V A S S L D S M V I G E P Q     | L G Q V K E S F R K A T K V N A T G     |     |     |     |
| UniRef90_T1CDM7        | A V R H L F R V S V G L D S M V L G E P Q     | L G Q V K D A Y Q H A H Q A Q T L N S   |     |     |     |
| UniRef90_S6EJA2        | A T Q H L M R V A C G L D S L V L G E P Q     | L G Q V K Q A Y Q L S Q H Q G T T G     |     |     |     |
| UniRef90_M7N9A5        | A V R H L Y K V A A G I D S M V L G E T Q     | L G Q V R S S F L I G Q E H G T T G     |     |     |     |
| UniRef90_UPI0003711560 | A V R H M M C V A S G L D S N S L V L G E P Q | L G Q V K D A Y H A A R K A D S V H     |     |     |     |
| UniRef90_D3EQ68        | A V R H L F R V A A G L D S E S L V L G E G Q | L G Q V K T T Y K L A Q Y K G I G G L K |     |     |     |
| UniRef90_W0DE58        | A V A H L F K V A S G L D S M V L G E S Q     | V H Q F K E A F R L A K E C G G L K     |     |     |     |
| UniRef90_B4VG2         | V L R H L M Q V A S G L D S L V L G E G Q     | L G Q V K H T Y K L C Q Q Y N G         |     |     |     |
| UniRef90_B6WSE2        | A V R H L F S V A S S L D S M I L G E P Q     | L G Q L K S A Y R K A A A C H A T G     |     |     |     |
| UniRef90_M7NTK9        | A I R H L F R V A S G L D S L V L G E P Q     | L G Q L K T A Y S A A F N N Q A V G     |     |     |     |
| UniRef90_A4BMQ4        | A V R H L T V A S G L D S L V L G E P Q       | L G Q V K C A Y Q A A L R C G T V R     |     |     |     |
| UniRef90_G4E2C1        | A V R H V M H V A C G L D S L V L G E P Q     | L G Q M K T A Y Q A A N T A G T M G     |     |     |     |
| UniRef90_M1Z1B9        | T I E H L F R V S A S L D S M I V G E A Q     | L G Q V K D A Y S L R A S L R T T G     |     |     |     |
| UniRef90_E8X352        | A V R H L F R V A S S L D S M V V G E P Q     | L G Q V K D A Y T A K E V G S L G       |     |     |     |
| UniRef90_E4T7M3        | A V L H L F K V T S S L D S M V L G E Y Q     | Q G Q V R D A Y F A A Q D Q H A T N G   |     |     |     |
| UniRef90_E1SS96        | A V Q H L L R V S A G L D S L V L G E P Q     | L G Q V K Q A F A D A K R V G T T A G   |     |     |     |
| UniRef90_UPI0001FFDF92 | A V Q H L F Q L A A G L D S M V V G E S Q     | L G Q V R S A Y A T A D E S G S V G     |     |     |     |
| UniRef90_Q6AIM2        | A V Q H L F T V A A S L D S M V V G E A Q     | L G Q V K T A Y R H A S A L G C T G     |     |     |     |
| UniRef90_U2FV49        | T V R H S L R V A A G L D S M I L G E P Q     | L G Q V K M N A Y R S R A R A G R A G   |     |     |     |
| UniRef90_UPI00030DFC1B | A I K H L F K V A A G L D S M V L G E T Q     | L G Q V K D S F N M A Q N D G A S G     |     |     |     |
| UniRef90_J9ZEX1        | A A L H F F E V T A S L D S L V I G E P Q     | T G Q V K E A Y E R R S L H L V G       |     |     |     |
| UniRef90_Q0AHU2        | A V K H A F R V A S G L D S M V L G E A Q     | L G Q M K N A V K S A E Q A G T L G     |     |     |     |
| UniRef90_X2HB18        | A V Q H A F R V A C G L D S M V L G E P Q     | L G Q V K D A V R V S R R H T L H       |     |     |     |
| UniRef90_I2JGQ0        | A L K H M M E V A A G L D S M V L G E P Q     | L G Q M K T A Y A Q A V E A G T A N G   |     |     |     |
| UniRef90_K9SQ56        | A V M H L L R V A A G L D S L V L G E G Q     | L G Q V K H T H R A Q Q H G G S G       |     |     |     |
| UniRef90_UPI000305DC43 | A V R H A F R V A S G L D S M V L G E P Q     | L G Q M K D A V R A A N E A G A L G     |     |     |     |
| UniRef90_C5BSZ7        | A A R H M M A V A S G L D S L V L G E P Q     | L G Q M K S C Y A V A R E A G V L G     |     |     |     |
| UniRef90_UPI000366C658 | A V I H L F S V C G L D S L V V G E T Q       | L G Q V K E A F F K S Q E N G C T G     |     |     |     |
| UniRef90_X2H928        | A V E H L M A V A S G L D S M I I G E P Q     | L G Q V K V A Y G I A Q K N Q C L S     |     |     |     |
| UniRef90_V6KJ92        | A V H H L F S V A C G L D S M V V G E G Q     | V L G Q I K D A L A V A Q G E H T A G   |     |     |     |
| UniRef90_UPI0002FC4665 | S A R H A F R V A S G L D S M V L G E S Q     | L G Q F K D A V R L A A D S G A L G     |     |     |     |
| UniRef90_UPI00034C93AB | A L R H L M R V A S G L D S E S L V L G E G Q | L G Q L K T A Y R H K L G Q Y K G L     |     |     |     |
| UniRef90_UPI00026C791F | G I K H L L R V A S G L D S M M I G E P Q     | L G Q M K Q A Y Q H A C S L G A L K     |     |     |     |
| UniRef90_B9DNDO        | A V E H L F R V T A G L D S I V L G E T Q     | L G Q M R D A F F L A Q E E G T T G     |     |     |     |
| UniRef90_F8IDJ9        | A V R H A M R V A C G L D S V V F G E T Q     | L G Q V R D A Y Q L S E E G A T G       |     |     |     |
| UniRef90_S7VCZ5        | A V R H V F S V A S S L D S M V V G E P Q     | L G Q L K D A Y R A A V D L G T A G     |     |     |     |
| UniRef90_K9T461        | A V R H L M R V A A G L D S E S L V L G E G Q | L G Q V K N T H K L A Q Y Q S L G G S G |     |     |     |
| UniRef90_K1KIR0        | A A K H T F R V A S G L D S M V L G E T Q     | V G Q M K K A E K M A R D A H G L L G   |     |     |     |
| UniRef90_P95525        | A V L H L M R V A C G L D S L V L G E P Q     | L G Q V K D A Y Q L S K Q N P L S       |     |     |     |
| UniRef90_E4ND91        | A V H L F S V A C G L D S M V V G E G Q       | L G Q V K D A L A Q A Q E E H T A G     |     |     |     |
| UniRef90_UPI00037B1E81 | A I R H L F R V A S S L D S M V V G E P Q     | L G Q L K Q A Y T A A R E Q G A L G G   |     |     |     |
| UniRef90_Q7U769        | A V D H L M R V A A G L D S L V L G E G Q     | L G Q V K K M M R L G Q E H K S L G G   |     |     |     |
| UniRef90_S7V5Q6        | A V R H I F R V A A S L D S M V I G E P Q     | L G Q V K K A Y R D A V Q K K T T G     |     |     |     |
| UniRef90_A8FYZ1        | V A Q H L M R V A S G L D S L I L G E P Q     | L G Q V K Q S F V K A K E A G S V A G   |     |     |     |
| UniRef90_UPI000470A44A | A V R H V M R V A S G L D S M V L G E P Q     | L G Q V K R A W T M A R C E G A L G G   |     |     |     |
| UniRef90_L9PJN9        | A V R H T F R V A S G L D S M V L G E T Q     | L G Q V K D A I R T A D E A G G L G G   |     |     |     |
| UniRef90_D8HXP1        | A V E H L F S V T S G L D S M V V G E T Q     | L G Q V I R S A Y A T A R E A G T V G G |     |     |     |
| UniRef90_B4V348        | A V H H L F S V A C G L D S M V V G E G Q     | L G Q V K D A L A G Q E L H T A G G     |     |     |     |
| UniRef90_C7MT06        | A V E H V F S V A S G L D S M V V G E T Q     | L G Q V R T A Y A T A R E T G T V G G   |     |     |     |
| UniRef90_Q0K6G3        | A V R H A F R V A S G L D S M V L G E T Q     | L G Q V K D A V R T A G E A G S L G G   |     |     |     |
| UniRef90_B9E745        | A I H H L F K V T G L D S L V L G E T Q       | L G Q V R D S F L I A Q S E G T T G G   |     |     |     |
| UniRef90_Q3SG11        | A A Q H L M R V A A G L D S M V L G E T Q     | L G Q V M K Q A V A A E E A G T L G G   |     |     |     |
| UniRef90_Q49Y44        | A V K H L L Q V T S G L D S V V L G E T Q     | L G Q V R N A F L A Q E E D T T G G     |     |     |     |
| UniRef90_R7WPF7        | A A E H L F A V A S G L D S M V V G E Q Q     | L G Q V R S A Y A A D S Q Q A A G G     |     |     |     |

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|------------------------|---|
| UniRef90_E6QMA2        | S H L E P L [Q C A F A A A K K V R T E T E        |
| UniRef90_G9Y2E8        | A D L E R L F Q K T F S V A K R V R T E T D       |
| UniRef90_F5RHJ3        | A L L H T L F Q R S F A V A K E V R S T T A       |
| UniRef90_UPI000362E705 | A L L H T L F Q R T F S V A K D V R T Q T E       |
| UniRef90_S3E190        | S L M E K L F Q K T F F V A K R V R T E T E       |
| UniRef90_C0GG59        | S T F H A L F R Q S V T A A K R V Q T E T A       |
| UniRef90_YOKKF6        | T M L H K L F Q R T F F E V A K E V R T N T D     |
| UniRef90_UPI000380F6EE | S V L N K L F Q K S F S V V G K K V R T E T R     |
| UniRef90_F8C2X8        | I V L N R L L H K A F S V V A K K V R T E T G     |
| UniRef90_UPI000362E43B | V V V N R L L H K A F S V V A K R V R T E T A     |
| UniRef90_UPI000373D6B2 | S E L E R L F Q H S F A V V A K Q V R T D T       |
| UniRef90_Q1IN15        | S Q L D A L L T R A F A V V A K R V R T D T       |
| UniRef90_UPI00030F793E | G I L S R L F Q S S F S I A K D V R T N T E       |
| UniRef90_K2GGD9        | G E I L A R T F Q V F S V V A K R I R T D T G     |
| UniRef90_Q117I4        | R I L N R L F K Q A V T A G K R V R T E T S       |
| UniRef90_K2ADE1        | T L F N R L F Q Q V F S V V A K D V R T H T A     |
| UniRef90_K9R941        | T V L N K L F K Q A I T A G K R V R S E T S       |
| UniRef90_W4QFR5        | T I F N Q V F K Q A I T L G K R A H R T E T E     |
| UniRef90_KOCK15        | S E L L G R V F Q D V F S V V A K R I R T E T G   |
| UniRef90_B5JU12        | S A L L G P L F E Q A F S V V A K Q I R H S E T A |
| UniRef90_C8N8R9        | G I L L E R L F Q Q S F S V V A K Q I R H S E T A |
| UniRef90_UPI00037A2539 | T W F N M L F K Q A V T L G K R A H R S E T S     |
| UniRef90_I0GTK4        | T V L N T L F H R A I A T G K R V R T E T R       |
| UniRef90_UPI00046D1F00 | A T I N R I M R R A F H A A K V V K A N T D       |
| UniRef90_C8X2V5        | T V V N R L M H K A F S V V A K R V R T E T R     |
| UniRef90_UPI000248D0DE | V L F N T L F K Q A V T M A K R A H F E T G       |
| UniRef90_D5CLAA9       | F I L L H K L F Q R T F S V V A K D V R T Q T E   |
| UniRef90_K2B222        | K H L H Q L F Q Y T F A S T K Q I R T Q T A       |
| UniRef90_UPI0003FD905F | S V M E R L F Q K A F S V V A K Q V R T E T D     |
| UniRef90_A0A033V2J6    | T M F N R L F K Q A I T L A K R A H H E T D       |
| UniRef90_B51KA0        | P I L N R L L N Q A V S T G K R V R T E T N       |
| UniRef90_UPI0002627011 | T I F N E L F K Q A I T F A K K A H K D T A       |
| UniRef90_B2IA84        | N T L D R L F Q H S F S V V A K H A R T N T R     |
| UniRef90_W7DSY2        | T L L N Q L F K E V I R F A K K M H H E T R       |
| UniRef90_Q2KZZ5        | T L L L H Q L F Q R T F A V V A K E V R S Q T E   |
| UniRef90_G2FW2         | K T I N V L F Q T A L A V G K R V R T D T         |
| UniRef90_D3DG42        | K V L H R R L Y E K A L R T A K R V R T E T G     |
| UniRef90_UPI000381BFA1 | K L L C R L F Q H A F S V V A K T V R T D T A     |
| UniRef90_I4C6T5        | P I L N R L M H R S F F S V V A K R V R T E T E   |
| UniRef90_T1CDM7        | I T I L E R L L Q H T F F A V V A K R V R T D T R |
| UniRef90_S6EJA2        | G Q L S R L F Q K T F S T A K R V R T E T R       |
| UniRef90_M7N9A5        | T V F N E L F K R A I T N A K R A H S E T E       |
| UniRef90_UPI0003711560 | Q I L N A L F Q H I F K T A K Q V R T D T A       |
| UniRef90_D3EQ68        | R L L D R L F K Q A I T S G K R V R S Q T N       |
| UniRef90_W0DE58        | K I L N R V F E K A L R T A K K V V R T E T G     |
| UniRef90_B4VG2         | C I L N Q L F K H A I T A A K R V R N E T K       |
| UniRef90_B6WSE2        | V I L N R L L H K A F S V V A K R V R T E T A V   |
| UniRef90_M7NTK9        | K S I L G R L F Q H A F A V V A K Q V R T D T A I |
| UniRef90_A4BMQ4        | Y T L D R L F Q Y A F S V V A K Q V R S E T E I   |
| UniRef90_G4E2C1        | U I L N R L L Q H T F F A V V A K R V R T D T R   |
| UniRef90_M1Z1B9        | R E L L G R L F Q H A F S V V A K N V R           |
| UniRef90_E8X352        | I F L N Q L F E K A F N V V A K R I R E E T G     |
| UniRef90_E4T7M3        | G T L D T L L Q K A F T V V A K K V R S E T Q     |
| UniRef90_E1SS96        | G L L N K V F Q T A I Q I G K K V R S E T K       |
| UniRef90_UPI0001FFDF92 | H T L D R L F Q H T F K V V A K R I R T E T E     |
| UniRef90_Q6AIM2        | K V L H E L V Q Q A L R V G K R V H A G T G       |
| UniRef90_U2FV49        | P L L N R L L H K S F S V V A K R V R T E T A     |
| UniRef90_UPI00030DFC1B | P L L T R L F E H S F A V V A K Q I R S Q T E     |
| UniRef90_J9ZEX1        | L M F N Q L F K Q V I T T A K R A H K E T E       |
| UniRef90_Q0AHU2        | P M I L N Q V F Q R A I L S S S K R V R T E T G   |
| UniRef90_X2HB18        | L L L H K M F Q H T F F V V A K E V R T S T E     |
| UniRef90_I2JGQ0        | Q Q L N A L F E K T F A A A K E I I R N E S A V   |
| UniRef90_K9SQ56        | G A L H R T F A Q V F S V V A K R V R T D T G     |
| UniRef90_UPI000305DC43 | R I L N Q L F K Q A L A A G K D V R T K T D       |
| UniRef90_C5BSZ7        | T L L L H Q L F Q R T F S V V A K E V R S Q T A   |
| UniRef90_UPI000366C658 | R G L H D A F Q R V F A V V A K R V R S E T A     |
| UniRef90_X2H928        | K V L N R L F K Q A I T A G K R A H T M T G       |
| UniRef90_V6KJ92        | M T L E K K L F Q N I F H V A K L V R S Q T D     |
| UniRef90_UPI0002FC4665 | R L L N D L F Q Q A L R A G K R A H T E T G       |
| UniRef90_UPI00034C93AB | T T I L N Q L F Q R S F A V V A K E V R T A T D   |
| UniRef90_UPI00026C791F | R L L D R L F K Q A I S T G K R V V R S E T S     |
| UniRef90_B9DND0        | T E L R P I F E Y V F S A S K R I I R T Q S G     |
| UniRef90_F8IDJ9        | T I F N H L F K Q A I T F A K R A H H E T D       |
| UniRef90_S7VCZ5        | S V L N R L F R E V I H V G K R A Q T E T S       |
| UniRef90_K9T461        | V I V N R L L H K A F F V V A K R V R T E T E V   |
| UniRef90_K1KIR0        | Q I L D R L F K Q A M T A G K R V R S E T N       |
| UniRef90_P95525        | T M L N H L F Q S T F T V V A K E V R T A T A     |
| UniRef90_E4ND91        | S E F S R L F Q K T F S V V A K R V R T E T N     |
| UniRef90_UPI00037B1E81 | R G L N E L F Q Q A L R V G K R A H S E T G       |
| UniRef90_Q7U769        | S Y L D A V L T R A F S V V A K R V R T E T E     |
| UniRef90_S7V5Q6        | P I L N R L L T Q A V V S T G K R V R S E T N     |
| UniRef90_A8FYZ1        | V I L N R L L H K T F F V V A K R V R T E T G     |
| UniRef90_UPI000470A44A | I T M D R L F Q N T F S V V A K K I I R T E T E   |
| UniRef90_L9PJN9        | T V L D R L F Q R S F S V V A K E V R S T T E I   |
| UniRef90_D8HXP1        | T Y L H Q L F Q R S F S V V A K E V R S T T E I   |
| UniRef90_B4V348        | R T L H E L I Q T A L R V G K R V H T E T G       |
| UniRef90_C7MT06        | R L I N D L F Q Q A L R V G K R V H S E T G       |
| UniRef90_Q0K6G3        | S T L H E L I Q T T L R V G K R V H T E T G       |
| UniRef90_B9E745        | T Y L N Q L F Q R T F A V V A K E V R G Q T E     |
| UniRef90_Q3SG11        | T V F N K L F K D A I T L A K R A H A E T D       |
| UniRef90_Q49YA4        | L L H K L F Q R T F S V V A K E V R S S T E       |
| UniRef90_R7WPF7        | T I F N H L F K Q A I T F A K K A H N E T D       |
|                        | R T L H E L A Q Q A L R V G K R V H T E T G       |

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|------------------------|---|----|----|----|----|
| UniRef90_A4SV44        | L L T L G I N H T A P V A I R E K V A F D P E E A L H D L R Q H L G L P                         |    |    |    |    |
| UniRef90_UPI0003A3A928 | S Q L L A V G L S H R T A E V S L L E R V S V T G E A L L H D L I A A E P V G                   |    |    |    |    |
| UniRef90_Q63QF1        | Q Q L L T I G I N H T A P V A I R E R V A F P L E E Q A L S T F K S A P N A P                   |    |    |    |    |
| UniRef90_H5WMJ7        | S S V F A L G I N H T T A P V D L L R G R F A F A P D Q A L R G F R E R L A M P                 |    |    |    |    |
| UniRef90_UPI00034D86CF | I I I L I L G I N H K T A N V N I I R E Q L S I P E E E A I A T L C G Y P H I E                 |    |    |    |    |
| UniRef90_M1WP17        | H H T L V V G L N Y K T A P V E I R E K F A L T D T E H F E K G L A H C P I H                   |    |    |    |    |
| UniRef90_UPI00028904AE | S S I L L L G V N H T T A P L D V I R E R L A I P V S D A T R T L A H Q P G V R                 |    |    |    |    |
| UniRef90_G8NVP2        | S S S L L V V G L S H R S A P V S V I E R A A L S T D A Q I Q D T V A A E P A T                 |    |    |    |    |
| UniRef90_UPI00037491FA | Q Q Q L L A V G L N H T T A P V S L L R E Q L A L A P D Q I G T A V Q S A R G G E               |    |    |    |    |
| UniRef90_K9DIF6        | S S V L V V G M S H R S A P V A L L E R L S M D N E Q T A R A L L E Q P S I S                   |    |    |    |    |
| UniRef90_D7WB54        | I I I L V L G I N H K T A S V A L L R E K V A F S D E K A L R H I R Q I E L A E                 |    |    |    |    |
| UniRef90_U1S3Q7        | F F V A C G L N H E T A P L A V R E R V A L P Q D K L L H E L V R L P A V N                     |    |    |    |    |
| UniRef90_UPI000310F32D | S S I V V I G L S H H S A P V T V R E R F A F T E A R I I L Q Q L L R D S N L V S               |    |    |    |    |
| UniRef90_B9XN62        | S S S I F L F G V N H R S A P V P I L E R E K L A V T D D I I D D L L A S P Q I S Y             |    |    |    |    |
| UniRef90_V8CVM5        | Q Q Q L L A V G L N H N T A P V E I R E K L L A V S E E K L L Y A Q I L Q N E Q K S V L         |    |    |    |    |
| UniRef90_F8E8Q2        | H H I L L K V G F N Y K T A P V D V R E K V A F S S E S A L R A A I A G A G L S S               |    |    |    |    |
| UniRef90_W9A8A4        | L L I A L G I N H N T A S V L D L R G R F A F A I D Q I L R G L R A S L A R Q                   |    |    |    |    |
| UniRef90_Q21FM2        | A A L G L N H H T A P L D L R G R F A F A I D Q I L R G L R A S L A R Q                         |    |    |    |    |
| UniRef90_A1VKB7        | H H I L A A G I N Y R T A P V E V R E M L A F K E E A M T E L N D R K S I L L                   |    |    |    |    |
| UniRef90_W4VHL9        | M H N I Y V L G F R H Q T T P A S V D V R E R L A I A P E G A L L A V S Q V A S V S             |    |    |    |    |
| UniRef90_S6GM97        | D D I Y A I G L N H K T A S V E L L R E K V A F P A D Q A V A S A R A W F G G H                 |    |    |    |    |
| UniRef90_D8IUL1        | H H L L A V G L N H T T A P V S L L R E K V A F P A D Q A V A S A R A W F G G H                 |    |    |    |    |
| UniRef90_I3DIB2        | I I L V L G I N H K T A S V A L L R E K V A F S P E K A L Q Q I Q Q S E L A Q                   |    |    |    |    |
| UniRef90_D7UYY1        | F F V A C G L N H H T A P V I D V R E K V A M T P D S L L N S F L N P G V N                     |    |    |    |    |
| UniRef90_D3HPS9        | L L L V L G V N H H E T A P V D I V R E K V A F S F S P A Q A L S E L K S Q G L A N             |    |    |    |    |
| UniRef90_Q31IN7        | N N I Y V L G F R H Q T T P A S V S V R E K V A F A S P E N I L N T L Q A Q C G A               |    |    |    |    |
| UniRef90_A5EWV4        | D D I Y A I G L N H K T A S V E L L R E K V A F C N T S E I L H I L K A S T N V K               |    |    |    |    |
| UniRef90_M1QIH1        | H H F V A I G I N S I N H R T A D V S V L L R E K V A F P A D Q A V A S A R A W F G G H         |    |    |    |    |
| UniRef90_UPI00037A93D4 | N N N L L S I G A S Y R T A D V S V L L R E K V A F P A D Q A V A S A R A W F G G H             |    |    |    |    |
| UniRef90_G8S658        | S S S L L V V G L S H R T T P V P V L L R E K V A F P A D Q A V A S A R A W F G G H             |    |    |    |    |
| UniRef90_C6WNG3        | S S S V L L F G A S H R S A P V P V L L R E K V A F P A D Q A V A S A R A W F G G H             |    |    |    |    |
| UniRef90_B1MHI6        | N N N V L L V G I N H N T A S V G V R E R L A F S E P V A L Q V A L L G G S V S S               |    |    |    |    |
| UniRef90_G2LIN1        | Q Q Q L I C F G L N H K T A P V I D V R E K V A F P A D Q A V A S A R A W F G G H               |    |    |    |    |
| UniRef90_UPI000369D1FC | L L L L A V G V N H Q T A P V A L L R E K V A F A M D A D D A L H E L L I E S D H V T           |    |    |    |    |
| UniRef90_H6RPM3        | L L L T V I G L N H H T A P V A I L R E K V A F A A A N L P D A D L S T N I V A                 |    |    |    |    |
| UniRef90_F5S4J0        | L L L L T L G L N H T T A P V E E L R E K V A F P A D Q A V A S A R A W F G G H                 |    |    |    |    |
| UniRef90_UPI000262CF47 | Q Q Q I V L V G L L N H K T A P V E V R E G F N F S A D R I L A R I L L R N Y D N L D           |    |    |    |    |
| UniRef90_R6I955        | Q Q I L V V G L L N H R S A P V A M L E R A A A A G D E L L L H E V H E S S A H V A             |    |    |    |    |
| UniRef90_D1A493        | H H Q L L A V G L N H N T T A P V E V R E K V L S I P D Q E S L K A L K A F S D V L             |    |    |    |    |
| UniRef90_A3PCP6        | H H Q L L V V G L L N H R T A P V E V R E K V L S I P D Q E S L K A L K A F S D V L             |    |    |    |    |
| UniRef90_A4G1N3        | Q Q Q L L A V G L N H N T T A P V E V R E K V L S I P D Q E S L K A L K A F S D V L             |    |    |    |    |
| UniRef90_Q9RRE5        | U U D F V V V G L N H Q T A P V E V R E K V L S I P D Q E S L K A L K A F S D V L               |    |    |    |    |
| UniRef90_H3KDN2        | Q Q Q L L A L G L N H N T T A P V E V R E K V L S I P D Q E S L K A L K A F S D V L             |    |    |    |    |
| UniRef90_UPI0003B51478 | S S S V I A L G L N H H T A P V D L R G R F A F A P E Q L S P S L Q A L R D A L K               |    |    |    |    |
| UniRef90_L0K915        | S S Q L V V I G A S H K T A P V E I L R E K V L S I P D Q E S L K A L K A F S D V L             |    |    |    |    |
| UniRef90_UPI00037BCF54 | D D I I V F G I N H K S A S V D L R G R F A F A P E Q L S P S L Q A L R D A L K                 |    |    |    |    |
| UniRef90_E6J9T1        | E E S I L L V V G L V S H H S A P V A L L R E K V A F S D E A L L T E E L I L A G E N V D       |    |    |    |    |
| UniRef90_C0QS44        | E E I F A V G L N Y K T A P V E V R E K V L A I S E D Q L L K K I I S E I I N S I V Y           |    |    |    |    |
| UniRef90_I18T8N0       | D D L I V I G L N Y R T A P V E E R E K L S T Q Q E I L L E R I V K L S P K V E                 |    |    |    |    |
| UniRef90_UPI0003673F3E | L L L I T L G L N H S H S A P V E A R E R L I A F T E A D A L K A R I L R A L P G V E           |    |    |    |    |
| UniRef90_UPI0004706680 | Q Q Q L L V L G I N H K T A S V D L R G R F A F A P E Q L S P S L Q A L R D A L K               |    |    |    |    |
| UniRef90_UPI0003718CE9 | S S S L L L V G V S H H T A P V S V L E Q V A I S G E D V L L D E L I S G E Y V S V             |    |    |    |    |
| UniRef90_A0A016XL25    | S S S L L L V G V S H H T A P V S V L E Q V A I S G E D V L L D E L I S G E Y V S V             |    |    |    |    |
| UniRef90_UPI0004755434 | Q Q Q L L L V L G I N H K T A S V D L R G R F A F A P E Q L S P S L Q A L R D A L K             |    |    |    |    |
| UniRef90_A0LIM5        | M C H I I I L L G M N H K T A P V E M R E R L A V A C O R Q E V N P L R L L P V N D             |    |    |    |    |
| UniRef90_D3PCG4        | Q Q Q L A V V G I N H N T A P V E I R E K L S L D D S Q L K D E Y L G N E R I Y                 |    |    |    |    |
| UniRef90_A0Z9B8        | Q Q Q E L I I A I G I N H D S A T P L D I R E R V A F A P E S A L G S A L A T A P I T           |    |    |    |    |
| UniRef90_F5BT16        | Q Q Q Q H I I T V V G V S V H S T A P V E I R E K L V A P K D N A I N E L T E H P H I Q         |    |    |    |    |
| UniRef90_M0QHH8        | Q Q S V L L L F G V S V H R S A P V E V L E R R L V A L V S D P K L V D A L L T S H A I L       |    |    |    |    |
| UniRef90_F8IBM8        | R I R I Q V V I G L N H R Q A P L V I R E R R V A F G P E A A Y R R R V H E L R H Q E           |    |    |    |    |
| UniRef90_E5Y617        | Q Q Q Q I Y L I I G L N Y R T A P G V E V R E R E F A L T D H P S G E N D S A E T T L D         |    |    |    |    |
| UniRef90_F0SYT1        | S S V V V V G L N H R T A P V E V R E K L S F S H H S E A L Q E L Y Y Q D P V I E               |    |    |    |    |
| UniRef90_E9UQI6        | S S I V V V V G L N H R T A P V E V R E K L S F S H H S E A L Q E L Y Y Q D P V I E             |    |    |    |    |
| UniRef90_I2NKK07       | S S I V L L V V G L N H K T A S V D L R G R F A F A P E Q L S P S L Q A L R D A L K             |    |    |    |    |
| UniRef90_UPI0004643B32 | S S S I A I L G V N H K T A Q V A L R E K I I A F S G E K A L Y S L I A T H T A T               |    |    |    |    |
| UniRef90_UPI0003B2F658 | H H L L A L G L N H Q T A P V L V R E K I I A F P A D E A L L E S Q L I A T H T A T             |    |    |    |    |
| UniRef90_A6VND5        | I I I L V L V G I N H K T A T V A V R E K V A F S D E K A L S Q I Q D Q K L L A E               |    |    |    |    |
| UniRef90_F9QB53        | S S V V L L V G I S H R S A P V P V L E K V A V A T D P K L I D R L L G S A H V S               |    |    |    |    |
| UniRef90_UPI000367B14A | S S V V L L V G I S H R S A P V P V L E K V A V A T D P K L I D R L L G S A H V S               |    |    |    |    |
| UniRef90_V2TJK1        | F F A F L G V N H H T A S V E L R E R R I I A F N A E R L L I S E Q N A Q E D L N               |    |    |    |    |
| UniRef90_UPI00037EB238 | L L F S F G I S Y K T A P V E V R E K I I A F S S D E K A L S Q I Q D Q K L L A E               |    |    |    |    |
| UniRef90_UPI000237D38B | I I G I I G L S H K T A P V E V R E K I I A F D K D E V D V G R C H Q P F I D                   |    |    |    |    |
| UniRef90_UPI00035FA972 | M M L V V V G M S H R S A P V V A L L E K L S M D D A E A T A L L L E R P A L S                 |    |    |    |    |
| UniRef90_UPI00037ED455 | N N L I I V V G A S H R R N A P P V V T L L E K L L S L A G P Q P L T G V H V A                 |    |    |    |    |
| UniRef90_D4H6I3        | Q Q Q L A V V G L N H N S A P P V V E V R E K I I A F D K D E A L K Q V V I E G V E             |    |    |    |    |
| UniRef90_UPI00047D09E9 | L L D L K V V I G L N H Q T A P V V S I R E K I I A F D K D E A L K Q V V I E G V E             |    |    |    |    |
| UniRef90_UPI000476A314 | S S V V V V G L N H R S A P V V A L L E R R L S I N Q I I E Q L K L A Q                         |    |    |    |    |
| UniRef90_A2C1K4        | H H I I A V V G L S H R T A P V V E V R E K I I A F E E R S F N N L K K I I D Q I L L           |    |    |    |    |
| UniRef90_D5MN37        | U U D L I I T L G L S H K T A P V V E L R E K I I A F P E S E L L P E V L D E L G G I L L       |    |    |    |    |
| UniRef90_UPI000367B7DE | M N P L I I V V G L N H Q G T P V V S I R E K I I A F P E S E L L P E V L D E L G G I L L       |    |    |    |    |
| UniRef90_I4D533        | M N P L I I V V G L N H Q G T P V V S I R E K I I A F P E S E L L P E V L D E L G G I L L       |    |    |    |    |
| UniRef90_Q7NLA8        | Q Q I A V I G L S H R T A P V V E I I R E R V S I I A E P E Y Y V S R L R S C S Q V A           |    |    |    |    |
| UniRef90_M1M0F5        | M S S V I V I G L N H T S A P P V V M I R E R R M S I I P N D T I G I L L S S I L S V S         |    |    |    |    |
| UniRef90_UPI00036468BE | M S M Y L V V V G L I S H R S A D I I T L V L E R R V A F S P E G V M A A L R D A A D L D       |    |    |    |    |
| UniRef90_K4JK35        | F F L A L G L N H H S A P P V V A L R E K V A F S P E G V M A A L R D A A D L D                 |    |    |    |    |
| UniRef90_R4LP21        | N N L L S V V G A S Y R T A D I I G T L E R R V A F S P E G V M A A L R D A A D L D             |    |    |    |    |
| UniRef90_K2BE27        | S S I Y Y V I I G L N H K T A S I I T L R E K V A F Y F A T E K L L Q Q D I L S R G R Y V E     |    |    |    |    |
| UniRef90_R5GK31        | S S I Y Q I I I G L N H S I S H K I I A P P I I H V R E M F A F T E Q Q M Q K I I T E H L E V S |    |    |    |    |
| UniRef90_W7WDJ24       | H H I L L S V V G L N H T S A P P V V A T L L R E K V A F L A V A P E R I I L N R Q E K S V I S |    |    |    |    |
| UniRef90_F4FEJ6        | L L L V V V G A S Y R T A P V V A T L L R E K V A F L A V A P E R I I L N R Q E K S V I S       |    |    |    |    |
| UniRef90_UPI0004182278 | S S L L A L G L N H Q T A P V V A L R E K V A F L A V A P D A A R A L S E L L K A V P G V E     |    |    |    |    |
| UniRef90_Q63N417       | S S L L A L G L N H H T A P V V A L R E K V A F L A V A P D A A R A L S E L L K A V P G V E     |    |    |    |    |

| UniRef90_A4SV44         | 50  | 60 | 70 |
|-------------------------|---|----|----|
| UniRef90_UPI0003A3A928  | E A T   I L S T C N R T E V Y C A A N E A T F D W L A K T Q Q P H I Y S L P Q S D                   |    |    |
| UniRef90_Q63QF1         | E A   V L S T C C N R T E V Y A D V R F H V T E L G N L L S R H L Y V H E D R                       |    |    |
| UniRef90_H5WMJ7         | E A   A I L S T C N R T E L Y C A T R D A I R W M S D Y H R P H V Y A L P Q S E                     |    |    |
| UniRef90_UPI00034D86CF  | E A   T I L S T C C N R L E V Y I V G V R E S M Q F L A E F F I R P H L F T L L Y Q D               |    |    |
| UniRef90_M1WP17         | E C M   C L S T C C N R V E I I Y A T A K H A S E Q D V L N S I I E Y T Y Q T D L E                 |    |    |
| UniRef90_UPI00028904AE  | E N   V I L S T C C N R T E I Y A V D Q L H T Q F L S T W F R M H L Y I R E D D A                   |    |    |
| UniRef90_G8NVP2         | E A   I L S T C C N R T E L Y T V Q D A P Q A S S V A N E I E P H V Y E F R E R E                   |    |    |
| UniRef90_UPI00037491FA  | E A   A V L G T C C N R I L E Y A D V D K F H A G V G L A Q H C G P Y L Y V H E D R                 |    |    |
| UniRef90_K9DIF6         | E A   A I L S T C C N R T E L Y A A T R D A S A Q F L A H Y H R P H L Y L P Q D D                   |    |    |
| UniRef90_D7WB54         | E A   M T I S T C C N R M E V Y A V G V N D V L G V L S E F S R G Y P L Y V R Y A D A               |    |    |
| UniRef90_U1S3Q7         | S A   V I L S T C C N R T E V Y L H W R Q A I Q W F E A H Q R C L Y T Y E N L P                     |    |    |
| UniRef90_UPI000310F32D  | E A   A M L S T C C N R T E I Y C D T E E P I V P W L A Y Q H S P Y L Y I H H G H Q                 |    |    |
| UniRef90_B9XN62         | E A   V I L S T C C N R V E L Y A V T P M E L K D F L T N C H D Y E L Y T L G E P H                 |    |    |
| UniRef90_V8CVM5         | E A   M I L S T C C N R V E V Y A V V D A F H P A L E A N E M T K H Y T I Y H C G D D               |    |    |
| UniRef90_F8E8Q2         | E A   M I L S T C C N R V E Y Y I V T D E N V L Q I S E E N R K H T Y I Y H C G D D                 |    |    |
| UniRef90_W9A8A4         | E N   V I L S T C C N R T E I Y A V V D Q Y I K K F M T D W F D I Y L R I A E D D A                 |    |    |
| UniRef90_Q21FM2         | E V   A I L S T C C N R T E L Y A A Y G S S Q A I Q W L A E Y K Q V N V Y L Y T A S E               |    |    |
| UniRef90_A1VKB7         | E A   T L S T C C N R T E I Y C A G D T N D L D S T M E W L A H H A Y T L Q D D Q                   |    |    |
| UniRef90_W4VHL9         | E N   V I L S T C C N R T E I Y A V V D Q L H T Q F L A D W F G P H I I Y E N E A                   |    |    |
| UniRef90_S6GM97         | E V   A I L S T C C N R T E I Y C A G S D F A A A E I L Q W L S E F L Y S H S D T G                 |    |    |
| UniRef90_D8IUL1         | E A   A I L S T C C N R T E L Y A A A A A G T A Q F L A D Y H H P Y L Y S L P Q Q D N               |    |    |
| UniRef90_I3DIB2         | E S   V I L S T C C N R T E I Y L H A D L E N K K W L E Q C V D W F L Y I K Q N Q A                 |    |    |
| UniRef90_D7UYYY1        | E N   V I L S T C C N R T E I Y A V V D Q L H T Q F L A D W F Q M Y L Y F Y E D G E                 |    |    |
| UniRef90_D3HPS9         | E A   A I L S T C C N R T E I Y C D T H D P L A H W L A Q E H S P F L Y L K G H E                   |    |    |
| UniRef90_Q31IN7         | E S   V I L S T C C N R T E I I Y T T L K S Q S P E K I R A W L H E Y L Y E Y A D I E               |    |    |
| UniRef90_A5EWV4         | E I   L L S T C C N R S E W Y F A T P P R L E E W L Y Q H T A R H L F I I Y T D R E                 |    |    |
| UniRef90_M1QH1          | E F   M L S T C C N R L E F Y A Y A S D E K Q V F E A H F D N S H F L K A G K E                     |    |    |
| UniRef90_UPI00037A93D4  | E N   V I L S T C C N R T E V Y A I V D Q V H T G F E V D D D M K D M S Q V K V G D D               |    |    |
| UniRef90_G8S658         | E A   V L V S T C C N R V E V Y A A V S G F H S G I P A T E L A G G H L Y V H Y G E A               |    |    |
| UniRef90_C6WNG3         | E V   M V L S T C C N R V E V Y A V V E A F H G E A R Q S G E H L F V H Y A G A                     |    |    |
| UniRef90_B1MHI6         | E A   V I V L S T C C N R V E V I Y A V V A V I E A V T T F L C H D Y H R P Y L Y V H Q S S A       |    |    |
| UniRef90_G2L1N1         | E A   V V L S T C C N R S E I Y A V V E S A A D D L A S E D I D A Y L Y T Y L D E D                 |    |    |
| UniRef90_UPI000369D1FC  | E A   L V L A T C C N R V E V F A E V E R F H A G A T V E E L S P Y V T V H Y E D Q                 |    |    |
| UniRef90_H6RPM3         | E A   A V I L S T C C N R T E I Y C G D A D V I R W L A N Y Q R P Y L Y T L G C S Q                 |    |    |
| UniRef90_F5S4J0         | E E   F M L S T C C N R L E F Y M V L E E P V I Q T L V K H L A E Y F Y N L S G V N                 |    |    |
| UniRef90_UPI000262CF47  | E A   N V I L S T C C N R T E V Y A I V D Q V H T G F E V D D D M K D M S Q V K V G D D             |    |    |
| UniRef90_R6I955         | E A   A V L L S T C C N R V E V Y A V V E N E V E V L A R Q S G E H L F V H Y A G A                 |    |    |
| UniRef90_D1A493         | E A   V   V L S T C C N R V E V I Y A V V D K F H A A L P L E E W L Y Q H T A R H L F I I Y T D R E |    |    |
| UniRef90_A3PCP6         | E A   V V L L S T C C N R S E I Y A V V E S A A D D L A S E D I D A Y L Y T Y L D E D               |    |    |
| UniRef90_A4G1N3         | E A   A V I L S T C C N R T E I Y C A V E D A Q A A V P L S E L E P H I Y T F E Q E E               |    |    |
| UniRef90_Q9RRE5         | E U   V L L A T C C N R V E V Y L A G V H G D P G A W G H A L L D H L Y T V L E N R E               |    |    |
| UniRef90_H3KDN2         | E A   A V V L L S T C C N R T E I Y C A V E D A Q A A V P L S E L E P H I Y T F E Q E E             |    |    |
| UniRef90_UPI0003B51478  | E T   A I L S T C C N R T E I Y V A S A R P A L A W L A E H L Q D H T Y V L E N R E                 |    |    |
| UniRef90_L0K915         | E G   V I L S T C C N R T E I Y L V V S D N I T D L N V D K L Q E Y T V Y Q G V N                   |    |    |
| UniRef90_UPI00037BCF54  | E I   A I L S T C C N R T E I Y A A G E L S D K Q L L A W E I I S C Y Y C L R G D E                 |    |    |
| UniRef90_E6J9T1         | E A   A M I V T T C C N R V E V Y S A V E A F H P A L S V D E L L S R R H L Y I R Y S E S           |    |    |
| UniRef90_C0QS44         | E V   S I L S T C C N R V E V I Y G V T D D P D F A Q K N E L E K Y L F K L T G R E                 |    |    |
| UniRef90_I8T8N0         | E A   A I L S T C C N R T E I Y A A I L S D K Q L L A W E I I S C Y Y C L R G D E                   |    |    |
| UniRef90_UPI0003673F3E  | G A   I V L S T C C N R T E I Y L E V E N S A D N K I A E T L K N Y I Y I Y N E I                   |    |    |
| UniRef90_UPI0004706680  | D M   V V L S T C C N R T E I Y F S A F E L V L E Q L N Q F H A E Y F Y R K K D E D                 |    |    |
| UniRef90_UPI0003718CE9  | G A   V I L S T C C N R T E I Y V L H R Q I S P Q E C D K W Q Q N S I Y T H Q N Q Q                 |    |    |
| UniRef90_A0A16XL25      | E A   A I L S T C C N R T E I Y I C A S E A P T L Q W L A E L R S H T Y M L Q G D E                 |    |    |
| UniRef90_UPI0004755434  | E A   A V V L L S T C C N R T E I Y I Y A V V E T F H A Q T D V S D L L T D H L Y T V H Y A G S     |    |    |
| UniRef90_A0LIM5         | E E   L L F L S T C C N R V E F L F T C R R E V T A L L R E G V V E N H V A F R G M E               |    |    |
| UniRef90_D3PCG4         | E A   A L I L S T C C N R V E I Y Y I V T D D E R I G E D V Y E I K K Y I Y I C G N E               |    |    |
| UniRef90_A0Z9B8         | E U   V V L L S T C C N R T E I Y Y G V W T E H H G L P S E A L S T C T Y R H G K Q                 |    |    |
| UniRef90_F5BT16         | E A   A V V L L S T C C N R M E V Y T V G V R D V I N W M F E E L R P Y L F L K Q D G E             |    |    |
| UniRef90_M0QHH8         | E A   M L V S T C C N R V E V Y A V V D A F H P A L E A N E M T R H A Y V R Y S E A                 |    |    |
| UniRef90_F8IBM8         | G   V V I L S T C C N R T E I Y V A G E V E L A D I L A W W F S D A L L W Y Q G A D                 |    |    |
| UniRef90_E5Y617         | E A   A L I L S T C C N R V E I Y L A V G Q G D V P G L I L E E L A P Y V Y I H K G R E             |    |    |
| UniRef90_F0SYT1         | G   A V V L S T C C N R L E V H A V G Q S V R E F L C R H H R P L F V H V L Y P                     |    |    |
| UniRef90_E9UQI6         | E A   A V I A T C C N R L E I Y T E V D R F H A G Q T L E T M L P H L Y V H Y D D G                 |    |    |
| UniRef90_I2NK07         | E S   V V I L S T C C N R T E I Y Y F H N S E I T P Q E E S E E N R E C L Y F K Q N M Q             |    |    |
| UniRef90_UPI0004643B32  | G   C V I L S T C C N R T E I Y I S F E H S I E Q W L C Q F H Q I E L Y C Q Y N Q Q                 |    |    |
| UniRef90_UPI0003B2F658  | E A   A V I L S T C C N R T E I Y V S R N D R D A A W M A H Y H E P Y L Y L D A E A                 |    |    |
| UniRef90_A6VND5         | S T   V I L S T C C N R T E I Y L H N P E Q N S A W I D E C V A W F L Y F Y Q N Q Q                 |    |    |
| UniRef90_F9QB53         | S A   V I L S T C C N R T E I Y L H R Q I S P Q E C A S W Q Q K C L Y F H Q N Q Q A                 |    |    |
| UniRef90_UPI000367B14A  | E A   A M I V S T C C N R V E I Y A V V D A F H A A L S L H D L T K H A V V R Y S E S               |    |    |
| UniRef90_V2TJK1         | E A   M   V L S T C C N R T E I Y Y A A E A N A I D W L T E F H G M C L Y F Y Q S D                 |    |    |
| UniRef90_UPI00037EB238  | E V   V V L S T C C N R T E I Y L N A E A N A I D W L T E F H G M C L Y F Y Q S D                   |    |    |
| UniRef90_UPI000237D38B  | E E   L L I L S T C C N R T E I Y F S S H H Q N Q D R V I E H I E N Y F Y Y L F D R D               |    |    |
| UniRef90_UPI00035F4A972 | E A   A M I V S T C C N R L E I Y V S V A T H E V S G V D I D T L R G Y L Y V R Y A D A             |    |    |
| UniRef90_UPI00037ED455  | E A   A V L L S T C C N R V E I Y Y A A V P H A G G V P A E E L A K S L Y F Y Q N Q Q               |    |    |
| UniRef90_D4H6I3         | E A   A M I I S T C C N R T E V Y T Y S R G A D G D T L G F L C R Y Y G Y C Y R G R D               |    |    |
| UniRef90_UPI00047D09E9  | E A   A V I I S T C C N R F E V Y Y A V T N S F H P G V A E E L R T Y L Y V R Y A D A               |    |    |
| UniRef90_UPI000476A314  | E A   A M I I S T C C N R F E I Y Y S L G I E A I K S F L L E F S S P H L F V Y Q N Q Q             |    |    |
| UniRef90_A2C1K4         | E V   S I L S T C C N R L E I Y Y S L G I E A I K S F L L E F S S P H L F V L L H Q D               |    |    |
| UniRef90_D5MN37         | E R   M I L S T C C N R V E I Y Y A A V S A F H A A V L A A H G D H L Y V R Y D D E                 |    |    |
| UniRef90_UPI000367B7DE  | E A   I V L S T C C N R V E I Y Y A A V S A F H A A V L A A H G D H L Y V R Y D D E                 |    |    |
| UniRef90_I4D533         | G   V   L I L S T C C N R T E V Y Y A A T T D S I K K F L S A H H N Q Y L Y V H T L Y D             |    |    |
| UniRef90_Q7NLA8         | E C   A I L S T C C N R L E I Y Y T V G L R E V T R F L A E S K G R H L F V L L H Q D               |    |    |
| UniRef90_M1M0F5         | E A   A V I I S T C C N R T E I Y Y C Y C K K E F Y I Q E V L W F S V Y F Y Y V S D A               |    |    |
| UniRef90_UPI00036468BE  | E S   A V L I A T C C N R T E V Y Y A A V S A F H A A V L A A H G D H L Y V R Y D D E               |    |    |
| UniRef90_K4KJ35         | N   V A I L S T C C N R S E I Y Y C Y G L D E S T R L L A D E L R P F H Y A H G D A                 |    |    |
| UniRef90_R4LP21         | E A   V L S T C C N R V E I Y Y C Y G L S V A E E S G E A N D L A G H L Y V H F D S A               |    |    |
| UniRef90_K2B2E27        | E A   A V L S T C C N R S E I Y Y C Y S T E E I E A D W F W C A Q T S S A I Y V R Y D D E A         |    |    |
| UniRef90_R5GK31         | E C   I V L S T C C N R T E I M Y V Y S D S E S K G C V F E D I G N Y I L L F Y H G E K             |    |    |
| UniRef90_W7DJ24         | E N   V I I S T C C N R T E I I F A V V D Q I H T R F L A N N W F Q M Y L L F F E E E E             |    |    |
| UniRef90_F4FEJ6         | E A   A L V S T C C N R V E I V Y A A G L G D I C A V L A E Q A D N N L Y V H F D S A               |    |    |
| UniRef90_UPI0004182278  | E A   A L V S T C C N R T E I V Y Q V P D D A L A Q L G E L V R R H C F V R E H D N                 |    |    |
| UniRef90_C4N417         | E V   V L S T C C N R V E I V Y A V Q P D D A L A Q L G E L V R R H C F V R E H D N                 |    |    |

|                        | 90                          | 100                     | 110                                 | 120       |
|------------------------|-----------------------------|-------------------------|-------------------------------------|-----------|
| UniRef90_A4SV44        | A V R H A F R V V A C G L   | L D S M V I G E T Q     | L G Q M K D A V R T A N D A G       | V L G     |
| UniRef90_UP10003A3A928 | A V Q H L F S V V A C G L   | L D S M V V G E G Q     | L G Q I K A A L A L A Q T H         | G T A G   |
| UniRef90_Q63QF1        | A V R H A F R V A S G L     | L D S M V L G E T Q     | L G Q M K N A V R T A S E A G       | S L G     |
| UniRef90_H5WMJ7        | A A R H A F R V A S G L     | L D S M V L G E A Q     | L G Q M K Q A V R E A D S A G       | T L G     |
| UniRef90_UP100034D86CF | A I M H L M R V A G G L     | L D S L V L G E G Q     | L A Q V K T A Q R V G Q S S K       | G M G     |
| UniRef90_M1WP17        | A V E H I F T V V A C S L   | L D S M V M G E P Q     | L G Q L K D A Y R K A V D E G       | T A R     |
| UniRef90_UP100028904AE | A S M H L F K V T A G I     | L D S M V L G E T Q     | L G Q V K S S F L E A Q Q I         | G T T G   |
| UniRef90_G8NVP2        | A I R H L F R V A S S L     | L D S M V V G E P Q     | L G Q V K Q S W T V A R E V         | V G A V   |
| UniRef90_UP100037491FA | A V H H L F S V V A C G L   | L D S M V V G E E Q     | L G Q I K D S L A R A Q E L         | H T A G   |
| UniRef90_K9DIF6        | A V R H A F R V A S G L     | L D S M V L G E P Q     | L G Q M K D A V R T A D A A G       | G L       |
| UniRef90_D7WB54        | A A K H L M R V A A G L     | L D S M V V G E Q Q     | I Q G V R S A Y Q D A A D R         | G T I     |
| UniRef90_U1S3Q7        | A V N H L M E V V A C G L   | L D S L I L G E P Q     | L G Q V K Q A Y Q M S Q E Q         | Q Q A I   |
| UniRef90_UP1000310F32D | G I R H T L R V A S G L     | L D S M M M I G E P Q   | L G Q M K Q A Y Q H A C Q L         | G T V K   |
| UniRef90_B9XN62        | S V E H L F K V V A C G L   | L D S M V L G E E T E   | L G Q L K R A Y D L Q H R H         | S S G     |
| UniRef90_V8CVM5        | V V E H L F S V V A A G L   | L D S M V V G E Q Q     | F G Q I R S S Y A S A D A N         | R S A G   |
| UniRef90_F8E8Q2        | A V R H I F R V V A S G L   | L D S L V L G E P Q     | F G Q V K D G F R L A N I H         | G K M D   |
| UniRef90_W9A8A4        | A I E Q H F R V T T G L     | L D S M V V G E T Q     | L G Q V K H A F L T S Q E G         | D T T G   |
| UniRef90_Q21FM2        | A A S H M M K V A S G L     | L D S L V L G E P Q     | L L G Q M K S A Y A V A R E A       | G V L G   |
| UniRef90_A1VKB7        | A A R H A F R V A S S G L   | L D S M V L G E P Q     | L L G Q M K D A V R A A E D A       | G A M G   |
| UniRef90_W4VHL9        | A I E H L F R L S C G L     | E E S M I M G E T Q     | L G Q V K Q S F L L A Q Q H K       | I T G     |
| UniRef90_S6GM97        | A A A H M M R V V A C G L   | L D S L V L G E P Q     | L G Q L K S S F A V S Q N L         | Q L M K   |
| UniRef90_D8IUL1        | A V R H A F R V A S G L     | L D S M V L G E P Q     | L G Q M K D A V R Q A D A A G       | G G L     |
| UniRef90_I3DIB2        | A V N H L M R V S S G L     | L D S L I L G E P Q     | L G Q V K Q A Y Q F Q Q Q H         | L P V S   |
| UniRef90_D7UYY1        | A V K H L Y E V A A G L     | L D S L V L G E T Q     | L G Q V K N A F D T A H Q L         | G T T G   |
| UniRef90_D3HPS9        | G I R H T L R V A S G L     | L D S M M M I G E P Q   | L G Q M K Q A Y Q H A C N L         | G T I K   |
| UniRef90_Q31IN7        | A I K H M M R V S S G L     | L N S L V L G E P Q     | L G Q I K E A F H L A H K S D       | S V H     |
| UniRef90_A5EWV4        | A V Q H I Y R V V A C G L   | L D S L I L G E P Q     | L G Q L K A A Y R L A K K A G       | S I G     |
| UniRef90_M1QIH1        | A V A H I F K V A S G L     | L D S M V I G E P Q     | V A Q F K E A F F K A K A L         | G T T G   |
| UniRef90_UP100037A93D4 | A V E H L L R V T S G L     | L D S L V L G E T Q     | L G Q M R D A F F L A Q N T G       | T T G     |
| UniRef90_G8S658        | A V R H S F R V S S G L     | L E E S M V V G E A Q I | L G Q G L R D A Y H A A T E S       | D S A G   |
| UniRef90_C6WNG3        | A V D H L F S V V A A G L   | L D S M V V G E A Q I   | L G Q G L R A A Y A A A D E V       | V G V     |
| UniRef90_B1MHI6        | A V E H L F A V A S G L     | L D S M V V G E Q Q     | V L G Q G V R N A Y A T A E S       | H Q A V   |
| UniRef90_G2LIN1        | A V R H V L R V A A S L     | L D S S M I V G E S Q   | V L G Q G V K R A Y A L A R E A     | S A T S   |
| UniRef90_UP1000369D1FC | C V R H L F R V A A S L     | L D S L V L G E E Q Q   | I L S Q V K E A Y A L A R E A       | S A T S   |
| UniRef90_H6RPM3        | A V A H L L F T V V A A G L | L D S M V V G E T Q     | V L G Q G L R A A Y A V A R E E     | G A V     |
| UniRef90_F5S4J0        | T I A H A F R V A C G L     | L D S M V L G E A Q I   | L G Q G Q M K N A V Q V A R E Q     | G G V     |
| UniRef90_UP1000262CF47 | A A Q H M M R V V A S G L   | L D S L V L G E P Q     | L L G Q F K D A I R S A R D A S     | T C G     |
| UniRef90_R6I955        | C V R H L F K V V A S S L   | L D S L V I G E G Q     | I L S Q V I K N A Y Q I A R E N     | S M T     |
| UniRef90_D1A493        | A V Q H V F S V V C G L     | E E S M V I G E S Q     | L L G Q Q I R E A F K L L A K A E   | G T V     |
| UniRef90_A3PCH6        | A V L H L M K V S A G L     | L D S L V L G E G Q     | L L S Q V V K K M M R Q G E N Q S   | T G       |
| UniRef90_A4G1N3        | A V R H A F R V A S G L     | L D S M V L G E P Q     | L L G Q M K D A V R Q A E A A G     | G L       |
| UniRef90_Q9RRE5        | A V R H L Y R V T A G L     | L D S L V I G E T Q     | Q Q G Q V K R A W Q S A R E R G     | L S G     |
| UniRef90_H3KDН2        | A A R H T F R V V A S G L   | L D S M V L G E T Q     | V V G Q M K K A E K L A R E H H     | G L       |
| UniRef90_UP10003B51478 | A A R H A F R V V A S G L   | L D S M V L G E P Q     | L L G Q M K Q A V R G A D E A G     | T L G     |
| UniRef90_L0K9I5        | A A R H A F R V V A S G L   | L D S M V L G E P Q     | L L G Q M K Q A V R G A D E A G     | T L G     |
| UniRef90_UP100037BCF54 | V G K H L Y K V I S S L     | L D S L V V G E D Q     | L L G Q Q V K E A F Q Q A N K N N   | L I G     |
| UniRef90_E6J9T1        | A I R H M I R V A S G L     | L D S L V M G E P Q     | F G Q I V K S A Y S V A Q K A E     | T V S     |
| UniRef90_C0QS44        | A A E H L F S V V A S G L   | L D S M V V G E Q Q     | I I G Q I R T A Y Q S A S D I G     | A A G     |
| UniRef90_I8T8N0        | A I K H I F K V S A S S L   | L D S M V I G E P Q     | V C C Q F K D A F T K A R E E K     | T V R     |
| UniRef90_UP10003673F3E | A V L H H S L R V A S G L   | L D S M V L G E P Q     | L L G Q M K Q S F A T A Q S Q R     | V L G     |
| UniRef90_UP10004706680 | A I T H L Y R V A S G L     | L D S L V I G E V Q     | L L G Q V V K R A F Y R S R D L     | G L I D   |
| UniRef90_UP10003718CE9 | V A R H L F E V I A G F D   | L D S M V I G E D Q     | I I G Q V V K D A Y L F C T K A N   | M T D     |
| UniRef90_A0A016XL25    | A A N H L M R V V A C G L   | L D S L I L G E P Q     | L L G Q V V Q K Q A F Q Q Q S K     | V A L S   |
| UniRef90_UP10004755434 | A A R H A F R V A S G L     | L D S M V L G E A Q I   | L L G Q M K D A V R A A E E A G     | A L G     |
| UniRef90_A0LIM5        | A V R H V F R V A S S L     | L D S M V V G E P Q     | L L G Q Q L R T A Y S T A R E L     | G T V     |
| UniRef90_D3PCG4        | A L K H L F K V A C G L     | L D S L V L G E P Q     | L L G Q V V K D A F D K A K M Y G   | R Y D     |
| UniRef90_A0Z9B8        | A L T H L V R V A A G L     | L D S S M V L G E P Q   | F G Q V L K S A F A V A E E A G     | A V G     |
| UniRef90_F5BT16        | A V D H L L Q V S A G L     | L D S L I V G E G Q     | L L A Q V V K S V H Q V G S E A     | K G F G   |
| UniRef90_M0QHH8        | A V E H L F T V V A A G L   | L D S L V V G E Q Q     | L L G Q Q I R N A Y L N A D D N     | K S A G   |
| UniRef90_F8IBM8        | A I R H V M R V V A A G L   | L D S S K V L L G E T Q | L L G Q Q V V K D A Y H L A Q R Y G | A V G     |
| UniRef90_E5Y617        | A I A H L F T V V A S S L   | L D S M V L G E P Q     | L L G Q Q V V K G A Y R K A T L     | A G T T K |
| UniRef90_F0SYT1        | A I R H L F R V T S G L     | L D S M L V G E T E     | L L G Q Q V V A K A Y E I A V A A   | G V T N   |
| UniRef90_E9UQI6        | A V S H L F K V V A A G L   | L D S M A V G E G Q     | L L G Q Q A R A A L Q G Q E M G     | T V G     |
| UniRef90_I2NK07        | A A Q H L M R V V A C G L   | L D S L I L G E P Q     | L L G Q Q V V K Q A Y H A S Q A N   | G G G I   |
| UniRef90_UP10004643B32 | A V S H L M R V V A C G L   | L D S L I I G E P Q     | L L G Q Q V V K Q A F N V A R A H   | S T V     |
| UniRef90_UP10003B2F658 | G A R H A Y R V V A C G L   | L D S M V L G E T Q     | L L G Q Q V V K D A V R V A E N T   | G T L L   |
| UniRef90_A6VND5        | A V T H L M R V V A C G L   | L D S L I L G E P Q     | L L G Q Q V V K Q A Y Q L A Q R A H | G L       |
| UniRef90_F9QB53        | A A N H L M R V V A C G L   | L D S L I L G E P Q     | L L G Q Q V V K Q A F H W S Q T N A | P L       |
| UniRef90_UP1000367B14A | A V E H L F R V V A S G L   | L D S M V V G E Q Q     | L L G Q Q I R A A Y A A A D E R Q   | A V G     |
| UniRef90_V2TJK1        | A V S H L M R V V A S G L   | L D S L M I L G E P Q   | L L G Q Q V V K T A L S L A K D A   | G T V     |
| UniRef90_UP100037EB238 | T T E H L M R V V A C G L   | L D S M V L G E P Q     | L L G Q Q V V K Q S F A Q A R Q     | E A L     |
| UniRef90_UP1000237D38B | A V I H L F R L I S G L     | E E S M V V G E E Y Q   | I I G Q V V K R A A Y Q E A T D K   | G T V     |
| UniRef90_UP100035FA972 | A A E H L M M E V A S G L   | L D S M V V G E Q Q     | I I G Q Q L R D A Y Q Q A S E V     | D T V     |
| UniRef90_UP100037ED455 | A V R H V F R V V A A G L   | L D S S M V A G E A Q I | F G Q V V K D A F E A S R E F G     | G A N     |
| UniRef90_D4H6I3        | S V H I F R V V A S G L     | L D S L V M G E P Q     | G Q V V K E A Y E K S M E A G       | T A H     |
| UniRef90_UP100047D09E9 | G V K H L F E V V A C G L   | R R S M V V G E E Q     | L L G Q Q V V K E A Y E K S M E A G | T A H     |
| UniRef90_UP1000476A314 | A A A H L M K V V A A G L   | D S M V V G E Q Q       | I I G Q V V R S A Y L Q A T E H     | G T V     |
| UniRef90_A2C1K4        | A V S H L M R V V A S G L   | L D S L V L G E G Q     | L L G Q Q V V K Q A Y Q L A Q R A H | G L       |
| UniRef90_D5MN37        | A I R H L F R V V A S S L   | L D S D A M V V G E S Q | L L G Q Q V V K Q A A Y A V A L E   | R E A T G |
| UniRef90_UP1000367B7DE | A V R H A Y R L A S G L     | L D S M V V G E A Q     | L L G Q Q V V K Q A Y Q L A V A D   | A P       |
| UniRef90_I4D533        | A I R H L F R V T A G L     | D S M V R G E T Q       | L L G Q Q V V K T A S L A K D A G   | T V       |
| UniRef90_Q7NLA8        | A V M H L M R V V A A G L   | D S I V L G E G Q       | L L G Q Q V V K T A S L A K D A G   | T V       |
| UniRef90_M1M0F5        | A V K H I F S V V S C G L   | N S L V I G E P Q       | L L G Q Q V V K M T Q S L A Q Q G   | K G V D   |
| UniRef90_UP100036468BE | A V A H L F Q V V A V G L   | D S S M I V G E S Q     | L L G Q Q V V K V K E S L R V G Q D | Q E T I G |
| UniRef90_K4KJ35        | A I N H M M Q V V A C G L   | N S L V L G E P Q       | L L G Q Q V V K M K S A Y A V A C   | E A G T V |
| UniRef90_R4LP21        | A V R H S F R V V S S G L   | E S M V V G E A Q       | L L G Q Q V V K R D A Y H A A T E   | A D S A G |
| UniRef90_K2BE27        | A I S H M M E V V A C G L   | D S S M I L G E P Q     | L L G Q Q V V K M K E A F S E S C   | T V N A V |
| UniRef90_R5GK31        | A I H H L F Q V V T A G L   | D S S M V I G E D Q     | L L G Q Q V V K T A H K Q A R E A G | T T G     |
| UniRef90_W7DJ24        | A V K H L Y R V T S G L     | D S I L G E T Q         | L L G Q Q V V K D A F T S A Q N N R | T T G     |
| UniRef90_F4FEJ6        | A V D H V F R V V A A G L   | D S M V I G E A Q I     | L L G Q Q V V K R D A Y H G A T G   | A D T T G |
| UniRef90_UP10004182278 | A V R H L F R V V A T G L   | D S L V L G E P Q       | L L G Q Q V V K D A W Q A A R A A H | A L R     |
| UniRef90_C4N417        | A A R H I F R V V A A S L   | E E S M V V G E P Q     | L L G Q Q V V K D A W Q L A R E R Q | T V G     |

130                    140

|                        |   |
|------------------------|---|
| UniRef90_A4SV44        | T Y   L N Q   L F Q K T F A   V   A K E   V   R G S T   E                                     |
| UniRef90_UPI0003A3A928 | R   V   L N E   L T Q Q A   L   R   V   G K R   A   H   T   E   T   G                         |
| UniRef90_Q63QF1        | T Y   L N Q   L F Q R T F A   V   A K E   V   R G T T   E                                     |
| UniRef90_H5WMJ7        | T T   L H   Q   L F Q R S F S   V   A K E   V   R T S T   E                                   |
| UniRef90_UPI00034D86CF | R   I   L N R   L F K S A   I   T   A   G K R   V   R T D T   D                               |
| UniRef90_M1WP17        | T   I   I N R   L L H   K S F S   V   A K R   V   R T E T   A                                 |
| UniRef90_UPI00028904AE | T   I   F N H   V   F K Q G   I   T   F A K R   A   H   D   E   T   S                         |
| UniRef90_G8NVP2        | S T   L D   P   L L Q   R   A   F   S   V   A   K   K   V   R   T   E   T   Q                 |
| UniRef90_UPI00037491FA | R   L   L N D   L F Q Q A   L   R   V   G K R   A   H   S   E   T   G                         |
| UniRef90_K9DIF6        | T Y   L H   Q M F   Q R T F A   V   A K E   V   R T T T   E                                   |
| UniRef90_D7WB54        | P   A   L H   A   L V   Q   S   A   L   H   A   G   K   R   V   H   T   E   T   D             |
| UniRef90_U1S3Q7        | G   E   L S   R   L F Q   K   T   F   S   T   A   K   R   V   R   T   E   T   N               |
| UniRef90_UPI000310F32D | T   N   L R   S   V   F   Q   Y   I   F   S   A   S   K   R   I   R   N   R   S   G           |
| UniRef90_B9XN62        | S   R   L N   K   A   F   Q   K   A   F   N   V   A   K   H   I   R   T   E   T   N           |
| UniRef90_V8CVM5        | R   V   L H   E   L A   Q   Q   A   L   R   V   G   K   R   V   H   S   E   T   G             |
| UniRef90_F8E8Q2        | K   L   L K   K   L D   E   F   T   I   K   T   S   K   K   V   R   T   N   T   G             |
| UniRef90_W9A8A4        | T   V   L N   E   L F   K   Q   A   I   T   F   G   K   R   A   Q   K   D   T   A             |
| UniRef90_Q21FM2        | G   H   L H   D   V   F   Q   R   V   F   S   V   A   K   R   V   R   S   E   T   A           |
| UniRef90_A1VKB7        | T   T   L H   Q   L F   Q   R   S   F   A   V   A   K   E   V   R   T   S   T   E             |
| UniRef90_W4VHL9        | T   I   F N   E   L F   K   Q   A   I   T   H   G   K   R   S   Q   R   E   T   M             |
| UniRef90_S6GM97        | G   E   L G   K   L F   Q   Q   A   F   S   V   A   K   K   V   R   T   D   T   A             |
| UniRef90_D8IUL1        | T   Y   L H   Q   L F   Q   R   T   F   A   V   V   A   K   E   V   R   S   T   T   E         |
| UniRef90_I3DIB2        | S   E   L S   R   L F   Q   K   N   F   S   V   V   A   K   R   V   R   T   E   T   N         |
| UniRef90_D7UYY1        | T   L   L N   Q   L F   K   M   T   I   T   F   A   K   S   V   H   S   Q   T   K             |
| UniRef90_D3HPS9        | A   E   L R   S   I   F   E   Y   I   F   S   A   S   K   R   V   R   T   R   S   G           |
| UniRef90_Q31IN7        | Q   T   L H   A   L F   Q   Y   I   F   K   T   A   K   Q   V   R   T   D   T   A             |
| UniRef90_A5EWV4        | S   W   L E   R   L F   Q   H   S   F   A   L   A   K   H   V   R   H   Q   T   D             |
| UniRef90_M1QIH1        | K   V   M   N   R   L C   Q   N   A   L   H   A   S   K   R   V   R   Y   E   T   G           |
| UniRef90_UPI00037A93D4 | T   I   F N   H   L F   K   Q   A   I   T   F   A   K   K   A   H   S   E   T   D             |
| UniRef90_G8S658        | R   L   L H   E   L M   Q   Q   A   L   R   V   G   K   R   A   H   A   E   T   G             |
| UniRef90_C6WNG3        | R   A   L H   E   L V   Q   Q   A   L   R   V   G   K   R   V   H   S   D   T   G             |
| UniRef90_B1MHI6        | R   V   L H   E   L S   Q   S   A   L   R   V   G   K   R   V   H   S   E   T   G             |
| UniRef90_G2LIN1        | R   H   L H   R   L F   E   R   A   F   A   V   V   A   K   R   V   R   T   E   T   G         |
| UniRef90_UPI000369D1FC | T   V   L N   T   L M   H   R   A   I   K   T   G   K   R   V   R   A   E   T   R             |
| UniRef90_H6RPM3        | R   A   L H   P   V   A   Q   R   A   L   R   V   G   K   R   V   H   S   E   T   G           |
| UniRef90_F5S4J0        | T   W   L N   A   L   F   Q   R   T   F   A   A   A   K   D   V   R   S                       |
| UniRef90_UPI000262CF47 | T   E   L E   Q   A   F   S   K   V   L   S   I   A   K   R   V   R   T   E   T   A           |
| UniRef90_R6I955        | T   I   F   N   T   I   F   N   R   A   I   A   T   G   K   R   V   R   T   E   T   K         |
| UniRef90_D1A493        | R   D   L H   E   L   I   Q   H   A   L   R   V   G   K   R   A   H   S   E   T   G           |
| UniRef90_A3PCH6        | P   I   L N   R   L L T   Q   S   V   S   T   G   K   K   V   R   S   E   T   N               |
| UniRef90_A4G1N3        | T   Y   L H   Q   M   F   Q   R   T   F   A   V   V   A   K   E   V   V   R   S   N   T   E   |
| UniRef90_Q9RRE5        | T   L   M   N   K   V   V   Q   G   A   L   A   A   G   K   R   V   R   S   H   T   G         |
| UniRef90_H3KDN2        | V   M   L N   H   L F   Q   A   T   F   T   V   V   A   K   E   V   V   R   T   A   T   A     |
| UniRef90_UPI0003B51478 | T   T   L H   Q   L F   Q   R   S   F   S   V   V   A   K   E   V   V   R   T   S   T   E     |
| UniRef90_L0K9I5        | S   Y   L H   N   L F   T   N   A   F   R   V   V   G   K   R   V   V   R   A   E   T   N     |
| UniRef90_UPI00037BCF54 | V   H   L N   A   A   F   Q   W   A   F   A   V   V   A   K   R   V   V   R   S   E   T   A   |
| UniRef90_E6J9T1        | S   T   L H   R   L A   Q   Q   A   L   H   V   V   G   K   R   V   H   T   E   T   G         |
| UniRef90_C0QS44        | H   I   L T   R   L F   D   K   A   L   N   V   S   K   K   I   R   T   S   T   G             |
| UniRef90_I8T8N0        | P   V   L S   R   L F   Q   H   A   F   V   A   K   R   Q   L   A   R   S   R   T   Q   V     |
| UniRef90_UPI0003673F3E | S   Y   L Y   K   I   F   T   D   A   F   R   V   V   A   K   Q   V   V   R   T   E   T   K   |
| UniRef90_UPI0004706680 | A   V   L M   R   L F   Q   K   S   F   E   A   G   K   R   V   V   R   T   E   T   A         |
| UniRef90_UPI0003718CE9 | S   E   F   S   R   L F   Q   K   T   F   S   T   A   K   R   V   V   R   T   E   T   D       |
| UniRef90_A0A016XL25    | Q   T   L N   Q   L F   Q   R   S   F   A   V   V   A   K   E   V   V   R   S   S   T   E     |
| UniRef90_UPI0004755434 | T   V   L H   E   V   A   Q   Q   A   L   R   V   G   K   R   V   V   Q   S   E   T   G       |
| UniRef90_A0LIM5        | V   I   L N   R   L L H   K   T   F   S   V   V   A   K   R   V   V   R   S   E   T   C       |
| UniRef90_D3PCG4        | T   Y   L K   Q   L E   Q   Y   T   L   K   T   A   K   K   V   V   R   T   D   T   A         |
| UniRef90_A0Z9B8        | S   R   L Q   R   L F   P   E   A   F   R   I   A   K   K   V   V   R   S   E   T   N         |
| UniRef90_F5BT16        | Q   Y   L S   A   L F   N   Q   A   I   T   A   G   K   R   V   V   R   S   E   T   N         |
| UniRef90_M0QHH8        | R   V   L H   E   L A   Q   Q   A   L   R   V   G   K   R   V   H   T   E   T   G             |
| UniRef90_F8IBM8        | R   R   L H   R   V   F   H   Y   A   L   R   A   G   K   R   A   H   A   E   T   D           |
| UniRef90_E5Y617        | T   I   N R   L L H   K   S   F   S   V   V   A   K   R   V   V   R   T   E   T   G           |
| UniRef90_FOSYT1        | R   T   I N   V   S   F   Q   K   A   L   A   V   V   G   K   K   I   R   L   E   T   G       |
| UniRef90_E9UQI6        | P   A   L N   S   L F   Q   Q   A   L   R   V   G   K   R   S   R   A   E   T   D             |
| UniRef90_I2NK07        | T   K   L S   R   L F   Q   R   T   F   A   T   A   K   R   V   V   R   T   E   T   D         |
| UniRef90_UPI0004643B32 | L   S   I D   K   L F   Q   R   V   F   H   V   V   A   K   R   V   V   R   T   E   T   Q     |
| UniRef90_UPI0003B2F658 | T   L   L N   H   L F   Q   N   A   F   S   V   V   A   K   T   V   V   R   S   Q   T   A   V |
| UniRef90_A6VND5        | K   E   L S   R   L F   Q   K   T   F   S   T   A   K   R   V   V   R   T   E   T   N         |
| UniRef90_F9QB53        | G   E   L S   R   L F   Q   K   T   F   A   T   A   K   R   V   V   R   T   E   T   D         |
| UniRef90_UPI000367B14A | R   V   L H   E   L S   Q   Q   A   L   R   V   G   K   R   V   H   T   E   T   R             |
| UniRef90_V2TJK1        | S   A   I N   G   I F   D   Y   A   F   Y   A   A   K   R   V   V   R   S   E   T   A   V     |
| UniRef90_UPI00037EB238 | T   S   I S   R   L F   E   H   S   F   S   V   V   A   K   R   V   V   R   T   E   T   G     |
| UniRef90_UPI000237D38B | K   I   L N   R   L F   I   K   A   L   E   V   V   G   K   K   V   V   R   S   Q   T   G     |
| UniRef90_UPI00035FA972 | P   A   L H   E   L T   Q   A   L   H   T   G   K   R   V   V   H   T   E   T   G             |
| UniRef90_UPI00037ED455 | K   T   L H   E   L M   Q   Q   A   L   R   V   G   K   R   V   H   A   E   T   G             |
| UniRef90_D4H6I3        | T   F   I R   K   L E   E   F   T   I   K   T   T   K   K   V   V   R   T   N   T   G         |
| UniRef90_UPI00047D09E9 | K   V   L S   R   M   F   L   D   A   I   S   L   G   K   K   V   V   R   A   T   T   G       |
| UniRef90_UPI000476A314 | P   A   L H   E   L A   Q   S   A   L   H   A   G   K   R   V   V   H   T   E   T   G         |
| UniRef90_A2C1K4        | P   I   L N   R   L L F   L   T   Q   A   V   S   T   G   K   R   V   V   R   S   E   T   N   |
| UniRef90_D5MN37        | Q   I   L N   A   L M   D   R   A   L   R   V   V   A   K   R   V   V   R   T   E   T   G     |
| UniRef90_UPI000367B7DE | R   V   L H   E   L L Q   T   A   L   R   V   V   G   K   R   V   H   A   E   T   G           |
| UniRef90_I4D533        | K   A   I N   V   F   F   Q   T   A   L   A   V   V   G   K   R   V   V   R   T   E   T   Q   |
| UniRef90_Q7NLA8        | R   V   L N   Q   L F   K   T   A   L   T   A   G   K   R   V   V   R   S   D   T   N         |
| UniRef90_M1M0F5        | T   Y   L Y   K   L F   Q   F   S   F   S   V   V   S   K   E   V   V   R   T   H   T   D     |
| UniRef90_UPI00036468BE | T   G   L N   A   L F   Q   H   A   L   R   V   V   G   K   R   A   R   A   E   T   G         |
| UniRef90_K4KJ35        | S   P   L H   A   A   F   Q   Q   V   F   S   V   V   A   K   K   V   V   R   T   E   T   A   |
| UniRef90_R4LP21        | R   L   L H   E   L M   Q   Q   T   L   R   V   V   G   K   R   A   H   A   E   T   G         |
| UniRef90_K2BE27        | S   L   F H   R   L F   Q   Q   V   F   S   V   V   A   K   E   I   R   T   V   T   A         |
| UniRef90_R5GK31        | V   Y   L N   T   F   F   R   M   A   V   T   G   A   K   K   V   V   K   T   E   T   E       |
| UniRef90_W7DJ24        | T   I   L N   Q   L F   R   D   S   V   H   F   A   K   N   I   H   H   T   T   M   K         |
| UniRef90_F4FEJ6        | R   L   L H   E   L M   Q   Q   A   L   R   V   V   G   K   R   A   H   S   E   T   G         |
| UniRef90_UPI0004182278 | T   P   L D   R   L F   Q   Q   S   F   A   V   V   A   K   R   V   V   R   T   D   T   R     |
| UniRef90_C4N417        | P   I   L D   R   C   L   T   M   A   F   R   G   A   K   R   V   V   R   S   E   T   D   V   |

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|                        |   |  |  |  |
|------------------------|---|--|--|--|
| UniRef90_UPI0002E0D846 | H I V V V G L S H R T A P V E V R E Q L S I P D E D S L V S L K N S S E I L         |  |  |  |
| UniRef90_UPI000302AE42 | H V I A L S L N Y R K A S V V E E R E L V A F E D E E A L H R L R E Q K S S I L     |  |  |  |
| UniRef90_UPI00036F6EDA | N L L T V G L S H Q S S P V R M L E R V A V G A E D L L H E L L R K E H V S         |  |  |  |
| UniRef90_F4CZS1        | S V L V V G M S H R T A P V E V R E R A A L D P V V A L P V L L R T L G             |  |  |  |
| UniRef90_D8EW01        | M P K I I N I G M N H E T A P V E L R E C L A V E A Q K A L G L M R D L D V V R     |  |  |  |
| UniRef90_G8NA12        | P L Y L V G L S H K T A P V E V R E R A A L D P V V A L P V L L Q K L L Q V S       |  |  |  |
| UniRef90_E3FZX7        | E L L C L G L S Y R T A P V E L R E R L A L P E P R Q V E L L Q K L L Q V S         |  |  |  |
| UniRef90_R7Y197        | S V L V V G V S H K S A P V E V R E R A A L D P V V A L P V L L Q K L L Q V S       |  |  |  |
| UniRef90_UPI0003C7EC5B | S V L V V G M S H R S A P I D V L V E R A R A S M D T D D L S H R V L E S P Y I T   |  |  |  |
| UniRef90_B8G2M3        | S I T I G L N H K T A P V E I R E K V S F H P S E A L M E L N E S A L N             |  |  |  |
| UniRef90_Q2JS1         | S L L V V G L N H Q T A P T S L L E R T S V S A E D I L H D L L A E G T H V S       |  |  |  |
| UniRef90_F1YIQ9        | S V L L V G V S H R S A P V E L R E R L A L D A N K L V D D L M G S E H V G         |  |  |  |
| UniRef90_W9QRH5        | S N I F V M G L N V R T A P V E L R E K F N I P E P Q A I S E L C A L N H I E       |  |  |  |
| UniRef90_F4HEI0        | I I L V L G I N H K T A T V A L R E R K V S F D D D Q L A L Q Q L Q S E L A E Q     |  |  |  |
| UniRef90_UPI0003706F29 | S I V V V G I S H H S S S V A F R E R F S F A E D E A L R Q L T D S G L A Q         |  |  |  |
| UniRef90_E0XY24        | S L R L V G W S F H G T P V E L R D R L S L G E T A Q I E R L R T R H G V           |  |  |  |
| UniRef90_N9CJR9        | S F F A L G V N H Q T A S V E L R E Q I A F N P E K L L A E Q S Q H P E L N A       |  |  |  |
| UniRef90_A0YF37        | L I A L G I N H K T A N V A L L R E R V A F A P E E A I L Q D V L R D A K L A E     |  |  |  |
| UniRef90_B4WJT3        | N I A V V G L S H Q T A P V E I R E K L S I P S A Q A I A H L G N S P T I E         |  |  |  |
| UniRef90_UPI0003955380 | A L G I N H T T A P V D I R G R F A F A L D K I L S G V H S H A G V                 |  |  |  |
| UniRef90_C5CXW2        | E L L C L G I S H K T A P V A V R E R L A F T A Q E L C R E L V S G D A I R         |  |  |  |
| UniRef90_UPI0004121A1C | M S N L F V I G L S W R T A P V A V L L R E K L L A F A D T E V L S A V T T P N V G |  |  |  |
| UniRef90_D0LUE0        | S S I I A I G L T H N A P V E L R E K L A V P E A E A I E E L C S Y P H I E         |  |  |  |
| UniRef90_M1UX99        | I G I I G L S H K S A P V E V R E R Y A F N N E D I K K S I L A H Q Q I D           |  |  |  |
| UniRef90_E1Z3K3        | L M V V G L S H R T A S V E V L L R E R A A F D A E E V L R A L T A S P H V D E     |  |  |  |
| UniRef90_UPI000255D927 | N L L V V G I S H R S A A V E T L L R E R L A V D D E R M A Q R L L R G G E V       |  |  |  |
| UniRef90_A6W5L7        | M T Q V V V V G L S H R T A S L D M R E A V S F S P E Q L E Q A Y A D L A G V D S R |  |  |  |
| UniRef90_UPI00040440DD | S V L V V G M S H R S A P V A L L E R L L S V D G E E T N A E L V A T S S L S       |  |  |  |
| UniRef90_M2XF19        | I V L L G V N H Q T A P V A V R E R Y A F N N E D I K K S I L A H Q Q I D           |  |  |  |
| UniRef90_UPI0004717ED1 | L A A V G L S H R T A S L D M R E A V S F S P E Q L E Q A Y A D L A G V D S R       |  |  |  |
| UniRef90_U7K0Z7        | S V L V V G M S H R S A P V A L L E R L L S V D G E E T N A E L V A T S S L S       |  |  |  |
| UniRef90_E8RB78        | I V C I G L N H Q T A P V A V R E R Y A F N N E D I K K S I L A H Q Q I D           |  |  |  |
| UniRef90_UPI00038134A1 | Q L L V L G L N H Q T A P V A V R E R Y A F N N E D I K K S I L A H Q Q I D         |  |  |  |
| UniRef90_UPI000479F4E2 | Q L L V L G L N H Q T A P V A V R E R Y A F N N E D I K K S I L A H Q Q I D         |  |  |  |
| UniRef90_W4LD06        | U n i t e d   S t a t e s   o f   A m e r i c a                                     |  |  |  |
| UniRef90_D9R7W2        | M V V V G L N H K T A P V A V R E R Y A F N N E D I K K S I L A H Q Q I D           |  |  |  |
| UniRef90_V7CLW9        | M Y C I G M S V S H K K A S V N I R E R F A F H E K E K I E R L M R K E A V T E     |  |  |  |
| UniRef90_Q5X2V4        | I V C I G L N H Q T A P V A V R E R Y A F N N E D I K K S I L A H Q Q I D           |  |  |  |
| UniRef90_UPI000369526A | F V A C G L N H K T A P V A V R E R Y A F N N E D I K K S I L A H Q Q I D           |  |  |  |
| UniRef90_F9N6C2        | Q L L V L G L N H Q T A P V A V R E R Y A F N N E D I K K S I L A H Q Q I D         |  |  |  |
| UniRef90_UPI0003B6ABC7 | Q L L V L G L N H Q T A P V A V R E R Y A F N N E D I K K S I L A H Q Q I D         |  |  |  |
| UniRef90_F5LAK1        | H L L T V S L N Y K R A P V E L R E R F A L T K E E A I L D Q L Q K T K S I L       |  |  |  |
| UniRef90_UPI000380FB8E | M G I N H T T A P V D L R G R F A F A V D Q M L H G L R E S F G T Q                 |  |  |  |
| UniRef90_D0J057        | Q L V V L G L N H T A P V D M R G R F A F A V D Q M L H G L R E S F G T Q           |  |  |  |
| UniRef90_E1L4F1        | S S I A V I G L S V H T A P V E V R E R F S F E K N E A L N R L Y E Y E K I S S     |  |  |  |
| UniRef90_M0U9N4        | R F T V I G W N F R K T P V E I R D S L A L T P K E Q V E L G L K R F N L L G S     |  |  |  |
| UniRef90_UPI0002897CE2 | Y L I A L G I N H R T A P V E V L R E R L A F S R S E V A T E L R R L P S L S       |  |  |  |
| UniRef90_K4LIE7        | S V L A V G L S H R S S P V A L L E R V A L N G E R A V G E M V G S D A V           |  |  |  |
| UniRef90_J7L9W4        | S S I V V I G L S H T A P V E M R E K L A I P E A E W P R A I A E L C G I E         |  |  |  |
| UniRef90_V4MUX0        | S I L I V L G L N H R S A P V V N V R E V F S F D K S E A I N H V Y E H E Q V A D   |  |  |  |
| UniRef90_R5BZZ1        | L L L A L G L N H K S A H V S L R E R V A F A P E E A L Q D L L T T A A I D         |  |  |  |
| UniRef90_UPI000370B912 | S V L V V G M S H R S A P V A L L E K L S M D E S V R H Q T A L A Q P A L T         |  |  |  |
| UniRef90_E0DC45        | S I L I A L G L N H K T A S V D V R G K V A F D D I K A F M Q I Q E R A L A E       |  |  |  |
| UniRef90_J5HRH8        | S V L L V G L S H R S A P V S V L E K V A I T D S D L I D R L L T S S H V S S G     |  |  |  |
| UniRef90_H6R3C9        | S I L I V I G L S H R G A P V E L L E R V V P A T D K F L T D A V D C P H V G       |  |  |  |
| UniRef90_UPI00035F998A | M Y C I S V N Y K N S D V I R K K L A F S E K E F L T E L I N G K T V S             |  |  |  |
| UniRef90_R6N719        | Y L M C V S L N Y K N Q L P I E L I R E K F S F A D E I P K A N R A E K S I L       |  |  |  |
| UniRef90_F8DPR5        | Q K I H L F G L S H K T A E V E I I R E K F A L T N P V S L E L I S K D G P V Y     |  |  |  |
| UniRef90_UPI000316251B | Q I Q V V G I N H T A P V D L R G R F A F A V D Q M L H G L R E S F G T Q           |  |  |  |
| UniRef90_D6SK08        | R L F V T G L D H S S P V E V R E R L A F R P S Q A L A A L R G E V A L R           |  |  |  |
| UniRef90_A1W4B9        | U n i t e d   S t a t e s   o f   A m e r i c a                                     |  |  |  |
| UniRef90_B8F4X6        | U n i t e d   S t a t e s   o f   A m e r i c a                                     |  |  |  |
| UniRef90_B1VEJ5        | I L I A L G L N H T A S V D S S L R E K V A F V E D K A F E Q I R D Q S L A F       |  |  |  |
| UniRef90_UPI00046F88C7 | V L L V G L S F R S A P V V S L L E Q V S T V D T D L P K A L L D H D S L           |  |  |  |
| UniRef90_UPI000462F813 | M E H I Y L F G L N H K T A G V E I I R E A F A L G E R P K L G E L L V H A H L     |  |  |  |
| UniRef90_C8PYZ5        | Q L L V I G L N H K T A P V A M R E Q L A F A A E D L P I A L L D S L K A I I Q     |  |  |  |
| UniRef90_D3D315        | S L L A V G L N H R T A P T S L L E L A A V S A D E V L H D L V A A D H V S S       |  |  |  |
| UniRef90_W5XY11        | M L V V G M S H Q S A P V A V A L L E R L S M D D N D T C E V L T Q K P S L S       |  |  |  |
| UniRef90_A8UBF4        | I I L Y G V S H K T T P V E I R E H T I E E Q E Q L A E I K S F S G V K Y           |  |  |  |
| UniRef90_B2V771        | I F S T G F N Y H T A P V E I L R E K V A I T D S D L I D R L L T S S H V S S G     |  |  |  |
| UniRef90_B0K2L3        | I N N I K M V G V D K D T P L E L L E R K V S F K D I G E A L I K L K E L G L E     |  |  |  |
| UniRef90_I3VVW0        | I N N I K M V G I D Q S I P E I I R E R V A F N K D D A A L N V L K E N G G L D     |  |  |  |
| UniRef90_R6RUB2        | M Y C I S I V N H K N S D L K I V R Q F A F S E D K A L L N C L I I S G I N         |  |  |  |
| UniRef90_D3F2Z7        | M S E V L G I G V S H K T A P V A V R E R L A L T P E A F L G V A D V Q             |  |  |  |
| UniRef90_A0LRF2        | S L L V V G V S H R G T P L S L L E R A V L D S D Q A L D D L V G S P V V R T       |  |  |  |
| UniRef90_UPI00036B0FE9 | S V L V V G M S H R S A P V V S L L E Q L S M D D D A A I I R T L I T R P S L       |  |  |  |
| UniRef90_R7GQW8        | S I F M I G I D N M A P V D V R A Q F A F T R K E A L R R L K E E A G I C           |  |  |  |
| UniRef90_E8U4K5        | D F A V V G L N H K T A P V E R E R A A T V G E Q D A I L A H L A R H A S           |  |  |  |
| UniRef90_M1D2W4        | S N I M V I G L N H T A P V E I R E K V S I P E S E A I R E L C S L N H I E         |  |  |  |
| UniRef90_UPI0003B4E934 | S V L V V G M S H Q S A P V V A L L E Q L S M D N H D T C C S R L V D C S A L S     |  |  |  |
| UniRef90_A0A22P7U77    | S S I V V I G L N H T A P V E I I R E K L S I P E Q V I S E L C A L N H I E         |  |  |  |
| UniRef90_UPI00039FBBC6 | M L V V G M S H R S A P V V A L L E R K V S M D D D N Q T T S A L V E R Q S L       |  |  |  |
| UniRef90_UPI000255EC68 | S V L V V G L S H R T A P V E I R E R A A V S E E E S I L S H L S L H A R           |  |  |  |
| UniRef90_Q8D2K8        | S L L V F G I S Y K T A P V E L R E R V I F S P E N A L N N L L K K S D I L         |  |  |  |
| UniRef90_C7N5K9        | S M V T M G M S Y K T A P V E C R E R V A V P A E E I I Q A D I S C E D I D         |  |  |  |
| UniRef90_R5XAK6        | N I G V V G V S H N L A P V E V R E A V S F T D T K K I E A I L L D S E I D         |  |  |  |
| UniRef90_UPI00046D6986 | N L L V V G L S H H S A P V E S A L E Q L A F S D S E A V V G R L I D G G A V S     |  |  |  |
| UniRef90_UPI00037B0920 | D F A V V G L N H Q T A P V E V R E R A A V S E E E S I L S H L S L H A R           |  |  |  |
| UniRef90_UPI0000E0E15E | V I A L G I N H P A P V S L R E R V I F S P E N A L N N L L K K S D I L             |  |  |  |
| UniRef90_U5CRN4        | I K M I G I D K D A P L K T R E K A S L K N F E R V H E L K K L G F Q               |  |  |  |
| UniRef90_W0JGE1        | I D N V Y L V G L N W K T A P V N V R E A F V F E N H E R A K D I K E A F D I A     |  |  |  |
| UniRef90_R7CM72        | S I S M I G I D H N M A P V D I R A K F A T K K E A M E K I K N Q N G I Y           |  |  |  |

UniRef90\_UPI0002E0D846  
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 UniRef90\_F1YIQ9  
 UniRef90\_W9QRH5  
 UniRef90\_F4HEI0  
 UniRef90\_UPI0003706F29  
 UniRef90\_E0XY24  
 UniRef90\_N9CJR9  
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 UniRef90\_B4WJT3  
 UniRef90\_UPI0003955380  
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 UniRef90\_UPI0004121A1C  
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 UniRef90\_M1UX99  
 UniRef90\_E1Z3K3  
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 UniRef90\_UPI00040440DD  
 UniRef90\_M2XF19  
 UniRef90\_UPI0004717ED1  
 UniRef90\_U7K0Z7  
 UniRef90\_E8RB78  
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 UniRef90\_W4LD06  
 UniRef90\_D9R7W2  
 UniRef90\_V7CLW9  
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 UniRef90\_F5LAK1  
 UniRef90\_UPI000380FB8E  
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 UniRef90\_B0K2L3  
 UniRef90\_I3VVW0  
 UniRef90\_R6RUB2  
 UniRef90\_D3F2Z7  
 UniRef90\_A0LRF2  
 UniRef90\_UPI00036B0FE9  
 UniRef90\_R7GQW8  
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50            60            70            80

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E | V | S | I | L | S | T | C | N | R | L | E | I | Y | S | L | V | K | D | S | I | K | E | F | L | S | D | E | L | E | P | H | L | F | D | F | R | Q | E | D |
| E | A | V | L | L | S | T | C | N | R | T | E | I | Y | V | V | S | D | Q | V | H | T | K | F | I | S | D | W | F | G | L | E | F | E | V | K | V | A | D |   |
| E | A | L | L | V | A | T | C | N | R | V | E | I | Y | V | A | V | E | D | D | V | T | S | V | L | A | R | H | S | A | D | H | L | Y | V | H | Y | A | G |   |
| E | V | V | L | L | A | T | C | N | R | V | E | I | Y | A | A | V | V | D | A | V | S | G | V | L | A | R | H | S | G | D | H | L | Y | V | H | Y | A | A |   |
| E | G | F | F | L | S | T | C | N | R | V | E | T | L | I | V | A | E | E | K | I | G | S | I | P | V | N | D | F | S | P | F | L | Y | T | Y | Q | N | M |   |
| E | G | V | V | V | S | T | C | N | R | T | E | I | Y | G | V | G | N | P | E | A | A | W | A | F | L | R | G | R | G | V | H | L | Y | R | Q | G | V |   |   |
| E | V | V | L | V | S | T | C | N | R | V | E | I | Y | V | T | A | R | E | E | L | S | Q | L | G | G | P | E | T | L | S | H | L | Y | M | H | H | G |   |   |
| E | A | T | V | I | A | T | C | N | R | L | E | I | Y | V | A | D | V | D | R | F | H | A | G | E | S | T | E | A | L | V | P | H | L | Y | V | H | D | D |   |
| E | S | V | V | I | S | T | C | N | R | V | E | I | Y | V | E | A | E | A | E | H | A | G | L | T | R | E | E | L | V | P | H | L | Y | V | H | D | D |   |   |
| E | G | V | V | L | S | T | C | N | R | L | E | I | Y | A | A | T | P | D | Q | L | S | R | I | C | G | I | H | L | Y | V | H | H | E | A | R |   |   |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | E | G | V | A | D | I | S | D | Q | L | S | R | I | C | G | I | H | L | Y | V | H | H | E | A |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F | H | P | Q | V | I | G | R | S | G | D | H | L | Y | V | H | H | E | A |   |   |
| E | A | V | V | L | S | T | C | N | R | V | E | I | Y | A | V | V | D | A | F |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

|                        |   | 90      | 100                                     | 110   | 120 |
|------------------------|---|---------|---|---|-----|
| UniRef90_UPI0002E0D846 | A | V L H   | L M K V S A G L D S L V L G E G Q I     | L S Q V K K M M R L G Q D F H S T G               |     |
| UniRef90_UPI000302AE42 | A | I H H   | L Y R V T A G L D S M V L G E T Q I     | L G Q I R E A F T A Q Q E H T T G                 |     |
| UniRef90_UPI00036F6EDA | A | V E H   | M F S V A S G L D S M V V G E A Q I     | L G Q L R Q A Y S D A D R A G T V G               |     |
| UniRef90_F4CZS1        | A | V Q H   | L F A V S S G L D S M V I G E P Q I     | L G Q I K D A Y L Q S T R T K M S G               |     |
| UniRef90_D8EW01        | A | V T H   | I F K V A S S L D S M V I G E A Q I     | L G Q V R E A L F L A R K H R A T E               |     |
| UniRef90_G8NA12        | A | L R H   | L Y R V A A G L D S L V V G E A Q I     | L G Q V K E A Y E L G V S T G S V                 |     |
| UniRef90_E3FZX7        | A | L E H   | L F R V A S S L D S M V V G E G Q I     | L G Q T R E A L L R L G Q E V G S V               |     |
| UniRef90_R7Y197        | A | V S H   | F N V A S G L D S M V V G E G Q I       | L G Q V V R Q S L Q S A Q A E S T V               |     |
| UniRef90_UPI0003C7EC5B | A | V A H   | F S V A A G M D S M I L G E S Q I       | L G Q V V R Q S L Q S A Q A E S T V               |     |
| UniRef90_B8G2M3        | S | V R H   | L F R V V A G L D S M V M G E T Q I     | L G Q V A E A Y E K S S Q L N L S                 |     |
| UniRef90_Q2JFS1        | A | I G H   | F S V V C G L D S M L V G E S Q I       | L G Q V R T A F R A G Q A A G V A G               |     |
| UniRef90_F1YIQ9        | A | V E H   | F T V A A G L D S M V V G E Q Q I       | L G Q V R T A Y S D A D S N Q S A G               |     |
| UniRef90_W9QRH5        | A | T Q H   | F E V A S G L D S L V L G E G Q Q I     | L A Q V V K Q V V K V G Q G V S G F G             |     |
| UniRef90_F4HEI0        | C | V T H   | M R V A C G L D S L I L G E P Q I       | L G Q V K Q A F Q F S Q Q H S A I                 |     |
| UniRef90_UPI0003706F29 | S | V Q H   | L F R V A S S L D S L V L G E T E I     | L G Q L K K A Y H T A K E M G F T G               |     |
| UniRef90_E0XY24        | A | V R H   | L F R V T S S L D S M V L G E P Q I     | S G Q V K D A Y R F Y A K V G W T                 |     |
| UniRef90_N9CJR9        | A | V S H   | L M R V A S G L D S L M L G E P Q I     | L G Q V K T A L S L A K D S H T V                 |     |
| UniRef90_A0YF37        | A | L R H   | M I Q V A S G L D S M V M G E P Q I     | F G Q I K S A F A V A Q E A E S V                 |     |
| UniRef90_B4WJT3        | A | V M H   | L M R V A A G L D S L V L G E G Q Q I   | L S Q V K H A L S L A Q Q H K G I                 |     |
| UniRef90_UPI0003955380 | A | A R H   | A F R V A S G L D S M V L G E A Q I     | L G Q M K N K A N V R A A E E A G S L             |     |
| UniRef90_C5CXW2        | A | A R H   | V F R V A S G L D S M V L G E A Q I     | L G Q M K D A V R A A E T A G A L                 |     |
| UniRef90_UPI0004121A1C | A | A R Q H | Y R V V S G L E S M I V G E A E I       | Q G Q T K R A Y E A A L E A G T T                 |     |
| UniRef90_D0LUE0        | A | V R H   | H A F Q V A S A L D S L V V G E A Q I   | L G Q L K A A Y G V A A S T G T A G               |     |
| UniRef90_M1UX99        | A | A E H   | M L V V T S G L D S M V V G E Q Q I     | I I G Q V V R N A Y Q A A S A S G S V             |     |
| UniRef90_E1ZK3K        | A | T G H   | L L R V S G G L D S L V M G E G Q Q I   | L A Q V V K Q V H K V G Q N C P G F G             |     |
| UniRef90_UPI000255D927 | A | V I H   | L F R L I S G L E S M V F G E Y Q I     | L V S Q I K D A M E Y A R E L G A M D             |     |
| UniRef90_A6W5L7        | G | V E H   | L F K V A C G L D S M A V G E S Q I     | L L G Q L R L A L R G L H E R G L A G             |     |
| UniRef90_UPI00040440DD | A | V A H   | V F R V A A G L D S M V A G E P Q I     | L L G Q L R D A Y E A A R E A D L V G             |     |
| UniRef90_M2XF19        | A | V W H   | I F R V A G G L D S L V V G E G Q Q I   | L S Q M K Q C Y Q L S C K K G Q A G               |     |
| UniRef90_UPI0004717ED1 | A | A R H   | M R V S C G L D S M V L G E P Q I       | L G Q V V K S G Y Q S A Q R F A A L               |     |
| UniRef90_U7K0Z7        | A | A E H   | M M V V A S G L D S M V V G E Q Q I     | I I G Q V V R K A Y Q R A V A A N T A G           |     |
| UniRef90_E8RB78        | A | V E H   | L F L V A A S L D S M I V G E A Q I     | L L G Q L K E A Y R H A T K M G S S               |     |
| UniRef90_UPI00038134A1 | A | V R H   | A F R V A S G L D S M V L G E P Q I     | L L G Q M K D A V R T A S D T G T L               |     |
| UniRef90_UPI000479F4E2 | A | A R H   | A F R V A S G L D S M V L G E A Q I     | L L G Q M K D A V R V A E Q A G A L               |     |
| UniRef90_W4LD06        | A | V R H   | L F R V A A S L D S L V V G E P Q I     | L L G Q V V K A A Y M A A R Q A G R T             |     |
| UniRef90_D9R7W2        | A | I G H   | L F K V A C G F D S M V L G E D E I     | L G Q Q A K E A Y Q S R D Q G A V                 |     |
| UniRef90_V7CLW9        | A | T R H   | L F E V A A G L D S L V L G E G Q Q I   | L A Q V V K Q V V K A G E G V P G F G             |     |
| UniRef90_Q5X2V4        | G | I K H   | T L R V A S G L D S M M I G E P Q I     | L G Q M K Q A Y Q H A C R L G T V K               |     |
| UniRef90_UPI000369526A | A | L T H   | W V R V A S S L D S M I L G E P Q I     | L L G Q I K Q A V H Q A Q N L G N I N             |     |
| UniRef90_F9N6C2        | C | I S H   | L F R V A S S L D S L V L G E G Q Q I   | L S Q L K M A Y I S S Y S K G L T A G             |     |
| UniRef90_UPI0003B6ABC7 | A | V Q H   | L Y R V A A G L D S L V I G E T Q I     | Q G Q V V K R A W Q A S S E R L S G               |     |
| UniRef90_F5LAK1        | A | I E H   | F L R L A V G L D S M V I G E T Q I     | L G Q V K E A F F A A Q Q A G A T                 |     |
| UniRef90_UPI000380FB8E | V | A R H   | A F R V A S G L D S M V L G E A Q I     | L L G Q M K D A V R A A E S A G A L               |     |
| UniRef90_D0J057        | V | A R H   | A F R V A S G L D S M V L G E A Q I     | L L G Q M K N A V R A A E T A G A L               |     |
| UniRef90_E1L4F1        | C | I E H   | F R V S A S L D S L V L G E G Q Q I     | L S Q L K G A Y I A A Y S A G F T                 |     |
| UniRef90_M0U9N4        | A | T R H   | F E V S A S G L D S L V L G E G Q Q I   | L A Q V V K Q V V R V G Q G S R G L               |     |
| UniRef90_UPI0002897CE2 | G | V R H   | L L R V A S S L D S M V L G E P Q I     | L L G Q L K D A F Q S F N E A D L A G             |     |
| UniRef90_K4LIE7        | V | V R H   | F R V T V G L D S M V L G E T E I       | Q G Q V I E A Y E Q A C A L K T G N               |     |
| UniRef90_J7L9W4        | V | V Q H   | F S T C G L D S M V V G E G Q Q I       | L G Q V V R D S L K E G Q E T G S V               |     |
| UniRef90_V4MUX0        | V | T Q H   | L F E V S A S G L D S L V L G E G Q Q I | L L A Q V V K Q V V K L G Q G V N G F G           |     |
| UniRef90_R5BZZ1        | L | L A H   | F N V A S S L D S L V L G E G Q Q I     | L L S Q L K M A Y I S A Y S R G L T               |     |
| UniRef90_UPI000370B912 | A | L R H   | M V A V S S G L D S M V L G E P Q I     | F G Q M K S A Y A V A Q E A G A I                 |     |
| UniRef90_E0DC45        | A | A E H   | M L V A A G G L D S M V T G E Q Q I     | I I G Q V V R T A Y Q Y A A N S G T V             |     |
| UniRef90_J5HRH8        | A | R H     | M S V A C G L D S L I L G E P Q I       | I I G Q V V R K Q A Y Q F A S Q H Q S I           |     |
| UniRef90_H6R3C9        | A | A E H   | F A V S S G L D S M V I G E Q Q I       | V L S Q I V R S A Y A T A D A Q Q A V             |     |
| UniRef90_UPI00035F998A | A | V S H   | L F S V V C G L D S M V V G E T Q I     | L L G Q V V K A G L R R A Q D A E T               |     |
| UniRef90_R6N719        | A | V M H   | F V V S G L E S M V I G E D E I         | L L G Q M K N A F Q V A T D Q G T T               |     |
| UniRef90_F8 DPR5       | A | A S H   | F R V I V G L D S L I K G E P Q I       | L L G Q M K N A F Q V A T D Q G T T               |     |
| UniRef90_UPI000316251B | V | F D H   | F R V A A G L D S M V L G E T Q I       | L L G Q V V K E A Y E L S Q K Y G V T             |     |
| UniRef90_D6SK08        | A | V R H   | F T V A A S L D S M V L G E P Q I       | L L G Q L K D A Y R K A V E E R S T               |     |
| UniRef90_A1W4B9        | V | A R H   | A F R V A S G L D S M V L G E A Q I     | L L G Q M K D A V R A A E G A G A L               |     |
| UniRef90_B8F4X6        | A | A R H   | M S V A C G L D S L I L G E P Q I       | L L G Q V V K Q A Y Q E S E E F S G V             |     |
| UniRef90_B1VEJ5        | A | V E H   | M L N V A S G L D S M V L G E Q Q I     | L L G Q L R G A Y E E S K G A G T                 |     |
| UniRef90_UPI00046F88C7 | A | V E H   | L F A T V S G I N S L V V G E S Q I     | Q R Q V V R E A A Q V A R E C Q Q A L             |     |
| UniRef90_UPI000462F813 | A | V D H   | L F C V A S G L D S L V L G E P Q I     | L L G Q V V K A Y R H A V A S R T A G             |     |
| UniRef90_C8PYZ5        | A | L L H   | W V R V A S G L D S M I L G E P Q I     | V L G Q I K Q A V R Q S R A K E G I               |     |
| UniRef90_D3D315        | A | V S H   | L F S V V C G L D S M L V G E A Q I     | V R V A F R A A Q A A E V                         |     |
| UniRef90_W5XY11        | A | A E H   | L L T V A A G L D S M V V G E Q Q I     | I I G Q V V R T A Y Q H A A E Q G A I             |     |
| UniRef90_A8UBF4        | A | A E H   | F N V A T G L D S L I I G E T Q I       | I I G Q V V R K Q A F A M A V E L K T S G         |     |
| UniRef90_B2V771        | A | I R H   | F R V V S S S L D S M V I G E P Q I     | V C Q F K D S F T K A K E Y K A V R               |     |
| UniRef90_B0K2L3        | A | V E H   | F R V A C G L D S M V V G E D Q I       | V S Q V V K E A I I D T A Q T F N S S G           |     |
| UniRef90_I3VVW0        | A | V E H   | F R V A S G L D S M V L G E D Q I       | L L G Q V V K E S L L M N S Q V N G I S S G       |     |
| UniRef90_R6RUB2        | A | I S H   | Y N V S G I D S M V I G E D E I         | L L G Q V V K R A Y A F A Q R C K T T G           |     |
| UniRef90_D3F2Z7        | A | A R H   | Y R V T S S G L E S M I V G E A E V     | I Q G Q V V Q G Q V V K R A Y D D A L A A Q S T G |     |
| UniRef90_A0LRF2        | A | V Q H   | F A V A A G L D S M I V G E H Q V       | V V G Q V V R D A F R L A Q E R G Y A G           |     |
| UniRef90_UPI00036B0FE9 | A | A E H   | M L M V T A G L D S M V V G E Q Q I     | I I G Q V V R H A Y Q L A S Q S A T A G           |     |
| UniRef90_R7GQW8        | A | V E H   | F Y L T S G L K S Q I L G E D Q I       | L T Q V K D A L S M S R D E F T T D               |     |
| UniRef90_E8U4K5        | A | A T H   | Y R V A A G L D S L V L G E D T Q I     | Q G Q V V K R A W Q D A H G R G H A G             |     |
| UniRef90_M1D2W4        | A | T Q H   | F E V A A G L D S L V L G E G Q Q I     | L L G Q V V K Q V V K N G Q G E R G F G           |     |
| UniRef90_UPI0003B4E934 | A | A E H   | M T V T S G L D S M V I G E Q Q I       | I I G Q V V R T A Y Q A A T E E G T V G           |     |
| UniRef90_A0A22PU77     | A | T Q H   | F E V S S S G L D S L V L G E G Q Q I   | L L S Q V V K Q V V K G G Q V P G F D             |     |
| UniRef90_UPI00039FBCB6 | A | A E H   | M M T V A S G L D S M V V G E Q Q I     | I I G Q V V R T S Y Q D A Q E R G T V G           |     |
| UniRef90_UPI000255EC68 | A | V A H   | F L E L A C G L D S M A V G E S Q I     | V L G Q L R Q S L A A A Q R N G H L G G           |     |
| UniRef90_Q8D2K8        | A | V S H   | M R V T S G L D S M I L G E H Q V       | L L S Q V V K S A F R S L K N K N I S             |     |
| UniRef90_C7N5K9        | A | T E H   | F R V V C S L D S Q V L G E A Q I       | L L G Q T K R A F E A A S E A G T C N             |     |
| UniRef90_R5XAK6        | A | I Q H   | F F D V T A G L D S L V V G E D Q I     | V L G Q I K D A H E F C M K L G A T K             |     |
| UniRef90_UPI00046D6986 | A | I D H   | F R V V V S G L D S I A A G E D Q I     | L L G Q I R T A Y D R A V E S D Q V Q D           |     |
| UniRef90_UPI00037B0920 | A | V A H   | Y R V A A G L D S L V I G E T Q I       | Q G Q V V K R A W Q A A H A Q G L A G             |     |
| UniRef90_UPI0000E0E15E | A | L N H   | M R V A S G L D S L I L G E P Q I       | L L G Q V V K Q A V V S D A K R H D A L T         |     |
| UniRef90_U5CRN4        | A | V K H   | I F R V A A G L E S M V V G E D Q I     | L L S Q V V K E A L S K A Q E F E G S G           |     |
| UniRef90_W0JGE1        | A | I R H   | F E L S S G L D S Q V V G E T Q I       | L L S Q V V K D A Y R T T V V Y N L S G           |     |
| UniRef90_R7CM72        | A | V E H   | F Y L T S G L K S Q I I G E D Q I       | L T Q V V K D A L N A R E N F A A D               |     |

130                    140

|                        |   |
|------------------------|---|
| UniRef90_UPI0002E0D846 | P I L N R [L] T Q S [I] S A G K K V R S E T N L   |
| UniRef90_UPI000302AE42 | T [V] F N K L F K E A I T [V] A K R G H S E T D I |
| UniRef90_UPI00036F6EDA | K T L H E L A Q Q A L R V G K R V H S E T D I     |
| UniRef90_F4CZS1        | R [V] L H E L S Q Q A L R V G K R V H A S T G I   |
| UniRef90_D8EW01        | V I L N R [L] M H K A F H V A K R V R S E T D I   |
| UniRef90_G8NA12        | G L L E K A F Q S A [I] A L G K R A R S E T       |
| UniRef90_E3FZX7        | N V L T R [V] F A A A F G C A K R V R T E T A I   |
| UniRef90_R7Y197        | P A L N V L F Q Q A L R V G K R S H A E T D I     |
| UniRef90_UPI0003C7EC5B | T A L N V L F Q Q A L R I G K R G H A E T G I     |
| UniRef90_B8G2M3        | K I I H A I F Q N A L A V G K R V R S E T Q I     |
| UniRef90_Q2JFS1        | S A L S G L F Q A A L R V G K R A H S E T S I     |
| UniRef90_F1YIQ9        | S T L H E L A Q Q A L R V G K R V H S E T G I     |
| UniRef90_W9QRH5        | K R I G G L F K N A I T A G K R V R S E T N I     |
| UniRef90_F4HEI0        | T E L S R L F Q K T F S T A K R V R T E T E I     |
| UniRef90_UPI0003706F29 | R Q L N K I F Q K A F H V S K H I R S N T G I     |
| UniRef90_E0XY24        | K L L N P I F N K A F R A A K R V R S E T G I     |
| UniRef90_N9CJR9        | Q Q L N R I F E Y A F Y A A K R V R S E T A V     |
| UniRef90_A0YF37        | G E L S R I F P H V F T V A K K V R T D T A I     |
| UniRef90_B4WJT3        | R I L G R L L K D S I K A G K R V R T E T N L     |
| UniRef90_UPI0003955380 | T T L N Q L F Q R S F A V A K E E V R S A T E I   |
| UniRef90_C5CXW2        | S T L N Q L F Q R S F A V A K E V R T A T E I     |
| UniRef90_UPI0004121A1C | P M T N R L F T A A L Q T G K R V R S E T A L     |
| UniRef90_D0LUE0        | P I L G R C M E R A F G V A K R V R S E T G I     |
| UniRef90_M1UX99        | P A L H S L A Q T A L H T G K R V H T E T N I     |
| UniRef90_E1Z3K3        | R H L N G L F K Q A V T A G K R V R A E T         |
| UniRef90_UPI000255D927 | K V L N R L F K A L E V G K Q V R S R T G I       |
| UniRef90_A6W5L7        | G T L D R L L Q T A L R V G K R A H S E T R L     |
| UniRef90_UPI00040440DD | R H L H E L F Q Q A L R V G K R V H A E T E V     |
| UniRef90_M2XF19        | K V L K K L L N S A V A A A G K R V R S E T G I   |
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| UniRef90_E8RB78        | F I L N K L L H K S F S V A K R V R T E T R I     |
| UniRef90_UPI00038134A1 | G T L G Q M F Q R T F A V A K E V R S T T E I     |
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| UniRef90_D9R7W2        | Y E M N V L F Q R A F A C A K R I I K T D T N L   |
| UniRef90_V7CLW9        | R K I G G L F K Q A I S V G K R V R T E T N I     |
| UniRef90_Q5X2V4        | T Q L R P V F E Y I F R A S K R I I R T R S G I   |
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| UniRef90_F9N6C2        | S V F N I I F Q K A I A V G K R V R T M T G I     |
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| UniRef90_D0J057        | T T L N Q L F Q R S F A V A K E V R S S S T E I   |
| UniRef90_E1L4F1        | T V F N I L F Q R A I T G V G K K V R T N T G I   |
| UniRef90_M0U9N4        | K N I I D R M F K D A I T A G K R V R S E T N I   |
| UniRef90_UPI0002897CE2 | K L L H P L F T R A F S T A K R V R T E T S V     |
| UniRef90_K4LIE7        | K V L N T L F Q E A I I R L G K R I I R T I T G I |
| UniRef90_J7L9W4        | R V L N D L G Q R A L R V G K R A H T E T H L     |
| UniRef90_V4MUX0        | R N I I S G L F K H A I T A G K R V R T E T N I   |
| UniRef90_R5BZZ1        | P I F N I I F Q R A I S V G K K V R T V T G I     |
| UniRef90_UPI000370B912 | S Q L Y N V F P H V F S L A K K V R T D T A I     |
| UniRef90_E0DC45        | P Q L H G L V Q A A L R T G K R V H T E T D I     |
| UniRef90_J5HRH8        | T K L S R L F Q R T F S T A K R V R S E T E I     |
| UniRef90_H6R3C9        | R T L H E L A Q H A L R V G K R V H S E T G I     |
| UniRef90_UPI00035F998A | S V L N G V F Q H A L R V G K R A H T E T E I     |
| UniRef90_R6N719        | Y E L N M T F Q S A M A C A K K I I K T Q T A L   |
| UniRef90_F8DPR5        | V I L N H L F R Q A I T F S K R M H T E Y R V     |
| UniRef90_UPI000316251B | S I L H R L F R A A L T V G K R A H A E T A I     |
| UniRef90_D6SK08        | V I I N R M M H K S F S S A K R T R S E T         |
| UniRef90_A1W4B9        | T T L N Q L F Q R S F A V A K E V R T S T D I     |
| UniRef90_B8F4X6        | T N L S R L F Q K T F A T A K R V R S E T E I     |
| UniRef90_B1VEJ5        | R T L H D L T Q R A L L R T G K R V H S E T E I   |
| UniRef90_UPI00046F88C7 | P T L N A L F Q H A L A V G K R A R T S E T A I   |
| UniRef90_UPI000462F813 | V I T N R L C H K A F S V A K K V R T A T G I     |
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| UniRef90_D3D315        | G A L G A L F Q N A L R V G K R A H S E T S I     |
| UniRef90_W5XY11        | P R I H A L A Q S A L H T G K R V H S E T T I     |
| UniRef90_A8UBF4        | P I L N S L F N K A I I S F S K K M H T K T N L   |
| UniRef90_B2V771        | H I I L T R L F D K A L N V S K K I I R T S T G I |
| UniRef90_B0K2L3        | K I I L F K L F R D A V T L G K K A R T D T G I   |
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| UniRef90_R6RUB2        | Y E L N T V F Q A A I A C A K R I I K T E T A L   |
| UniRef90_D3F2Z7        | P L T N H L F R A A L T G K R V R S E T R L       |
| UniRef90_A0LRF2        | R D L H A I V Q D A L H A A R R V R A E T R I     |
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| UniRef90_R7GQW8        | S V L E V L F R M A V T A G K K I K T E           |
| UniRef90_E8U4K5        | A L L N K A A Q G A L A T G K R V R T E T G I     |
| UniRef90_M1D2W4        | R K I I S E L F K H A I I T A G K R V R T D T N I |
| UniRef90_UPI0003B4E934 | P R I H A L A Q A A I H V G K R V H S E T D I     |
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| UniRef90_UPI00039FBBC6 | P G L H A L A Q T S L R A G K R V H A E T E I     |
| UniRef90_UPI000255EC68 | S S L N P L L Q Q A L R V G K R A H A E T G I     |
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| UniRef90_C7N5K9        | D V M T E L F K S A L R L G K R A R T E T G I     |
| UniRef90_R5XAK6        | K V F N K L F R D A V T T S K E I K T I T K I     |
| UniRef90_UPI00046D6986 | R Q L H D L F Q R A L H T G K R V R T E T D I     |
| UniRef90_UPI00037B0920 | T L M N K V A Q G A L A A A G K R V R T D T G I   |
| UniRef90_UPI0000E0E15E | S Q F Q R I F D H T F Q V V A K K V R T D T D I   |
| UniRef90_U5CRN4        | K I I L N R I F R E A V T L G K R V R A E T G I   |
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| UniRef90_R7CM72        | G V L E V L F R M A A T A G K R I K T E           |

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|---|--|--|--|--|
| S L L A V G L N H T T A P V E L R E R L A V P R E Q I L S G L A E R A G L S         |  |  |  |  |
| L A V I G I N H E T A S V E T R E Q L A F S S K E L L V Q K L I E G Q P I K         |  |  |  |  |
| Q I A A I G L S H K T A T V E V R E K L A V Q E Q S V G R A I A A L P S L K         |  |  |  |  |
| N L L A L Y C T H Q T A P L S V R E R L A F A S G E A Y A A M R E R F P E T         |  |  |  |  |
| E F L C M G V S H R T A P L S V R E R L A L P E S Q Q V E L L R R L A Q A H         |  |  |  |  |
| S V L L F G V S H R S A P V S V I E Q L S T D E A E I I E L L L Q S S L V T         |  |  |  |  |
| H I V V L G M N H K T A S V E L R E R V S L S Q D Q L A E L R D S R T V T M         |  |  |  |  |
| M Y C L S V S H K T S N V V V R K K L A F P D E Q K L D D L Y Y S E N I S           |  |  |  |  |
| T Y F Y A I G L S Y K K A D A E V R G H F S L G D K Q A L L E Q A K A T G I E       |  |  |  |  |
| Q L L A L G L N H T T A P L S I R E A V A F S P E E A L R T T Y A R P G I R         |  |  |  |  |
| M S Y L I M A G I D Y E N S N V E T R E K V S F T P S R A Y E K I K S E G K I K Q   |  |  |  |  |
| D I V V V G A D H T T A P L E R E R L S C S A R Q V P Q V L S A A R Q I Q           |  |  |  |  |
| L L V V A G I N H K D T P L E I R E K G A F T L N E A I R T L L S E P D I A         |  |  |  |  |
| N V L V V G L S H R T A D L D T L E Q V A V T Q A D L L H E L Q Q S P D I A         |  |  |  |  |
| S V L V V G M S H R S A P V T L L E R L S M D D E D A A T S L V G Q Q S L S         |  |  |  |  |
| S V I V L G L S H R S A P V T L L E R L S M D D E D A A T S L V G Q Q S L S         |  |  |  |  |
| S F F A L G V N H Q T A S V E L L E R E Q I A F N P E D L L T E Q S H C Q N L N     |  |  |  |  |
| D R I V V I G L S H T A S V D L R E R L A V P E S E W K E A A A A C P S V N N       |  |  |  |  |
| P I L C I G L S H T A P V S V R E S H A F P T S E A I L Q M L H G Y D A V N S       |  |  |  |  |
| M S H R S A E V R D I L E R V A T D V P K V L G E L L A C P N V S                   |  |  |  |  |
| Q L K L L G L N Y K S A T V D I R E K I I S F P S Y N S L I S G L K T L E P D       |  |  |  |  |
| M I P L F I F G I N H D S A S I D V R E R V A F A P E S A L K S L V L H T P A M     |  |  |  |  |
| M R K I I Y M A G M S H K V A E I A I R E K F Y I P M D V K T E A L M H S P F D Q   |  |  |  |  |
| N I I S V G V N H K T A P I E I R E R I S L S E V Q A L S D I I S S G I A Q         |  |  |  |  |
| Q L L V L G L S A P V A M R E R A I F G S D I P I A L Q S L G A L S A               |  |  |  |  |
| F Y A I G L S Y K K A D A E I R G K F S L D E K A A L L E Q A K I N E I E           |  |  |  |  |
| Q V L L V G L S F R S A P V T M L E Q V S I A D A D M Q K M Q L E S D A L S         |  |  |  |  |
| Q L V V V G A H Q R T A P I S I R E R I A F A E A E L A Q A L S S R Q I A           |  |  |  |  |
| S S F Y A V G L S Y K K A D A S I R G K F S L D V P D A V T L D A K A Q G V D       |  |  |  |  |
| N L L T L G L S F R S A T V D I L R E K I L V F D T D W A I A E L A S R Y G C       |  |  |  |  |
| F C V V G I N H H V A P I E I R E K V H F K E T D I I E D S L L D E S I L           |  |  |  |  |
| E H F Y N I G V S Y K K A D A E T R G K F S V S K E N A L L K E A K N G I S         |  |  |  |  |
| M F P L F C L S V N H K N A G V E I R N K F S F S D D E F L L R I R E K G I A A     |  |  |  |  |
| I L L Y G V S H K T T P I L E I R E H Y T I E E P E Q L A E V L S F S G V K         |  |  |  |  |
| I L L Y G V S H K T T P I L E I R E H Y T I E E P E Q L A E V L S F S G V K         |  |  |  |  |
| M I G I D H S S M A P V D I R A F K A F T K K D A M E E L L Q E N E I S S E         |  |  |  |  |
| S V L A V G L S H R T A D V R T L E R A A V V S G P K L L D E L L G C A N V S       |  |  |  |  |
| E I A S L V I S H K K A S I D E I Q K A W H G D Y R L L I E R V L K Y P G I S E S   |  |  |  |  |
| I L L Y G V S H Q T T P I E I R E R Y T I K E D D V L T E I K A F N G V S           |  |  |  |  |
| S L L V L G V S H R T A P L A M L E K V V V A E S D L L S R I I G E G N V A E R     |  |  |  |  |
| S S I V V I G L S V H T A P V E M R E K L A I P E A E A I I G E L C G L N H I E     |  |  |  |  |
| S I L L V V G V N H R S G P L P L L E R L T I A P D D L G K A V A G R D S I R V     |  |  |  |  |
| E F I C I G V S H R T A P L G V R E R L A L P E A E V L Q R L A Q A P H V D D       |  |  |  |  |
| S S I I A I G L T I H N C P V E I R E K M A V P E D K A V A Q L C N F P H V E       |  |  |  |  |
| S I I I Y V N L D Y H R L P L A L R E Q F S F A A E Q L A Q A D Q Q E K S I L       |  |  |  |  |
| E I V V V G M D H R W A P L E I R E K V I A F T I K E G I A A L T A Y S E V A D     |  |  |  |  |
| S S I L L V I G L S H R N A S V E I R E R L A L S E D E D E T L A D T L R S A T V D |  |  |  |  |
| L L Q M I G L S H R N A S V E I R E R L A L S E D E D E T L A D T L R S A T V D     |  |  |  |  |
| I L L L S L S F K N T P Q K V R E Y F A F G D E D L L T L C S E E P I D             |  |  |  |  |
| I M V F G V T H K N S S I E L L R E K V A F S K Q Q A Y D A L K A S T F V E         |  |  |  |  |
| H L L A L G L N H T T A P L A I R E R V A F G P E E T A E T I E E S G H I T         |  |  |  |  |
| D I L L V V G L S H T A P V D L R E K L S I P E E A A I I A Q L Q N Y V H I E       |  |  |  |  |
| Q H F Y A I G L S Y K K A D A E T R G R F S L N E E Q A L K D A K A E G I D         |  |  |  |  |
| I V V V G L S H T A P I E V R E R L A V G R E A L L Q Q L V A H P A I G E           |  |  |  |  |
| S S I V V I G L S H T A P I E V R E R L A V G R E A L L Q Q L V A H P A I G E       |  |  |  |  |
| S S I S M I G L D H S R A S V D T R A R F S T K K N A V S A M K E D K D I L         |  |  |  |  |
| E L L A V V I S H E N T P I S I R E K V S F T K K K Q I L K Y I K Q N I A E         |  |  |  |  |
| E I T C M V I S H K K A P I D V L E K I I W Q K D R K V I V D M L S R K E I S S     |  |  |  |  |
| N L H V V S C N H Q S S G L A I R E R L A F S S A E Y Q E F H E R F P T S           |  |  |  |  |
| M I G I D H S D R A P V D L R A F T K K E A M E K L K E T A G I H                   |  |  |  |  |
| K S F Y C I G L S Y K K A D A S M R G L F S L S A E E L L D K A K N E N I E         |  |  |  |  |
| S I S M V G L D Y N K A S V D I R A Q F S T A A A A M E K L K E A P G I L           |  |  |  |  |
| L L Q L V G C Y S Y Q T T P V E I R E K Q L A F A A P E A I E G L Q D R F P N T     |  |  |  |  |
| S V L L V G G I S H R S A P V S V L E R I V A V T D P K L T D R M L A S A H I S     |  |  |  |  |
| S L L V L G L S H H H A P L D V L E R I V A F D T S A A S E L E A A E H V R         |  |  |  |  |
| F T V A G V N R R T G P V E L R E R L L Y V V E D E A A L L D R L Q A A G L A       |  |  |  |  |
| M S G I F L T G I N H T T A N A D I R E R L Y L S D P I A T L L A K L N Q F E       |  |  |  |  |
| K H F Y T I G L S Y K K A D A E I R G H F S L T E E Q R L L E Q A K E E G I D       |  |  |  |  |
| F Y S F G L S H H K A G I D I R E K V H F K D S D I I D E I L E N E G F D           |  |  |  |  |
| F Y A V G L S Y K K A D A E M R G K F S L D E K A K L L T Q A K N E G I E           |  |  |  |  |
| P F G G V V G L S H R T A P L E V V R S R V T I P P D A I F L A L A K A N D V P     |  |  |  |  |
| S S I V T V G L S I H N C P V E I R E K M A V P V P E D A V A E L C A Y P H I E     |  |  |  |  |
| L I S L A I D Y D K K S P I E V R S E F A L S G S M L Y R S I L A I D N V V         |  |  |  |  |
| M Y Y L V M A G I D Y K H S K L E T R E K V N F T S S R A F Q I K Q E G V L K       |  |  |  |  |
| M T P L H V I G L S H H N A A V V E R E K L S I P E A E A A N K L C E S G V I A     |  |  |  |  |
| S L L V I G L S H H T A P L S V L E A L S E R P D R A E A I G A S V L G A T         |  |  |  |  |
| I G L I S I N H K T A S L S R R E Q F A L G E E E A V Q W Q G E Q G L L             |  |  |  |  |
| S L V V M G L S H R S S P I D V L E R V A L D E V G A V G V A A G E N I A           |  |  |  |  |
| S L L A I G L S H R S A P M T V L E E A A L D A S E Q A T A L A A C C E N I R       |  |  |  |  |
| G V D H K R C P L E I R E K V S F T H D A A Y N K L K Q D N N V R                   |  |  |  |  |
| K H F Y A I G L S Y K K A D A E L R G H F S I T D E A K I L D E A K D E G I D       |  |  |  |  |
| N F Y A I G L N Y K K A D A E I R G N F S I S D K Q K I L T D A K E N G I P         |  |  |  |  |
| I L L L S L S F R N T P Q K I R E Y F A F G N E D L L K S L C S E E L I D           |  |  |  |  |
| N S F Y T I G L N Y K K A D A E A R G K F S L D E V A V L V E A K N Q G I D         |  |  |  |  |
| S L L V L G L S H H G A P M E L L E S A V L D Q A A R G R A V S S E H A V           |  |  |  |  |
| N I C M I G L D H S T A G V K I R E Q F S I T D E A R M Q I I N R Q P G V R         |  |  |  |  |
| F Y A I G L N Y K K A D A E I R G K F S I D A Q S K L L Q Q A K T E G I E           |  |  |  |  |
| F F V I G A T H H T A P L A V R E R L S L N A D A A A E V R R W P E L R             |  |  |  |  |

50                    60                    70                    80

|                        |   |
|------------------------|---|
| UniRef90_A6GI40        | E V V L L S T C N R V E V Y A V P S A P I V E A L A R A V R E H C F V R E R D G               |
| UniRef90_B2A1G4        | E A S V L S T C N R T E E V H F A G K N H I M T Y L L S D F S D D H L Y F I T D Q E           |
| UniRef90_L1IR65        | E A A V L S T C N R F E I I Y F V G I R E V T E Y L S K E L R S S L F M L S E D D             |
| UniRef90_UPI00029AEA49 | E A V M L V S T C N R V E E V Y M A S P R E L Q A L G G P E T M E H L Y E H R G E D           |
| UniRef90_S9R465        | E A M V L L S T C N R V E V Y A V V D A F H G S V L S E R S G M Y A Y V R Y A E A Q           |
| UniRef90_UPI00037769C7 | E S V V L S T C N R T E E V Y A L V N S I R A G Q D Y L L T R F S T Y F I Q G E Q             |
| UniRef90_T0C975        | E C L I L C T C N R T E E V Y F C G D E S S V K T V F D E L K K Y I C L F Y G D R             |
| UniRef90_D4L741        | S L I V T S T C N R T E E I Y G F A E H D N T Q G T V E E F Q K V A Y I H K N R E             |
| UniRef90_G2EF03        | E A L I L S T C N R T E F F L A A E N G D A A L H S L C F L P H T Y E Y R Q S D Q             |
| UniRef90_R7IBQ5        | E A V I V S T C N R S E I I Y G I S E K I N G E E Y L K N F Y S S F F L R T G F Q             |
| UniRef90_UPI00047A7E69 | E S M L I S S T C N R I L I Y A V C E D E S R E V A G E E L L E H C Y T F T G Q E E           |
| UniRef90_D6U6V3        | E V I I L S T C N R S E I I Y V S T R N I D A A E L T D F Y P A Y L F V K K E R E             |
| UniRef90_UPI00041479F0 | E V M L L S T C N R I E E V Y A I V E A F H S R V L A D K A G D N L Y V H Y A A A             |
| UniRef90_W9DS57        | E A M I I S T C N R L E E V Y S V T N S F H A E E I S D T L R G F L Y V R Y A D A             |
| UniRef90_UPI0003732757 | E P I V L S T C N R V E E V Y V A D A V T E I G E A L A A A T R E H L Y V H F D E R           |
| UniRef90_E3B7B5        | D M V V V S T C N R T E E V Y A M A E N A A V L N W L A Q T N S N H V Y R Y E N T D           |
| UniRef90_L9M981        | E V A L L S T C N R F E E V Y F A C A D E V T K F L S Q R S R S S H L F M L V E E D           |
| UniRef90_M1URF1        | E A V M L Q T C G R L E E I Y E R G A E Q I K T F L T Q F R H S Y L Y T H I L G R E           |
| UniRef90_E6Q6G1        | E A V L V S T C N R V E E V Y A V V D A F H A G L A A A D L Y E H L Y V H Y A A A             |
| UniRef90_UPI00047B1531 | E A L I L S T C N R T E E V I C V N P K D I I E F F S E S M R K F T Y Y F E D I Q Q           |
| UniRef90_M1E4W0        | E A A I I M S T C N R T E E L Y V A V D E S L L Q W L S N H H R D C H Y V A H T E H           |
| UniRef90_F3LHI4        | E L L I L I A T C N R T E E V Y V A S D R E I S D Q D Y D D F A K F F Y F K S G D D           |
| UniRef90_C9RPT7        | E A M V L S T C N R T E E L Y V V T G H Y L K E Y L I E V R P E H F F N R F Y C N             |
| UniRef90_B4S921        | G A V I V S T C N R T E E L Y Q A L D D L S E Q Q L L H W I P H L Y I Y E N N L               |
| UniRef90_L2F9G1        | S L I V T S T C N R T E E I Y G F A Q H P F Q L I K I L C E H A Y V H K N H D                 |
| UniRef90_G2Z3B6        | E T T I L S T C N R V E E L Y L A S R E L L A E F L E E C H D P H L V E R H N V E             |
| UniRef90_F8E2T1        | E L V I L S T C N R S E E I Y F L S P D Q D V Q R V A D Y L R D Y L I V K I G D Q             |
| UniRef90_M7D8T5        | G V F I I S T C N R T E E I I F G F A N R D F S E G T P K E F S S F S H V Y Q D Q Q           |
| UniRef90_H7EPI4        | G G V V V S T C N R T E E W Y A S G F R L V E E E V A A Q K H V D V F A Y F G E E             |
| UniRef90_F4BRP7        | E A V I L S T C N R T E E Y Y L Y I D Q N E F M H G D M L R Y L S N H T G Y D                 |
| UniRef90_R5VG64        | Q C F V I S T C N R S E E V Y F F A P E E I A Q F P G V D F S E Y L K Q R E E M D             |
| UniRef90_C0CH98        | G C I I L S T C N R M E E V W V S T A E D I K E V P A G Q Y R D C F T E R K D A E             |
| UniRef90_UPI00037A8E6F | E V A V V S T C N R V E E V Y A A V E T F H A G C E T Q E L V D N L Y V Y Y S G A             |
| UniRef90_F9MW07        | E C V I L M T C N R V E E V Y V V G N Y T E K T L L K F A K E M G L V E I H K N E K           |
| UniRef90_UPI00047E1DB0 | E V V I L T T C N R T E E V Y Y L Y I D Q N M L Q D M L R Y I G E Y T G Y D V Y Y G K S N S D |
| UniRef90_H7EPI4        | E A L V L S T C N R V E E V W A V V E A F H A E T L A R H T G E H C Y V H Y G K A             |
| UniRef90_D3RZJ8        | E A A V L S T C N R M E E I Y V V V G I R E V T E W M S K T S R Q H L F L L R D T D           |
| UniRef90_K8ESA5        | E A V V L S T C N R T E E I Y V V V A E R D F L C E L G D I D R D H L F S E H D A A           |
| UniRef90_D6Z823        | E A L W V S T C N R V E E V Y L A A A R E T L H S L G G A E A H L Y E H Q G E A G             |
| UniRef90_W1NE78        | E A V V L S T C N R T E E I Y M Y A S V S R F H L A Q L S G V G V G E L R V Y F D E G D       |
| UniRef90_M5A6P6        | E A G I I S T C N R L E E I Y V V V G V R E V E E W M A Q Y S R E H M F L L R D Q D           |
| UniRef90_H8MXH2        | E N V I I L S T C N R T E E I I Y A V V D Q I H T R F L A N W F N T Y V M I E E Q D A         |
| UniRef90_F5XF76        | E T V I I L S T C N R S E E I Y V A S E E K A V A I L K D F Y E T Y L F A Y R G I E           |
| UniRef90_C1N0N8        | E V V V I L S T C N R L E E I V Y A E V P A F H P A V A A D E L A D H L Y V R Y D D G         |
| UniRef90_J3JCJ0        | E S V I L L S T C N R T E E I Y C P T H H D M V Q F W A E F H Q D N V L E R T G E D           |
| UniRef90_E6MI71        | E A A V I L V T C N R T E E I I Y S T H E E N T N T L I E H L R D Y I L C Y T G R G           |
| UniRef90_W9GJS1        | E A A V I L S T C N R S E E I F A V A V E E E G E A W F K D F Y Y N F F H K K G R E           |
| UniRef90_A3ZM18        | E A V I I L S T C N R T E E I L Y C A A E D P D L A F L A E E K N P H T Y A L T D L E         |
| UniRef90_H1LRY7        | E A V I I L S T C N R T E E I E Y V A V V K E E I V Q F L A E T G R R H L F I L L H Q D       |
| UniRef90_UPI000479F7F7 | E A V I I L S T C N R V E E I A Y A A P R R A V T E A L G D A I R P Y L A G A R G F D         |
| UniRef90_R7KR63        | E A L I I L S T C N R T E E I L Y C A A E D P D L A F L A E E K N P H T Y A L T D L E         |
| UniRef90_UPI000375B13B | E V A I I L S T C N R L E E I V Y A V V K E E I V Q F L A E T G R R H L F I L L H Q D         |
| UniRef90_I0WJ58        | A L L V I T S T C N R T E E I M Y G F A Q H P F Q L I K L L C E H A Y V H K N R D             |
| UniRef90_AOA017T095    | E A V V I L S T C N R V E E I I Y A A P R R A V T E A L G D A I R P Y L A G A R G F D         |
| UniRef90_D7LD09        | E A A V I L S T C Y R I E E I Y V S G V K E V T D W M S K R I C Q H R F L L Y N K D           |
| UniRef90_UPI0003656307 | G C I I L S T C N R M E E I I Y W A S T Q E E W E G S L F D F F R R Y F V E R R E E E         |
| UniRef90_R6MPK7        | E C V I L S T C N R C E F Y L A G Y N M K D K F I D E F V K K Y I S I Y E G D D               |
| UniRef90_N0BKA3        | E C C A F I L M T C N R V E E I Y L V G N N D V L R E F S E I D E S Y V E Y K K D D S         |
| UniRef90_D5SUS8        | E V V F I L S T C N R V E E I V Y A V V R Q N L A S F L S E F H H E E L T E H T G P E         |
| UniRef90_A5ZYE9        | G C I I L S T C N R L E E I I Y W A S H E D D Q E L S Y Q C L C Q Y F V S R T D R E E D       |
| UniRef90_UPI000476B8D8 | E L L V I S T C N R T E E I L Y G Y A E H P L I Q L L C E F S N G S V F V F K N R D           |
| UniRef90_R6NVU9        | G C I I L S T C N R M E E I I Y W A S T Q E E W E G S L F D F F R R Y F V E R R E E E         |
| UniRef90_K7RH84        | E T V V I L S T C N R V E E I V Y T A A E E V A Q F L A E F H H I D L F L Q S G E E           |
| UniRef90_E4W8H6        | E A M I I V S T C N R L E E I V Y A V V D A F H L T E I G D E L H K H A Y V R Y S E A         |
| UniRef90_N0DYL9        | E A L V L I S T C N R T E E I V Y A E A V A E L T D A F A E H T H P Y L Y V H Y E E R         |
| UniRef90_K2JNZ4        | E A M V L L C T C D R V E I W G V G S A P Q L G E A A F D V L A E S F L E T G E A             |
| UniRef90_D1CE52        | E A A V L S T C N R L E E I I Y Y S T H E E E G E A W F K D F Y Y N F F H K K G R E           |
| UniRef90_A0M6C1        | E A V V I L S T C N R T E E I Y G F A Q H P F Q L I K L L C E H A Y V H K N K Q               |
| UniRef90_F0GYK4        | E V V I I L S T C N R S E E I F A L T S E D S D D F F V K F F E N Y F F V K K D L             |
| UniRef90_H8XNM0        | E V V I I L S T C N R T E E I Y G F A Q H E N S Q G T V E D F Q Q V A Y V Y K G K E           |
| UniRef90_W5X685        | S L I V I S T C N R T E E I I Y Y S T H E E E G E A W F K D F Y Y N F F H K K G R E           |
| UniRef90_A4S4F6        | E C V I I L S T C N R M E E I Y Y S G T E A E A E V P L E E L R P F L Y E K G C V C           |
| UniRef90_Q14JR2        | E A G I I L S T C N R M E E I Y Y V V G L K C V E E W M V K H S R E H L F V L K D R E         |
| UniRef90_L7EK70        | H A V I I L S T C N R T E E I V Y L E V V D D I L V W W Q G Y V R N Y F K L R Q G T E         |
| UniRef90_C9KL84        | E A V I I L S T C N R S E E I Y Y G V L E R E D G E D Y L R S F Y S S F F C R S G V N         |
| UniRef90_W7U4L8        | E A V V I L S T C N R T E E I M Y A V V D D A L K Q F L F D D I D A Y L Y S F V D E E         |
| UniRef90_UPI00047BE40A | E A C T I L S T C N R F E E I I Y Y A A F H E A T A F L E R H S R K N L F L L S G E D         |
| UniRef90_J4VPR4        | E A V V L I S T C N R L E E I V Y A S V P A F H P A V A A E A L A E H L Y V R Y D D A         |
| UniRef90_K6Y5M1        | G G F V I L S T C N R L E E I I Y Y E A P N Q V T Q E L E S T L I R S L Y T L H H T E         |
| UniRef90_K6XCE0        | E S V I I L S T C N R T E E I V Y I S T D K P S G D S L F N W L A S H S Y L L E N E A         |
| UniRef90_K6W4Z9        | E A V V V I S T C N R L E E I V Y A D V D D I G S A L V E A T G M H C Y V H Y E D R           |
| UniRef90_K2E3F0        | E V I V L I S T C N R S E E I Y Y A E A T T F H G A L T R E R L T D F L Y V H Y E E R         |
| UniRef90_UPI00046EDA8B | E V V I I L S T C N R S E E I Y A V V D D P D S E Y L T G F Y S D F F S V R S G E K           |
| UniRef90_I3UYU3        | S L L I I L S T C N R T E E I I Y G F A E H P F Q L I K L L C E H T Y I Y K N N D             |
| UniRef90_J4TCZ0        | S L T V I I S T C N R T E E I Y Y G F A Q H P F Q L I K L L C E H A Y I Y K N N D             |
| UniRef90_UPI00047ECAD1 | E A V V L I S T C N R T E E I Y V S S G N D I I G I N I D N I R D Y L L F Y T G K S           |
| UniRef90_A3THP5        | G L L A T S T C N R T E E I I Y G F A Q H P F Q L I K L L C D H A Y V Y K N N K E             |
| UniRef90_N2AJW6        | E A V V V I S T C N R M E E I Y Y V S M D P S L P E L L G K I R P F Y F K I R T S L           |
| UniRef90_A6GPV1        | S L I V T S T C N R T E E I I Y G F A Q H P F Q L I K L L C E H A Y V Y K N N Q E             |
| UniRef90_B1ZMU3        | E F T L L I N T C N R I E F Y G V A S D A A I A E R V Q E F A Q F R L Q L T G L P             |

|                        | 90 |   |   |   |   |   |   |   |   |   | 100 |   |   |   |   |   |   |   |   |   | 110 |   |   |   |   |   |   |   |   |   | 120 |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|----|---|---|---|---|---|---|---|---|---|-----|---|---|---|---|---|---|---|---|---|-----|---|---|---|---|---|---|---|---|---|-----|---|---|---|---|---|---|---|---|---|---|---|---|
| UniRef90_A6GI40        | A  | A | R | H | I | F | R | V | A | A | S   | L | E | S | M | V | I | G | P | Q | L   | G | Q | V | K | E | A | W | Q | L | A   | R | R | E | T | V | G |   |   |   |   |   |   |
| UniRef90_B2A1G4        | A  | V | S | H | I | F | K | V | T | A | G   | L | N | S | L | V | T | G | E | T | E   | L | G | Q | V | K | K | A | Y | Q | L   | S | D | E | A | G | G | V | D |   |   |   |   |
| UniRef90_L1IR65        | A  | V | W | H | A | L | R | V | A | G | G   | L | D | S | L | V | I | G | E | G | Q   | L | S | Q | M | K | R | C | Y | E | I   | A | T | E | Q | G | A | A | G |   |   |   |   |
| UniRef90_UPI00029AEA49 | S  | L | V | H | I | F | L | F | R | V | S   | A | S | L | D | S | M | V | L | G | E   | A | Q | I | L | G | Q | V | K | D | A   | F | E | R | G | Q | S | G | A | V | R | G |   |
| UniRef90_S9R465        | A  | V | E | H | I | F | L | F | V | I | S   | S | L | D | S | M | V | L | G | E | P   | Q | V | L | G | Q | V | R | R | A | Y   | T | S | A | E | A | H | Q | T | V | G |   |   |
| UniRef90_UPI00037769C7 | A  | V | E | H | I | F | L | F | A | V | A   | S | G | L | D | S | A | V | I | G | E   | A | Q | V | L | G | Q | V | R | R | A   | Y | T | S | A | E | A | H | Q | T | V | G |   |
| UniRef90_T0C975        | A  | V | A | H | A | M | R | V | A | A | G   | G | L | D | S | V | V | V | G | E | T   | Q | L | L | G | Q | V | M | R | N | A   | F | Q | T | A | F | E | G | N | T | G |   |   |
| UniRef90_D4L741        | A  | L | L | H | I | F | L | F | V | A | G   | G | L | D | S | M | V | I | G | E | D   | E | I | I | G | Q | L | K | R | A | Y   | A | F | A | K | D | N | G | T | V | A |   |   |
| UniRef90_G2EF03        | A  | I | A | H | M | F | R | V | G | S | G   | L | D | S | Q | I | L | G | D | F | E   | I | I | G | Q | L | K | N | A | A | I   | A | S | K | K | V | G | M | V | N | G |   |   |
| UniRef90_R7IBQ5        | V  | A | R | H | T | F | R | V | A | S | G   | L | D | S | M | V | L | G | E | T | Q   | V | V | G | Q | M | K | K | A | W | R   | I | A | R | E | S | K | S | L | G |   |   |   |
| UniRef90_UPI00047A7E69 | T  | I | Y | H | I | F | Q | V | T | N | G   | F | K | S | M | V | L | G | E | D | Q   | V | Q | G | V | V | W | D | A | L | E   | □ | A | Q | G | A | G | L | S | G |   |   |   |
| UniRef90_D6U6V3        | A  | V | T | H | I | F | L | F | S | V | A   | C | G | L | R | S | L | V | P | G | E   | Q | Q | G | V | V | K | D | A | L | E   | K | S | Q | A | V | K | G | C |   |   |   |   |
| UniRef90_UPI00041479F0 | A  | M | V | H | I | F | Y | E | V | T | G   | L | D | S | M | I | L | G | E | D | Q   | V | Q | G | V | V | K | R | A | Y | A   | D | A | R | G | T | V | G |   |   |   |   |   |
| UniRef90_W9DS57        | A  | V | E | H | I | F | S | V | A | S | G   | L | D | S | M | V | L | G | E | T | Q   | V | Q | G | V | V | R | A | A | Y | A   | D | A | R | D | G | T | V | G |   |   |   |   |
| UniRef90_UPI0003732757 | A  | A | E | H | I | M | V | V | A | S | G   | L | D | S | M | V | G | E | Q | Q | I   | I | G | Q | V | R | A | A | Y | A | D   | A | R | D | G | T | V | G |   |   |   |   |   |
| UniRef90_E3B7B5        | A  | V | A | H | I | F | N | V | A | A | G   | G | L | D | S | L | A | V | G | E | S   | Q | L | A | Q | L | R | E | S | L | R   | E | G | Q | R | S | G | R |   |   |   |   |   |
| UniRef90_L9M981        | A  | V | S | H | I | M | R | V | A | S | G   | L | D | S | L | M | L | G | E | P | Q   | V | Q | G | V | V | K | S | A | L | S   | A | K | N | A | E | I | V | S |   |   |   |   |
| UniRef90_M1URF1        | A  | I | W | H | I | L | R | V | S | A | G   | G | L | D | S | L | V | V | G | E | G   | I | I | G | Q | V | V | K | R | C | Y   | E | R | A | T | E | G | G | M | A | G |   |   |
| UniRef90_E6Q6G1        | A  | V | E | H | I | L | R | V | T | T | G   | L | D | S | M | L | I | G | E | A | E   | I | I | G | Q | V | V | K | S | A | Y   | L | H | A | Q | R | A | G | C | G |   |   |   |
| UniRef90_UPI00047B1531 | A  | V | Q | H | I | F | T | V | A | A | G   | G | L | D | S | M | V | G | E | S | Q   | V | Q | G | V | V | R | T | A | Y | G   | A | T | E | G | S | T | G | V |   |   |   |   |
| UniRef90_M1E4W0        | V  | A | K | H | I | F | T | V | A | S | G   | L | D | S | L | V | V | G | E | S | Q   | V | Q | G | V | V | K | D | A | Q | E   | V | A | S | T | N | K | F | S | G |   |   |   |
| UniRef90_F3LHI4        | A  | V | K | H | I | M | M | R | V | A | S   | G | L | D | S | L | V | L | G | E | P   | Q | V | Q | G | V | V | K | M | S | S   | Y | A | V | A | A | E | T | L | S |   |   |   |
| UniRef90_C9RPT7        | V  | A | H | H | I | F | M | N | V | C | A   | G | L | D | S | V | A | M | G | E | D   | Q | V | Q | G | V | V | K | R | I | Y   | G | R | A | E | T | H | Q | L | N | A | T | G |
| UniRef90_B4S921        | T  | A | R | H | I | F | E | V | S | S | A   | T | L | D | S | L | V | L | G | E | G   | Q | V | Q | G | V | V | K | N | A | Y   | R | A | G | A | C | S | A | G |   |   |   |   |
| UniRef90_L2F9G1        | A  | L | T | H | I | F | W | V | R | V | A   | S | G | L | D | S | M | I | G | E | P   | Q | V | Q | G | V | V | K | M | Q | A   | V | N | Q | A | R | L | G | T | V | N |   |   |
| UniRef90_G2Z3B6        | A  | L | N | H | I | F | G | T | V | A | S   | G | L | D | S | Q | I | L | G | D | F   | E | I | I | G | Q | V | V | K | N | A   | F | V | E | S | K | K | R | H | L | V | N |   |
| UniRef90_F8E2T1        | A  | A | E | H | I | M | L | N | V | A | S   | G | L | D | S | M | V | M | G | E | Q   | Q | I | I | G | Q | V | V | K | D | A   | Y | E | T | G | T | V | G |   |   |   |   |   |
| UniRef90_M7D8T5        | A  | V | R | H | I | M | M | R | V | A | A   | G | G | L | D | S | M | V | L | G | E   | P | Q | V | Q | G | V | V | K | D | A   | Y | E | T | G | T | V | G |   |   |   |   |   |
| UniRef90_A9B543        | A  | V | R | H | I | L | F | K | V | A | S   | G | L | D | S | M | A | L | G | E | F   | E | I | I | G | Q | V | V | K | D | A   | Y | E | T | G | T | V | G |   |   |   |   |   |
| UniRef90_UPI000255B87C | A  | V | R | H | I | L | F | R | V | T | A   | S | L | D | S | L | I | V | G | E | G   | Q | V | Q | G | V | V | K | D | A | Y   | E | T | G | T | V | G |   |   |   |   |   |   |
| UniRef90_UPI00031BC078 | A  | V | R | H | I | F | Y | V | A | I | G   | G | L | D | S | L | I | V | G | E | G   | Q | V | Q | G | V | V | K | D | A | Y   | E | T | G | T | V | G |   |   |   |   |   |   |
| UniRef90_F9MW07        | A  | L | L | H | I | F | Y | V | A | I | G   | G | L | D | S | M | I | G | D | E | Q   | V | Q | G | V | V | K | D | A | Y | E   | T | G | T | V | G |   |   |   |   |   |   |   |
| UniRef90_UPI00047E1DB0 | A  | I | N | H | I | F | Y | R | V | A | S   | G | L | D | S | M | I | G | D | E | Q   | V | Q | G | V | V | K | D | A | Y | E   | T | G | T | V | G |   |   |   |   |   |   |   |
| UniRef90_H7EPI4        | A  | A | G | H | I | F | R | V | A | G | G   | L | D | S | M | I | G | E | N | Q | V   | Q | G | V | V | K | R | S | Y | F | R   | D | R | N | A | G | M | T |   |   |   |   |   |
| UniRef90_F4BRP7        | A  | A | K | H | I | F | N | V | A | T | G   | L | D | S | L | I | I | G | E | T | Q   | V | Q | G | V | V | K | D | A | Y | E   | Q | H | T | S | G | F | G |   |   |   |   |   |
| UniRef90_R5VG64        | A  | I | S | Y | L | F | R | V | T | A | G   | L | D | S | M | V | L | G | E | D | Q   | V | Q | G | V | V | K | D | A | Y | E   | Q | H | T | S | G | F | G |   |   |   |   |   |
| UniRef90_C0CH98        | A  | V | E | H | I | F | Y | L | T | S | G   | L | D | S | M | V | I | G | E | D | Q   | V | Q | G | V | V | K | D | A | Y | E   | Q | H | T | S | G | F | G |   |   |   |   |   |
| UniRef90_UPI00037A8E6F | A  | C | M | E | H | I | L | R | V | A | S   | G | L | D | S | M | M | V | G | E | D   | Q | V | Q | G | V | V | K | D | A | Y   | E | Q | H | T | S | G | F | G |   |   |   |   |
| UniRef90_D3RZJ8        | V  | V | E | H | I | F | Y | V | A | S | G   | L | D | S | M | S | V | I | G | E | D   | Q | V | Q | G | V | V | K | D | A | Y   | E | Q | H | T | S | G | F | G |   |   |   |   |
| UniRef90_K8ESA5        | V  | A | T | H | I | F | K | V | A | T | G   | L | D | S | L | M | V | G | E | D | Q   | V | Q | G | V | V | K | D | A | Y | E   | Q | H | T | S | G | F | G |   |   |   |   |   |
| UniRef90_D6Z823        | A  | V | Q | H | I | F | V | S | V | A | S   | G | L | D | S | M | V | L | G | E | G   | Q | V | Q | G | V | V | K | D | A | Y   | E | Q | H | T | S | G | F | G |   |   |   |   |
| UniRef90_W1NE78        | A  | T | Q | H | I | F | Q | V | S | A | G   | L | D | S | L | V | L | G | E | G | Q   | V | Q | G | V | V | K | D | A | Y | E   | Q | H | T | S | G | F | G |   |   |   |   |   |
| UniRef90_M5A6P6        | A  | V | T | H | I | F | E | V | A | A | G   | L | D | S | M | V | L | G | E | S | E   | Q | V | Q | G | V | V | K | D | A | Y   | E | Q | H | T | S | G | F | G |   |   |   |   |
| UniRef90_H8MXH2        | A  | L | V | H | I | F | R | V | A | S | S   | L | D | S | M | V | L | G | E | A | Q   | Q | V | Q | G | V | V | K | D | A | Y   | E | Q | H | T | S | G | F | G |   |   |   |   |
| UniRef90_F5XF76        | A  | V | A | H | I | F | T | V | A | S | G   | L | D | S | M | V | V | G | E | P | Q   | V | Q | G | V | V | K | D | A | Y | E   | Q | H | T | S | G | F | G |   |   |   |   |   |
| UniRef90_C1N0N8        | A  | T | A | H | I | F | L | K | V | S | G   | G | L | D | S | V | V | M | G | E | G   | Q | V | Q | G | V | V | K | D | A | Y   | E | Q | H | T | S | G | F | G |   |   |   |   |
| UniRef90_J3JCJ0        | A  | V | T | H | I | F | R | V | T | A | S   | G | L | D | S | M | I | L | G | E | D   | Q | V | Q | G | V | V | K | D | A | Y   | E | Q | H | T | S | G | F | G |   |   |   |   |
| UniRef90_E6M171        | A  | V | R | H | I | F | L | V | V | A | A   | S | L | D | S | M | V | L | G | E | S   | E | Q | V | Q | G | V | V | K | D | A   | Y | E | Q | H | T | S | G | F | G |   |   |   |
| UniRef90_W9GJS1        | A  | V | A | H | I | F | T | V | A | C | G   | L | D | S | M | V | V | G | E | S | Q   | V | Q | G | V | V | K | D | A | Y | E   | Q | H | T | S | G | F | G |   |   |   |   |   |
| UniRef90_A             |    |   |   |   |   |   |   |   |   |   |     |   |   |   |   |   |   |   |   |   |     |   |   |   |   |   |   |   |   |   |     |   |   |   |   |   |   |   |   |   |   |   |   |

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|------------------------|--|
| UniRef90_A6GI40        | P I L D R C <b>L</b> T M A F H G A K R V R S E T S |
| UniRef90_B2A1G4        | S I F H G L Y Q Q A L R T G K R V R H E T G        |
| UniRef90_L1IR65        | K V L T R M L N T A V S A G K R V R S E T G        |
| UniRef90_UPI00029AEA49 | P I T H A L F Q G A I R T S S R V R T E T R        |
| UniRef90_S9R465        | G E L T R V C A A A F G C A K R V R T E T A        |
| UniRef90_UPI00037769C7 | R T L L H E L S Q R A L S V G K R V H S E T G      |
| UniRef90_T0C975        | A M F N R L F R E V I H V G K R A Q S E T T        |
| UniRef90_D4L741        | Y E L L N M C V Q A A V A C A K K I I K T E T A    |
| UniRef90_G2EF03        | T F I E R L V N S V I Q A S K R I I K T E T N      |
| UniRef90_R7IBQ5        | L M L G H L F D G T F A A A K E V R T A T A        |
| UniRef90_UPI00047A7E69 | K I L N R L F L N S I T D A K K I K T Q T S        |
| UniRef90_D6U6V3        | P I L L S A L F R A A I T T G K R A R N E T G      |
| UniRef90_UPI00041479F0 | K Y L T K M F R E A I T F T K K V K T D Y K        |
| UniRef90_W9DS57        | S A L H G L V Q T T L R V G K R V H S E T A        |
| UniRef90_UPI0003732757 | P G L H S L S Q S A L R T G K R V H S E T G        |
| UniRef90_E3B7B5        | P V M S R L V Q Q A L R V G K R V H S E T A        |
| UniRef90_L9M981        | Q N L I N Q I F E Y A F Y A A K R V R S E T A      |
| UniRef90_M1URF1        | K L L T R L L N A A V S A G K R V R T E T G        |
| UniRef90_E6Q6G1        | S S M H K L F R E A L N A G K A A R T Q T T        |
| UniRef90_UPI00047B1531 | R T L H E L V Q Q A L R I G K R V H T D T G        |
| UniRef90_M1E4W0        | L I L N H L I S Q A I R V G K R V R T E T Q        |
| UniRef90_F3LHI4        | S E L H S V F Q K V F G V A K R V R T N T A        |
| UniRef90_C9RPT7        | N T L N K L F Q S A I H T T K R I K T E T N        |
| UniRef90_B4S921        | I L L T R L L C H T A F S V A K K V K T R T R      |
| UniRef90_L2F9G1        | N Q L S F I I Q Q V F A A T K Q V R S E T K        |
| UniRef90_G2Z3B6        | A Y L E R L V N S V I Q A S K K V K N E T E        |
| UniRef90_F8E2T1        | R T L H D L T Q R A L R T G K R V H S E T A        |
| UniRef90_M7D8T5        | S F L L S R L F E H T F S V A K R I R T H T A      |
| UniRef90_A9B543        | T T M H R L L I Q A A L T T G K L V R T E T Q      |
| UniRef90_UPI000255B87C | P F L E R L C N S V I Q A S K R I I K N E T E      |
| UniRef90_UPI00031BC078 | P L L N T L F Q S A Q R A A K R V R T E T G        |
| UniRef90_F9MW07        | K I L N K I F R E A I T F A K R V K T E            |
| UniRef90_UPI00047E1DB0 | A Y L E R L V N S V I L Q A S K K V K N Q T K      |
| UniRef90_H7EPI4        | F H A N I L F Q R A L T C A K R I K T E T N        |
| UniRef90_F4BRP7        | P I L L N S L F H K S I I S F S K K M H T K T N    |
| UniRef90_R5VG64        | K E L N R V V Q D A V T C A K K I K T K L R I      |
| UniRef90_C0CH98        | S V L E V L F R M A I T A G K K I K T E V A        |
| UniRef90_UPI00037A8E6F | Q V L H E L I I Q T A L R V G K R V H S E T G      |
| UniRef90_D3RZJ8        | E I I D L I F S K A I I Q V G K R V R R E T R      |
| UniRef90_K8ESA5        | P I L L S S L F N K A V S F S K R V H T H T K      |
| UniRef90_D6Z823        | A S L H G L V Q H A L I T G K A A Q S Q T A V      |
| UniRef90_W1NE78        | R N I S G L F K Q A I I S A G K R V R T E T N      |
| UniRef90_M5A6P6        | T T L N L L F R S A I E T G K R A R N E T A        |
| UniRef90_H8MXH2        | G E L T R A C A A A F G C A K R V R T E T A        |
| UniRef90_F5XF76        | T G L N A L F Q Q A L R V G K R V H T E T E        |
| UniRef90_C1N0N8        | R H L S G L F K A A I T A G K R V R S E T S        |
| UniRef90_J3JCJ0        | A I F N H L F Q E V I T F A K R M H T E Y K        |
| UniRef90_E6MI71        | K F L T K A F R E A I T F S S K K I K T V Y K      |
| UniRef90_W9GJS1        | A S L N E L F Q Q A L R V G K R A H S E T D        |
| UniRef90_A3ZM18        | T L T H S C F Q A A I R V A K R V V S N E T T      |
| UniRef90_H1LRY7        | L Y L N T L F R D A V T E A K K I K T E T L        |
| UniRef90_UPI000479F7F7 | K V L N R L F L E A I A K A K E I K T R T A        |
| UniRef90_R7KR63        | L M L N T L F Q R T F T V A K E V R T A T E        |
| UniRef90_UPI000375B13B | R L L D R L L K Q A L A A G K R V R S E T D        |
| UniRef90_I0WJ58        | A F L E R L C N S V I Q A S K R I K N E T E        |
| UniRef90_AOA017T095    | A K I G Q A M N R A F K V G K R A R A E T A        |
| UniRef90_D7LD09        | R I I S A L F E K A I K A G K R V R E E T N        |
| UniRef90_UPI0003656307 | G V L E V L F R M A V T A A K K V K T E V A        |
| UniRef90_R6MPK7        | K Y L N T L F R I S V T G A K K V K T E            |
| UniRef90_N0BKA3        | G Y L D L V F K K A I N T G R K V R N L T G        |
| UniRef90_D5SUS8        | A L T H A L F Q G A I R T S N R V R T E T R        |
| UniRef90_A5ZYE9        | S I L L E V L F R M A V T A G K K I K T E          |
| UniRef90_UPI000476B8D8 | S F I L E R L L N S V I N A S K R I K N E T        |
| UniRef90_R6NVU9        | N V L E V L F R M A V T A A K R V K T E            |
| UniRef90_K7RH84        | P L T H G V F Q S A L K A A R R V A S D T S        |
| UniRef90_E4W8H6        | R A L H E L A Q Q A L R V G K R V H S E T G        |
| UniRef90_N0DYL9        | P Q L N T V L Q R A L R V G K R V H S E T G        |
| UniRef90_K2JNZ4        | P V L E P I L Q A A Y Q A A K R V R T E T A        |
| UniRef90_D1CE52        | P V L N T L F R Y A L Q A G K D V R T K V P        |
| UniRef90_A0M6C1        | A F L E R L V N A V I Q A S K R I K N E T E        |
| UniRef90_F0GYK4        | K I L S E A L K M A I N L S K N I K S D S N        |
| UniRef90_H8XNM0        | A Y I E R L V N S V I Q A S R R V K N E T E        |
| UniRef90_W5X685        | P V L D L L F Q R G L E T S K R I I R T E T E      |
| UniRef90_A4S4F6        | R H L T G L F K A A I T A G K R V R S E T S        |
| UniRef90_Q14JR2        | K E L D R V F Q K V F A T A K R V R S E T R        |
| UniRef90_L7EK70        | K I L N K L F L S A I T N A K K I K T V T N        |
| UniRef90_C9KL84        | T V L N T L F H R A I A T G K R V R T E T R        |
| UniRef90_W7U4L8        | K V I S R M L L N S A V A A A G K R V R S E T G    |
| UniRef90_UPI00047BE40A | E A I N S L F Q G A L R V G K R A H A E T D        |
| UniRef90_J4VPR4        | A V I S R L C H R A F E T A K K V R S E T E        |
| UniRef90_K6Y5M1        | S Q L E K L F Q H T F S V A K K V R T E T E        |
| UniRef90_K6XCE0        | P A L N V L F Q Q A L R V G K R A Q S E L D        |
| UniRef90_K6W4Z9        | P V L N A L V Q Q A L R V A K R V H T D T G        |
| UniRef90_K2E3F0        | K F L N R L F I D S I T S A K K I K T L T G        |
| UniRef90_UPI00046EDA8B | P F T E R L V N A V I Q A S K R I K N E T E        |
| UniRef90_I3UYU3        | P F M E R L A N A V I Q A S K R I K N E T K        |
| UniRef90_J4TCZ0        | L Y L N T L F R D A V T E A K K I K T E T M        |
| UniRef90_UPI00047ECAD1 | P F I E R L C N S I I Q A S K R I K N E T E        |
| UniRef90_A3THP5        | P A L N T L L Q Q A L R V G K R V H T E T A        |
| UniRef90_N2AJW6        | T L L E V L F R Q A I T A G K E V K T K            |
| UniRef90_A6GPV1        | S F M E R L V N S V I Q A S K R I K T D T D        |
| UniRef90_B1ZMU3        | P V L N R V F Q K T F Q A A K H V R T H T A        |

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|------------------------|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|--|--|--|--|--|
| UniRef90_UPI0003786954 | I   | V | I | G | L | S | H | R | T | T | S | M | S | I | L | E | R | A | T | L | D | G | E | D | L | K | R | L | N | R | S | E | Q | I | H |   |   |   |   |  |  |  |  |  |  |  |
| UniRef90_T2KQW7        | T   | Y | F | Y | A | I | G | L | S | Y | K | K | A | D | A | E | I | R | G | H | F | S | L | D | E | E | S | K | L | N | Q | A | K | E | G | I | D |   |   |  |  |  |  |  |  |  |
| UniRef90_UPI0003F61101 | Q   | Y | F | Y | A | V | G | L | S | Y | R | K | A | D | A | E | T | R | G | F | S | L | D | A | K | E | A | V | L | Q | Q | A | K | Q | E | G | I | D |   |  |  |  |  |  |  |  |
| UniRef90_R9VG17        |     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |
| UniRef90_J2IZ20        | F   | Y | A | L | G | L | S | Y | K | K | A | D | A | T |   | R | G | K | F | S | L | D | T | K | A | Q | L | V | Q | A | K | A | E | G | I | E |   |   |   |  |  |  |  |  |  |  |
| UniRef90_G8LU04        | N   | I | I | M | A | G | I | D | Y | K | T | A | K |   | E | Y | R | E | K | F | S | F | T | K | R | K | V | R | E | I | K | D | I | K | C | H | L |   |   |  |  |  |  |  |  |  |
| UniRef90_G2IUC3        | H   | L | V | A | F | G | L | N | H | Q | T | A | P | L | S | V | R | E | K | L | A | F | P | A | E | G | A | L | S | V | H | S | D | A | G |   |   |   |   |  |  |  |  |  |  |  |
| UniRef90_A6TJD3        | I   | I | V | F | G | I | T | H | K | K | A | T | I | D | L | R | E | K | V | A | F | S | Q | E | A | Y | S | L | K | E | S | P | F | I | H |   |   |   |   |  |  |  |  |  |  |  |
| UniRef90_K0RB49        | Q   | V | H | V | I | G | L | S | I | H | H | A | Q | V | E | V | R | E | K | L | A | I | P | E | A | E | W | N | T | Q | I | C | S | T | G | Q | V | E |   |  |  |  |  |  |  |  |
| UniRef90_UPI00047A34EB | N   | H | F | R | A | I | S | L | S | Y | K | S | A | P | V | A | I | R | E | S | V | S | L | N | E | E | Q | L | L | R | Q | E | P | E | I | S |   |   |   |  |  |  |  |  |  |  |
| UniRef90_R6QU22        | L   | L | M | I | G | I | D | H | T | A | S | V | E | E | R | P | F | A | T | D | S | G | A | V | R | F | M | R | S | V | I | K | E | M | D |   |   |   |   |  |  |  |  |  |  |  |
| UniRef90_F3ZIT1        |     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |
| UniRef90_W9DQ00        | M   | T | E | I | T | S | M | V | I | T | H | S | K | A | T | V | E | E | I | E | A | W | E | G | D | E | K | M | I | L | K | D | L | H | S | L | D | V | C |  |  |  |  |  |  |  |
| UniRef90_I0ENR5        |     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |
| UniRef90_A6Q3S5        | M   | Q | Y | L | V | V | S | F | S | H | K | N | M | S | I | E | M | R | E | K | L | A | F | S | S | P | K | A | L | K | D | F | L | Q | S | P | S | I | K |  |  |  |  |  |  |  |
| UniRef90_UPI000248FD69 | T   | N | F | Y | S | I | G | L | S | Y | K | K | A | D | V | V | T | R | G | F | S | I | T | D | E | A | K | I | L | K | Q | A | K | E | G | V | E |   |   |  |  |  |  |  |  |  |
| UniRef90_F2KQ96        | E   | I | A | N | L | V | V | S | H | K | K | A | S | L | E | E | I | E | R | A | W | H | G | D | C | R | A | L | E | R | V | L | S | Y | P | N | I | T |   |  |  |  |  |  |  |  |
| UniRef90_A5FLE3        | Y   | F | Y | S | V | G | L | S | Y | K | K | A | D | A | E | V | R | G | Q | F | S | L | D | A | K | T | R | L | L | E | Q | A | K | N | D | G | I | E |   |  |  |  |  |  |  |  |
| UniRef90_G8R8U5        | S   | N | F | F | L | V | G | I | D | H | T | H | A | S | V | D | V | R | E | L | F | S | L | N | E | K | A | L | I | Y | D | Y | K | T | L | G | G | D |   |  |  |  |  |  |  |  |
| UniRef90_G0HHX5        | V   | L | L | V | G | L | S | F | R | S | A | P | V | P | V | L | E | K | A | S | A | A | A | D | L | A | Q | D | M | L | D | G | C | V | T |   |   |   |   |  |  |  |  |  |  |  |
| UniRef90_A7GYU7        | H   | Y | L | N | I | S | F | T | Y | K | N | T | D | I | S | V | R | E | K | L | A | F | D | S | E | I | L | R | L | L | K | S | S | K | N | I |   |   |   |  |  |  |  |  |  |  |
| UniRef90_R7K1K0        | D   | I | T | M | V | G | I | D | Y | R | D | A | G | L | D | I | R | G | K | F | S | Y | T | Q | E | E | T | I | K | H | L | K | Q | L | E | G | I | S |   |  |  |  |  |  |  |  |
| UniRef90_UPI0002485E59 | V   | L | L | V | G | L | S | F | R | S | A | P | V | R | V | L | E | K | T | A | V | A | P | G | E | L | A | D | L | R | D | L | D | V | T |   |   |   |   |  |  |  |  |  |  |  |
| UniRef90_U2AXU6        | T   | Y | F | T | I | G | S | I | Y | K | K | A | D | A | D | M | R | G | F | S | L | D | E | E | Q | I | L | K | C | A | Q | E | G | M | E |   |   |   |   |  |  |  |  |  |  |  |
| UniRef90_U5MWX6        | I   | G | L | I | G | K | R | N | T | P | I | E | R | K | I | T | Q | P | K | K | Y | K | I | T | E | E | L | L | K | I | K |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |
| UniRef90_F3ZW51        | M   | S | Y | L | V | I | S | F | S | H | K | N | T | D | I | K | L | R | E | K | L | A | F | N | S | D | E | F | L | K | L | I | L | E | N | D | I | T | K |  |  |  |  |  |  |  |
| UniRef90_A8ERT8        | Y   | C | I | S | F | S | H | K | N | T | D | I | K | L | R | E | K | L | A | F | N | S | D | E | F | L | K | L | I | L | E | N | D | I | T | K |   |   |   |  |  |  |  |  |  |  |
| UniRef90_UPI0001E2CC06 | N   | I | I | M | A | G | I | D | Y | H | C | A | S | V | E | I | R | K | V | G | F | V | P | G | E | I | L | T | R | M | K | E | K | S | S | V | T |   |   |  |  |  |  |  |  |  |
| UniRef90_C0BHT2        | E   | H | F | H | A | I | S | I | S | H | K | N | T | D | I | D | Q | R | G | F | S | L | N | D | T | Q | L | H | A | F | L | D | A | K | G | V | T |   |   |  |  |  |  |  |  |  |
| UniRef90_Q0W5T5        | M   | A | Q | V | C | S | I | S | V | N | H | R | H | A | G | I | E | R | A | R | F | D | P | D | V | A | M | L | R | L | L | S | P | G | V | S |   |   |   |  |  |  |  |  |  |  |
| UniRef90_A6DR74        | I   | I | S | I | I | G | L | N | H | K | S | A | P | V | E | L | R | E | R | L | S | F | G | A | D | E | I | L | T | Y | C | C | D | S | L | S |   |   |   |  |  |  |  |  |  |  |
| UniRef90_W6K359        | S   | L | L | V | G | L | S | H | H | N | C | P | L | D | L | L | E | R | F | R | S | V | L | D | P | A | V | M | L | R | L | L | S | P | G | V | S |   |   |  |  |  |  |  |  |  |
| UniRef90_Q26GX4        | S   | F | Y | S | I | G | L | S | Y | R | K | K | A | D | A | E | T | R | G | F | S | L | D | E | Q | S | K | L | H | Q | A | K | E | G | I | D |   |   |   |  |  |  |  |  |  |  |
| UniRef90_UPI00047EE7EC | F   | Y | A | V | G | L | S | Y | K | K | A | D | A | E | M | R | G | F | S | L | D | E | Q | S | K | L | H | Q | A | K | E | G | I | D |   |   |   |   |   |  |  |  |  |  |  |  |
| UniRef90_F9ZSY0        |     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |
| UniRef90_T2BG50        | Y   | C | I | S | F | T | H | K | N | T | D | I | S | R | E | R | L | S | F | S | D | L | E | K | N | E | F | L | R | H | E | N | I | E |   |   |   |   |   |  |  |  |  |  |  |  |
| UniRef90_B3QWI0        | N   | I | I | M | A | G | I | D | Y | H | C | A | S | V | E | I | R | K | V | G | F | V | P | G | E | I | L | T | R | M | K | E | K | S | S | V | T |   |   |  |  |  |  |  |  |  |
| UniRef90_R7IS88        | E   | F | G | V | C | G | I | N | Y | K | H | A | G | L | D | I | R | D | K | T | A | F | D | S | M | A | L | T | E | I | D | S | K | L | A | S |   |   |   |  |  |  |  |  |  |  |
| UniRef90_UPI000369A035 | L   | D | T | F | K | A | I | S | L | S | H | K | T | A | P | L | Q | V | R | E | L | I | A | N | E | E | S | M | A | T | L | D | F | G | L |   |   |   |   |  |  |  |  |  |  |  |
| UniRef90_UPI00030CA879 | M   | L | V | L | G | I | S | H | A | S | P | A | P | L | D | L | L | E | R | R | F | D | E | D | L | V | S | D | A | T | V | D | G | I |   |   |   |   |   |  |  |  |  |  |  |  |
| UniRef90_H1PYB8        | L   | D | E | L | V | F | G | I | S | H | A | S | P | L | D | L | L | E | R | R | F | D | E | D | L | V | S | D | A | T | V | D | G | I |   |   |   |   |   |  |  |  |  |  |  |  |
| UniRef90_D4YMU3        | S   | L | L | V | G | L | S | H | R | T | A | P | V | R | L | E | E | M | S | E | R | E | F | Y | Q | N | P | E | I | H | S | L | L | S | G | E | Y | V | M |  |  |  |  |  |  |  |
| UniRef90_W0F3T3        | L   | D | R | F | C | I | A | G | I | N | Y | K | H | A | D | A | T | R | G | L | F | S | I | N | D | A | A | L | G | K | T | A | K | E | G | I | P |   |   |  |  |  |  |  |  |  |
| UniRef90_W8UV5         | L   | T | T | F | Y | S | I | G | S | V | S | F | T | H | I | D | T | V | R | E | K | L | A | F | E | S | T | A | I | E | P | G | V | S | T |   |   |   |   |  |  |  |  |  |  |  |
| UniRef90_C8PGL5        | M   | S | F | I | T | S | A | S | I | N | H | R | A | S | V | E | R | K | M | A | V | P | D | V | A | L | R | S | L | D | G | S | E | H | I | P |   |   |   |  |  |  |  |  |  |  |
| UniRef90_D0WET1        | S   | L | V | C | M | G | A | S | Y | K | T | A | P | I | V | A | R | E | R | I | A | L | A | H | E | D | A | L | A | D | G | S | G | I | K |   |   |   |   |  |  |  |  |  |  |  |
| UniRef90_E3HDD6        | M   | D | N | F | Y | A | V | G | I | D | H | K | K | V | D | M | G | G | R | E | S | F | I | Q | N | P | T | E | I | F | D | E | L | L | G | N | K | K |   |  |  |  |  |  |  |  |
| UniRef90_D0MJW7        | M   | Q | G | F | H | A | L | G | L | N | H | E | T | A | S | V | G | V | R | E | A | F | D | R | E | K | R | L | Y | A | V | W | M | E | A | H |   |   |   |  |  |  |  |  |  |  |
| UniRef90_R9BV39        | I   | Q | L | L | G | I | K | K | N | T | V | K | T | V | E | I | R | E | K | L | A | F | S | P | R | R | E | E | Y | T | K | K | L | I | Q | F | D |   |   |  |  |  |  |  |  |  |
| UniRef90_A6LSY3        | I   | G | G | L | I | G | R | I | N | A | R | V | T | F | R | N | S | P | I | L | H | V | L | E | R | F | T | D | A | N | I | S | N | E | F | V |   |   |   |  |  |  |  |  |  |  |
| UniRef90_S0FRU3        | R   | I | I | L | A | Y | L | D | H | K | S | A | D | I | N | V | R | E | K | F | S | T | A | R | E | I | L | K | D | V | R | D | R | N | I | S |   |   |   |  |  |  |  |  |  |  |
| UniRef90_A6NSD3        | N   | L | S | M | S | G | D | Y | G | L | A | P | I | A | L | R | R | E | R | L | S | F | T | R | N | Q | A | G | L | V | R | S | V | T |   |   |   |   |   |  |  |  |  |  |  |  |
| UniRef90_D8LNJ4        | S   | V | H | V | I | G | L | S | H | H | N | A | G | V | D | V | R | E | R | L | A | V | P | E | A | W | N | L | A | S | A | K | L | G | I | R |   |   |   |  |  |  |  |  |  |  |
| UniRef90_G2PQ67        | N   | S | F | Y | A | I | G | L | S | Y | R | K | K | A | D | A | E | V | R | G | F | S | L | D | V | P | A | I | L | G | K | A | E | I | G | J |   |   |   |  |  |  |  |  |  |  |
| UniRef90_L0KUF2        | M   | T | E | I | N | S | M | V | I | T | H | S | K | A | S | E | E | M | R | S | W | N | G | D | E | E | V | L | R | S | L | Y | S | N | E | F | V | Q |   |  |  |  |  |  |  |  |
| UniRef90_K2QP08        | F</ |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |

50            60            70            80

|                         |   |   |
|-------------------------|---|---|
| UniRef90_UPI0003786954  | V L L   D T C N R   E V   Y A Y A T D   G D A   L A E S T R E H   Y   H F S D R                       |   |
| UniRef90_T2KQW7         | S L I V T S T C N R T E   I Y   G F A E H P F Q L   K L L C   D N A Y V   Y K S S E E                 |   |
| UniRef90_UPI0003F61101  | S L I V T S T C N R T E   I Y   G F A Q H P F Q L   K L L C   D N A Y V   Y K N N E                   |   |
| UniRef90_R9VG17         | G G V V L L S T C N R T E   I Y   L S V E E A L V R W L   C D Y H H Q S   L Y W H Q D N D             |   |
| UniRef90_J2IZ20         | S L I V T S T C N R T E   I Y   G F A N H D N S N G S V E E F R E V A Y I   Y K N Q E D               |   |
| UniRef90_G8LU04         | G V V L L C T C N R T E   I Y   L S G S T D E A E A D I   D E Y R Q F F I K Q N R D                   |   |
| UniRef90_G2IUC3         | E A A I V S T C N R S E   V F A V V Q D T S   A W F K R F Y T D F F Q L K E G R E                     |   |
| UniRef90_A6TJD3         | E A V I L S T C N R F E   I Y F A A S N A H M E Y L A E R S R R N I F M L E G D D                     |   |
| UniRef90_K0RB49         | E A A I L S T C N R F E   I Y F A A S N A H M E Y L A E R S R R N I F M L E G D D                     |   |
| UniRef90_UPI00047A34EB  | D L L V I S T C N R T E   V Y Y A S P Q N Q I A N I A D Y Q E Y F I V N I   D E P I V                 |   |
| UniRef90_R6QU22         | S C I V L S T C N R T E   L W F Y N T P D P   D Y L I K N S G R E L F V R R G T E                     |   |
| UniRef90_F3ZIT1         | E A A V L S T C N R I   E Y A D V D K F H A A E L S E E T P Y L Y V   H Y E D E                       |   |
| UniRef90_W9DQ00         | E C A V L K T C N R V   E Y V V S P K G S T V L F Q F A K K M G L   D F F E H E E                     |   |
| UniRef90_I0ENR5         | E C M V L S T C N R F E   I Y A S A F N H Q S T N E L K I A D K C A L F H V N E S G                   |   |
| UniRef90_A6Q355         | E A I I L S T C N R I   E I I L S V K D P F S A T E A E E L E G R A D I   Y E D N G                   |   |
| UniRef90_UPI000248FD69  | S L L I M S T C N R T E   V H G F A Q H P F Q L   K L L C   E H A Y V   F K N S K                     |   |
| UniRef90_F2KQ96         | E C A I L M T C N R V   E V Y V V G S D T E S T L R D F A K F M H V E I H   R D D D R                 |   |
| UniRef90_A5FLE3         | S L L V T S T C N R T E   I Y G F A E H P F Q L   K L I C   D N S F V   Y K N Q E E                   |   |
| UniRef90_G8R8U5         | G M M V M V S T C N R T E   I Y A F A P R D I   D L F C K H F Y R H Q N I   K Q N R E                 |   |
| UniRef90_G0HHX5         | E A L V L S T C N R M E   F Y V A T V A F H A G I P A T D L E P Y   L Y V   R Y A D K                 |   |
| UniRef90_A7GYU7         | E C M V L S T C N R V   E V L A Y T N D I K S A M T H   I R C L T V Y   Y E D S G                     |   |
| UniRef90_R7K1K0         | G C V L L S T C N R T E   L L V L S Y T E E W D Q D E P E Q Y A Q Y L H   R Q G M E                   |   |
| UniRef90_UPI0002485E59  | E A L V L S T C N R M E   F Y V A T T A F H P A M A A A E L E P Y   L Y V   R Y A D A                 |   |
| UniRef90_U2AXU6         | G L A I L S T C N R T E   I Y G F A Q H P F Q L   I Q K L C   T H C Y   Y K N K E                     |   |
| UniRef90_U5MWX6         | E V V I L I S T C N R T E   I Y Y F N A F L C   E E L L K K Y   R E Y   F M T K D Q D                 |   |
| UniRef90_F3ZW51         | E C V I V A T C N R N E   A Y C Y A S S D F I   G V E T D D V E R C   F Y V   K T G R D               |   |
| UniRef90_A8ERT8         | E A I I L S T C N R V   E I I T Q S S K D   I E K L I A T Y S K V   D F D V L Y   D D G               |   |
| UniRef90_UPI0001E2CC06  | G V A M V S T C N R T E   V Y F S Y D Q D A E L N E D E I K Y F Y I   K N G E A                       |   |
| UniRef90_C0BHT2         | D F L V I N T C N R T E   I L L Y S W T A K H   E T L V N L L C   K H S Y T S D R D                   |   |
| UniRef90_Q0W5T5         | E A V V L L Q T C N R V   E I Y A V A E E D I V G F A R A M P L E   A E V   R A G D D                 |   |
| UniRef90_A6DR74         | E F F V L I S T C N R T E   F I F N G E Q S V L I E K Y L M E V G D F F Y N Y N D Y E                 |   |
| UniRef90_W6K359         | E V V V V S T C N R T E   V Y T E A V T F H G A V S A H D   T E R L A V   H Y E D R                   |   |
| UniRef90_Q26GX4         | S L A V I L S T C N R T E   I I Y G F A Q H P F Q L   R L L C   E H A Y I   H K N E D                 |   |
| UniRef90_UPI00047EE7EC  | S L I I V T S T C N R T E   I I Y G F A Q H E N S Q G T V E D F Q Q K V A F V   Y K N S E             |   |
| UniRef90_F9ZSY0         | E V V I I L S T C N R T E   I I Y A H G P E I   L R D W L R T F H G L   D A S V   Y R G A E           |   |
| UniRef90_T2BG50         | E C L V I L S T C N R V   E I I V A Y V K E A C   A Y E I I I K S S L A Q K A D I   F E D S G         |   |
| UniRef90_B3QWI0         | E A L V L L S T C N R T E   I I L Y V V T A N Y L K D Y L I E V T R D H   F F N Y F A C               |   |
| UniRef90_R7IS88         | Q I I I L L G T C N R S E   V V Y Y F Y E T E E Q A F P G V G G L Q E Y M H S A Y G E E               |   |
| UniRef90_UPI000369A035  | D L L V I S T C N R T E   V V Y Y A F E Q D V S T E   I A N Y L L P   Y F Q F F A A N D Q             |   |
| UniRef90_UPI00030CA879  | A A V V V S T C N R L E   I Y Y A E T R A Q H T G V D R D E I A P H   L Y S H H A D G                 |   |
| UniRef90_H1PYB8         | G Y V [N] S T C L R I   E Y Y I   H V E E G F T E D E I F P S Q E E L F V   K R G E N                 |   |
| UniRef90_D4YMU3         | G V V V L L A T C N R V   E I I I A E G L A D L G S A L V D M T S F H M F V R Y G K E E               |   |
| UniRef90_W0F3T3         | S V F V V S T C N R T E   I I Y G F A E S V M Q L V E L L V P   H T Y F K N G E E                     |   |
| UniRef90_W8UV5          | S L A A I S T C N R T E   I I Y G C A P S E H S H G T V E E F E Q V G G Y V   H E D D A G             |   |
| UniRef90_C8PGL5         | E C L V L L S T C N R I   E A Y V D A K T D R M G I D A P L   P E G A F F L   E R G M A               |   |
| UniRef90_D0WET1         | G Y V [N] L S T C L R I   E Y Y I   H V E E G F T E D E I F P S Q E E L F V   K R G E N               |   |
| UniRef90_E3HDD6         | E L L L V L S T C N R T E   A Y I Y G T D E D V A V R T L L S R   H A F H   F Q D E A                 |   |
| UniRef90_D0MJW7         | UniRef90_R9BV39   | E V V I I L S T C N R T E   I I Y F N G S L S D E E G L K K I   F E I Y C   F Y   K E K E   |
| UniRef90_A6LSY3         | E V V I I L S T C N R T E   I I Y F N A S L N E E E L L K K Y   F D I Y V F I   T N N K D D           |   |
| UniRef90_S0FRU3         | G A V V L L S T C N R T E   I I Y I S S Q N A S G T D P V Q L L C   K Y F N I   K Y D N D D           |   |
| UniRef90_A6NSD3         | G C V I I I S T C N R T E   I I Y L S C   Q P G   V A G Q D Y A P   F A Q A F V T R R D E D           |   |
| UniRef90_D8LNJ4         | UniRef90_G2PQ67   | E A A V L S T C N R F E   V V A T D A H A A H   L Q E Y S R Q N L F M   S R E D             |
| UniRef90_L0KUF2         | E C V V M K T C N R I   E I Y V V S P K G S S V L F N F A K S M A F E F L D H   N E E                 |   |
| UniRef90_K2QP08         | UniRef90_C6W1H7   | G I I M A T S T C N R T E   I I Y G F A Q H P L   Q L L C   D N S N G S L F V Y K N K E     |
| UniRef90_H1G1E2         | E D V L A V S T C N R T E   I I Y Y S S A T D L N E D I L K F K   L F E Q F S E G E A                 |   |
| UniRef90_X0R1E9         | UniRef90_UPI000467FF01  | E A A I L L S T C N R T E   I I Y F R S E A H V L   H W M A D F H R P Y   I Y R H   S E A D |
| UniRef90_UPI0004748C26  | G S V I V V S T C N R T E   I I Y A L V P Q K I   K A W L   A D F I   D P Y   L Y V   H R D T H       |   |
| UniRef90_B6BW40         | E C V V L L K T C N R V   E I Y G Y A E H E N S Q G T V   E E F Q K V   A Y V V   F K N Q D           |   |
| UniRef90_UPI000379E97F  | G V V V L V S T C N R T E   I I Y S S V N S N D K V   E W L C   K H H N D   H C Y   F L N G F A       |   |
| UniRef90_F3KHW9         | E C V I I I Q T C N R I   E L F G K A Q N Y D I N K L   K E A F K E N   I E F   V E N G E             |   |
| UniRef90_UPI0003824968  | N F F I V S T C N R T E   I I Y F Y G F A E N E D T E G N A E D F R Q F M M V   K E G E E             |   |
| UniRef90_UPI0002559B66  | G V V V L V S T C N R T E   I I Y T V T G F A K H E   H S N G T V   E D F V   K F S N I   Y K D A E D |   |
| UniRef90_R9SLQ0         | E Y V E I S T C N R H   E F Y I H S D A F G I   E D I I   D S N D S N   L I I   E T G E D             |   |
| UniRef90_F5SPM4         | G S L I I I S T C N R T E   I I Y A L A P E Q L V I S W L   A E F K H   P Y   L Y D Y I   D S Q       |   |
| UniRef90_12EUW5         | E V V L V L S T C N R T E   I I Y Y V V S E N N L G E E I I E I L P   F F E   I I S E H   S E         |   |
| UniRef90_H8IA29         | E A M I I L Q T C N R V   E I Y A E D K L K   R K F   C   A E G L   P P M E H   A I G D D             |   |
| UniRef90_W2UJS3         | S L L V I I S T C N R T E   I I Y G F A Q H P F Q L   I K L I C   D N S Y V   C K N N D               |   |
| UniRef90_UPI000476F658  | E V V M V V S T C N R T E   I I Y A D G V V A A I T E L L   L A W H T S   D H   Y V   H Y E D S       |   |
| UniRef90_K0JD3          | E C V I I I Q T C N R I   E V F A A S K N P D A V G L P   E K D F A N V E V   S R G R E               |   |
| UniRef90_UPI000404E9A80 | D A L I I L S T C N R T E   I I Y Y S S H E   D L S S E   I K D Y L   E Y F E L   Y K N D D           |   |
| UniRef90_B9D551         | E C M V L L S T C N R V   E I I A S V K E L E G A S K H V I A C   M S L D I   Y E D N G G             |   |
| UniRef90_R5H6C1         | S P V M I L C T C S R T E   I I Y M L G S V N D G L R   L R S V V E G   C A M L   F S G E G           |   |
| UniRef90_V6F686         | E A I L V L S T C D R V E   V W A S H V D Q V   A E S L A A R T G M Q L   Y R   H D G P D             |   |
| UniRef90_E4TSZ2         | D V L V L S T C N R T E   I I Y Y F N E E E L S E   D I I K F K   P Y F E I I   N E H   L P           |   |
| UniRef90_Q12WM5         | E C A V I I I K T C N R V   E I I Y V V S S K G S S V L F H   Y A K E   M G V E F Y D H   D E         |   |
| UniRef90_J1L2L5         | G V V L L Q T C N R I   E V L V Q G S A A L T D F L   H   E Q G R E K F E   I R E G V D               |   |
| UniRef90_K8EM76         | E A A I L I S T C N R M E   V Y D R A V A E L E N W M S K W S R E   H F F   L   K D R D               |   |
| UniRef90_F7K7G5         | Q A V V L L N T C N R T E   I I Y V T G G E N S F S L L E R Q   R   R   S R R F Q G G K K             |   |
| UniRef90_D7E6D2         | E C A V I I I K T C N R V   E I I Y V V S P K A S S V L F H   F A K D M G A E F Y D H   E D D         |   |
| UniRef90_R9KKL0         | Q S M V L S T C N R S E   I I Y Y V Y G K E A Q Q A Q I   Q Q I Y   E Y L V K   L S G E E D           |   |
| UniRef90_A9KP81         | G C I I I L S T C N R M E   V W W S C   F C E E F E T S   L Y E R Y R   H C F I E R G G G Y D         |   |
| UniRef90_UPI00047A4DA3  | E V V L L S T C N R V   E I I I T K S S N E K L A F Y S K L   D F L   Y   Y D N D V                   |   |
| UniRef90_UPI00047DF3D7  | E L V L L V L S T C N R V   E I I I I G Q S S K N   I E K L   A D F L Y   D R A D   Y D G D A         |   |
| UniRef90_K4RJT6         | E I I I G L C T C N R V   E I F Y C Y G T   L E S T A L L E A L T H   E K S M H   Y T H T E           |   |
| UniRef90_B5JQ7          | E S L V L L N T C N R F E   I I Y T K L E K D A A E F Y G E P   S D K   H   H   R S G R E             |   |
| UniRef90_L0FR56         | D T L I I L S T C N R T E   I I V Y Y A H E   D L S T E   I K Y   L E Y F T T I   Q D D K K           |   |
| UniRef90_M1MBG6         | E A V I I I L Q T C N R T E   I I Y F N A S F E K K E   L L E K Y R K Y   I F I   A S D K G           |   |
| UniRef90_B6BLM3         | E T I I I L I S T C N R M E   I F C S C S Q H   I F E Q L   E G R A D I   F D D S S                   |   |

|                        | 90  | 100   | 110 | 120 |
|------------------------|---|---|-----|-----|
| UniRef90_UPI0003786954 | A V A H L F S V A G L E S M A V G E S Q L R D A L R V G R A G G Y V G                 |   |     |     |
| UniRef90_T2KQW7        | A V S H M F R V G S G L D S Q I L G D F E I S Q L K K S A R V S K K L G L N           |   |     |     |
| UniRef90_UPI0003F61101 | A I N H V F R V G T G L D S Q I L G D F E I S Q I K L S F T E S K N H G L A N         |   |     |     |
| UniRef90_R9VG17        | A V S H L M R V A S G L D S L V L G P Q L G Q V K K A F A D S R R G H D N A           |   |     |     |
| UniRef90_J2IZ20        | A V N H M F R V G T G L D S Q I L G D F E I S Q I K I A F N S S K L E G L V N         |   |     |     |
| UniRef90_G8LU04        | A V K H L M E V A S G L H S M I F G E D Q L G Q V K E A I Q T A N K E K V S D         |   |     |     |
| UniRef90_G2IUC3        | A A R H A F R V A S G L D S M V L G E T Q L G Q V K E A H A E A L D F F A A T G       |   |     |     |
| UniRef90_A6TJD3        | A V Q Y L Y H V C V G V D S L V I G E D Q L G Q V K E A H A E A L D F F A A T G       |   |     |     |
| UniRef90_K0RB49        | A V W H L M R V S G G L D S L V V G E G Q L G Q V R Q C H L H S I E D D G H C G       |   |     |     |
| UniRef90_UPI00047A34EB | A V R H L F H V A M G L E S Q V V G D L Q S N Q I K N A Y Q W A D M G T A G           |   |     |     |
| UniRef90_R6QU22        | A V S Y L M E M T S G L H S Q I L G E D Q V S Q V R E A L N R A R E C C K P D G G     |   |     |     |
| UniRef90_F3ZIT1        | A V H H L F S V A C G L D S M V G E G Q L G Q V K D A L A R S Q E L H T A G           |   |     |     |
| UniRef90_W9DQ00        | S I M H L L R L A C G L D S M I I G E D Q L G Q V K D L Y L V A K K L G T T G         |   |     |     |
| UniRef90_I0ENR5        | A V H H V F C V C S S L D S M V V G E T Q T G Q M K N A Y K F A F E E G F C A G       |   |     |     |
| UniRef90_A6Q355        | A I H H V F S V A S G L D S L V G E T Q T G Q M K D A Y K E A Y E K G W C G           |   |     |     |
| UniRef90_UPI000248FD69 | A V K H L F R V G T G L D S Q I L G D F E I S Q V V K H G F K L A K Q Y T M I N       |   |     |     |
| UniRef90_F2KQ96        | C L E H L L R V A S G L D S M V G E D Q L G Q V D F Y N L S K Q F G G J G             |   |     |     |
| UniRef90_A5FLE3        | A I N H M F R V G T G L D S Q I L G D F E I S Q I K T S F T H S K S M G L A N         |   |     |     |
| UniRef90_G8R8U5        | A I E H L F K V S S G M E S K I L G D F E I G Q I K K S F L F A K E Q A A H N         |   |     |     |
| UniRef90_G0HHX5        | A A E H M L T V A S G L D S M V I G E Q Q V V G Q L K N A F V T A D A N G T V G       |   |     |     |
| UniRef90_A7GYU7        | A V H H L F A V A S S L D S L V V G E T Q I L T Q M K D A A D F S R Q L F G T D       |   |     |     |
| UniRef90_R7K1K0        | A V Q D L F A L A G G L K S Q I L G E D Q I L T Q M K D A A D F S R Q L F G T D       |   |     |     |
| UniRef90_UPI0002485E59 | A A E H M L T V A A G G L D S M V I G E Q Q V I G Q L R A A Y Q S A S D T G T V G     |   |     |     |
| UniRef90_U2AXU6        | A I N H L F H V G T G L D S Q I L G D F E I S Q V L K K S F L A K K Y N L I N         |   |     |     |
| UniRef90_U5MWX6        | V C R H L F E V C C G F H S K I L G E D Q I L G Q V K N A Y E A L E E N S V S         |   |     |     |
| UniRef90_F3ZW51        | T I N H I V N V A C G L D S M V I G E D Q I L G Q V N D A R Q Q A L A V G A C G       |   |     |     |
| UniRef90_A8ERT8        | A V H H L F S V A S A L D S L V I G E T Q I V G Q L K D A F R F S Q A K G Y C S       |   |     |     |
| UniRef90_UPI0001E2CC06 | A V V Y L F E L A C G I H S M I F G E D Q I T Q M V K G A C A N E V M A S D           |   |     |     |
| UniRef90_C0BHT2        | A F H H L F R V G T G L D S Q I L G D F E I G Q I Q S F Y R S K K M Q L A H           |   |     |     |
| UniRef90_Q0W5T5        | C L K G L L R L A C G L E S S M I V G E D Q I L G Q V K T A L Q A R R L G T I G       |   |     |     |
| UniRef90_A6DR74        | A L E H L F K V A S G L D S L V V G E V Q I L G Q V K S A F E L S F E Q N Y A T       |   |     |     |
| UniRef90_W6K359        | A I A H A F R V A S G L D S M A L G E S Q I R A Q L R A S F E R V V G                 |   |     |     |
| UniRef90_Q26GX4        | A C N H L Y T V G T G L D S Q I L G D F E V I G Q I Q S F Y R S K K M Q L A H         |   |     |     |
| UniRef90_UPI00047EE7EC | A I N H M F R V G T G L D S Q I L G D F E I S Q L K N A F V K S K E L N L V N         |   |     |     |
| UniRef90_F9ZSY0        | V A R H L F R V A C G L D S M I I G E P Q I L G Q V K D A Y Q I A A D V G A T G       |   |     |     |
| UniRef90_T2BG50        | A I H H L F S V A S S L D S L V V G E T Q I A G Q V L K D A F A F A L K N N F C A G   |   |     |     |
| UniRef90_B3QWI0        | A A R H Y N V A C A I D S L I L G E V Q I L G Q V K T A Y N R A V E M K T V G         |   |     |     |
| UniRef90_R7IS88        | A V N Y L F R V A S G L D S Q V L G E D Q I L G Q V K D A Y E F S K T M G Y S G G     |   |     |     |
| UniRef90_UPI000369A035 | A I R H L F E V C V G L H S Q V V V G D M Q P N Q V K Q S Y Q W S A D M E M A G A T   |   |     |     |
| UniRef90_UPI00030CA879 | A V R H L F A V A S G L H S V V V G E D Q I L G Q V K L G E R S Q R L D R T G S       |   |     |     |
| UniRef90_H1PYB8        | A A E Y L F K V S C G F Y S V I K G E D Q I L A Q V K C A H S L A M N N T S S         |   |     |     |
| UniRef90_D4YMU3        | A Y E H L F E L T T G L D S M A I G E A Q I L G Q V R T A L N E A R T A G T L T G     |   |     |     |
| UniRef90_W0F3T3        | A L R H L F D V A A G L D S Q I L G D Y E I L G Q V K R A V D T A R S Q H M I G       |   |     |     |
| UniRef90_W8UV5         | A N R H L F Q V G T G L D S Q I L G D F E I G Q V L K I A F K R S K K L G M L N       |   |     |     |
| UniRef90_C8PGL5        | A I H H L F A V A A S L D S L V V G E T Q V V G Q V K D A F K F A K Q N S Y A G       |   |     |     |
| UniRef90_D0WET1        | A A T H L F R V V C S L D S Q V L G E A Q I L G Q T R G A F E D A V A A G T C T       |   |     |     |
| UniRef90_E3HDD6        | A L H Y L F R V I C G F E S V I K G E D Q I L A Q V K K A H Y D S V E V G T T S G     |   |     |     |
| UniRef90_D0MJW7        | A L R H V L E V T C G L R S Q V L G D A Q F S Q I K E D Y R L A V E A G S V G S G     |   |     |     |
| UniRef90_R9BV39        | T V R H L M E V V C G F H S K I L G E D Q I L G Q V K D S Y Q L A L E I K A V K       |   |     |     |
| UniRef90_A6LSY3        | A Y R H L F E V C S G F H S K I L G E D Q I L G Q V K D A Y E F S K T M G Y S G G     |   |     |     |
| UniRef90_S0FRU3        | A I L H L M E V A C G L E S M V I C E D Q I T Q V G N A V Q T A R E E K A T D G       |   |     |     |
| UniRef90_A6NSD3        | A V R H L A R V A A G R S Q V W G E D Q V T Q V K T A I A S R E N G G A D G           |   |     |     |
| UniRef90_D8LNJ4        | A V W H L L R V S A G L D S L V V G E Q I L S Q V R Q C Y L H G T E K G S A G         |   |     |     |
| UniRef90_G2PQ67        | A I S H M F K V G T G L D S Q I L G D F E I S Q V K Q F Y R S K K L E M A N G         |   |     |     |
| UniRef90_L0KUF2        | S L L H L L R L A C G L E S M I V G E D Q I L G Q V R D M Y L L A K K T G T T G       |   |     |     |
| UniRef90_K2QP08        | A I D H L F K V G T G L D S Q I L G D F E I S Q V K Q S F T L S K K L G L T N G       |   |     |     |
| UniRef90_C6W1H7        | UniRef90_H1G1E2   | A V K H L L R V A C G L D S L V G E P Q I L G Q V K H A Y Q W S A D L N M A G |     |     |
| UniRef90_X0R1E9        | A V K H L L R V A C G L D S L V G E P Q I L G Q V K H A Y Q W S A D L N M A G         |   |     |     |
| UniRef90_UPI000467FF01 | A L T H W L R V A A G L D S M I L G E P Q I L G Q V K R S V Q A Q E Q K A L S         |   |     |     |
| UniRef90_UPI0004748C26 | A I N H I F R V G T G L D S Q I L G D F E I S Q V K N G F T E S K A M D L T N G       |   |     |     |
| UniRef90_B6BW40        | S V R H L L R L V S C G L E S M I L G E D Q Q G Q V R E A F L A Q S E G F V G         |   |     |     |
| UniRef90_UPI000379E97F | A I L H M F R L A S G L E S M V I G E T Q I L G Q V K D A F R K A I D N S Q S T G     |   |     |     |
| UniRef90_F3KHW9        | A L H H L L K L T S G L D S M V I V G E E Q I L G Q V K K N S I T A A R N A K A S G   |   |     |     |
| UniRef90_UPI0003824968 | A I N H L F R V S S G L D S Q I L G D F D I I G Q V K I W F S R F K K Q G A S N G     |   |     |     |
| UniRef90_UPI0002559B66 | A I Q H L F R V I C G L E S M I L G E D Q Q G Q V K Q A Y Q L A Q K Y G T V N G       |   |     |     |
| UniRef90_R9SLQ0        | S V F H L F R L S S L E S M I V G E D Q I L G Q V K D S K K A E K E G H L G T I G     |   |     |     |
| UniRef90_F5SPM4        | A L T H L L R V A A G L D S M I L G E P Q F G Q I K R S V A D A K Q Y G Y L T         |   |     |     |
| UniRef90_I2EUW5        | A V R Y L F E V A M G L H S Q V V G D L Q P N Q V K H A Y Q W S A D V Q M A G         |   |     |     |
| UniRef90_H8IA29        | T L L H L L R L A C G L D S M I L G E D Q L G Q V K H A A Y L L S E K N G A M G       |   |     |     |
| UniRef90_W2UJS3        | A I A H V F R V G T G L D S Q I L G D F E I S Q V K Q S F A A S K K M E L T D G       |   |     |     |
| UniRef90_UPI000476F658 | A V Q H L F S V T C G L D S M V V G E G Q I L G Q V R N S L K E G Q E T G S V G       |   |     |     |
| UniRef90_K0JD3         | A V M H L M K L T S G L D S M V I V G E D Q I L G Q V K R R A V E F L A Q S E G F V G |   |     |     |
| UniRef90_B9D551        | S V S H L F F V A V A S L D S L V I G E T Q I A G Q V K A E Y K F A R S D G K C G G S |   |     |     |
| UniRef90_R5H6C1        | A V R H L F F R V A C G L H S M V V G E D E I L G Q V R C A Y S F S A E R R L S G     |   |     |     |
| UniRef90_V6F686        | A V R H C F A V T A S L D S L I I G E P H V L G Q V K A A H R L A R D A A T C G G S   |   |     |     |
| UniRef90_E4TSZ2        | A V E R H L F R V A M G L E A Q V G D D Q S N Q V K A A Y Q L S A D Q L A G G S       |   |     |     |
| UniRef90_Q12WM5        | S L R H L L R L A C G L E S M I I G E D Q L G Q V K D F F L M A K G A G T V G G       |   |     |     |
| UniRef90_J1L2L5        | V L R H L L Q V A A G L D S M I V G E D Q L G Q V K S F V Q M G E N V K G F G G S     |   |     |     |
| UniRef90_K8EM76        | A C T H L L L R V S G G L D S V V L G E G Q L G Q V M Q Y L F S C K E G K P G         |   |     |     |
| UniRef90_F7K7G5        | A L E H L Y R V T C G M D S M V L G E D E I L G Q V K D L Y T T A K N V G T I G       |   |     |     |
| UniRef90_D7E6D2        | S L K H L L R L A S G L E S M I V G E D Q L G Q V K D L Y T T A K N V G T I G         |   |     |     |
| UniRef90_R9KKL0        | A I G Y L F R I A A G M E S L V L G E D Q L G Q V K E A L D Y S R T M G Y S G         |   |     |     |
| UniRef90_A9KP81        | A I E H L F Y M T C G L K S K I I G E D Q L T Q V R E A L E L S R E N Y C T D G       |   |     |     |
| UniRef90_UPI00047A4DA3 | A V H H L F S V A S A L D S L V I G E T Q V V G Q V K D A Y R F S Q M K H Y C E       |   |     |     |
| UniRef90_UPI00047DF3D7 | A V H H L F F R V A S A L D S L V I G E T Q V V G Q V K D A F R F S Q S K N F C A G   |   |     |     |
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| UniRef90_B5JQG7        | A V Q H L I E V S A G L R S Q I T G E A E F G Q V K S A Y A E S Q N R G Y A G G       |   |     |     |
| UniRef90_L0FR56        | A I E H L F K V S M G L E A Q V V G D M Q S N Q V K R A Y Q A S A D M E M A G         |   |     |     |
| UniRef90_M1MBG6        | A Y R H L F E V C C G F H S K I L G E D Q L G Q V K E A Y E K A I K F K A V V S       |   |     |     |
| UniRef90_B6BLM3        | A I H H L F T V A S S L D S M V I G E T Q A G Q V K D A F R F S Y D N G H C G         |   |     |     |

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| UniRef90_T2KQW7        | T F L L E R L V S M V T Q A S K R I K T E T E I     |
| UniRef90_UPI0003F61101 | N F I I E R L V N S V I Q A S K R V K N E T E L     |
| UniRef90_R9VG17        | S D L L E R M F Q K S F S V A K R V R T E T D I     |
| UniRef90_J2IZ20        | T F L L D R L V N S V I Q A S K K I K T D T E I     |
| UniRef90_G8LU04        | P I L L N T L F R Y S V T C A K E V K S             |
| UniRef90_G2IUC3        | T Q L L N A L F Q K T F A V A K E V R S K T A V     |
| UniRef90_A6TJD3        | K I L L N K L F L E A V T T A K E V K T E T E A I   |
| UniRef90_K0RB49        | K V L L S R L L N N A V A A G K R V R S E T N I     |
| UniRef90_UPI00047A34EB | P F L L H R L M H T I F F T N K R V V Q E T A       |
| UniRef90_R6QU22        | P V L L D T L F R M A V T A A K K V K T E T R       |
| UniRef90_F3ZIT1        | R L L L N D L F Q S A L R V G K R A H S E T T G I   |
| UniRef90_W9DQ00        | K M I L D T A F S K A I Q V G K R V R T E T E       |
| UniRef90_I0ENR5        | K N L L T R L L H F A F K C A A K V R N A T C I     |
| UniRef90_A6Q3S5        | Q K L L G R V M H Y A F K C S K E V R S S T D I     |
| UniRef90_UPI000248FD69 | P F M E R L V N A V I Q A S K R I K N E T E E I     |
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| UniRef90_A5FLE3        | A F M E R L V N A V I Q A S K R I K T E T E I       |
| UniRef90_G8R8U5        | T F L L E R L V N S A V Q T S K K V K N E T Q L     |
| UniRef90_G0HHX5        | S T L L H E L T Q R A L R T G K R V H S E T T E V   |
| UniRef90_A7GYU7        | E H I L S R L V H Y A C K C A A R V R N E T Q I     |
| UniRef90_R7K1K0        | K I L L E T L F R M A V T A G K E V K T K           |
| UniRef90_UPI0002485E59 | T T L L H D L L T Q R A L R T G K R V H S E T D V   |
| UniRef90_U2AXU6        | A Y M E R L L N C V I Q A S K R I K N E T E E L     |
| UniRef90_U5MWX6        | L E L L H R L F Q E A I T C G K K F R N E S K L     |
| UniRef90_F3ZW51        | K V M D R L F R E A V T A G K A M R T S T G I       |
| UniRef90_A8ERT8        | L N I T R V M H Y A F K C A A Q V R T A T S L       |
| UniRef90_UPI0001E2CC06 | A I L L N T L F R C A V T C A K K V K T             |
| UniRef90_C0BHT2        | G S L L E R L T N A V I Q A S K R I K T E T E I     |
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| UniRef90_A6DR74        | A N F A H I Y Q Q M L K C A R Q V R R D T E I       |
| UniRef90_W6K359        | P A L N G L F Q Q A L R V G K R V H T E T G L       |
| UniRef90_Q26GX4        | A Y M E R L L M N C V I Q A S K R I K T E T E E L   |
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| UniRef90_T2BG50        | V H L L S R A I H S A F K C A A K V R N E T Q I     |
| UniRef90_B3QWI0        | P I L L N K M C H T G F G L A N R V R S K T K L     |
| UniRef90_R7IS88        | K E L L N R V V Q D A L A C A K N M K T E L K I     |
| UniRef90_UPI000369A035 | P F L L H R L M H T I F F T N K R V A Q E T A       |
| UniRef90_UPI00030CA879 | R V L L A K A V Q T A L R V G K R A R N E T G L     |
| UniRef90_H1PYB8        | K I L L N V F N K A I E L V G K K F R T E S K I     |
| UniRef90_D4YMU3        | G D L L E R A V S R A L E V G K R A H S E T T A L   |
| UniRef90_W0F3T3        | P V M D R M L N F A F Q S S K K I K T E T T N L     |
| UniRef90_W8UV5         | P Y M E R L L I N A V I Q A S K R I K T E T T Q L   |
| UniRef90_C8PGL5        | A Q I I A R A I D E A L K K C A A R I L R N Q T E I |
| UniRef90_D0WET1        | D V L L M H L F K D A L H L G K R A R A E T A I     |
| UniRef90_E3HDD6        | K V L L N V I F N K A I E L V G K K F R N E S Q I   |
| UniRef90_D0MJW7        | T V M M H R L L H S A F R A A K R V A S E T S L     |
| UniRef90_R9BV39        | H D L L Q R L F Q E A I T C G K R F R T E E L       |
| UniRef90_A6LSY3        | L E L L H R L F Q E A I T C G K R F R K E A K L     |
| UniRef90_S0FRU3        | S A L E E T I F R L A V T A A K K A K T             |
| UniRef90_A6NSD3        | P V L L E T L F R T A V S S A S K A V K T K A R L   |
| UniRef90_D8LNJ4        | K V V A R M L N T A V S A G K R A R A E T S I       |
| UniRef90_G2PQ67        | P F L L E R L L C N A V I Q A S K R I K N E T E E L |
| UniRef90_L0KUF2        | R M L L D T A F S K A I Q V G K R V R T E T E V     |
| UniRef90_K2QP08        | H F L L E R L L C N C V I Q A S K R I K N E T E E L |
| UniRef90_C6W1H7        | P F L L H R L L H T I F F A N K R V A Q E T         |
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| UniRef90_UPI000467FF01 | A Y L L E R L L V N S V I Q A S K K I K T D T D I V |
| UniRef90_UPI0004748C26 | P T L L S V V F R K A I S V G K K V R T E T R V     |
| UniRef90_B6BW40        | N N L L I P F F S K V F E L S K I I R S K T Q L     |
| UniRef90_UPI000379E97F | S I L L S R M F H K G F E T A K K I I R N           |
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| UniRef90_UPI0002559B66 | T Y L L E R L L M N N V L Q A S K E V K N H T K L   |
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| UniRef90_W2UJS3        | H F L L E R L L C N S V I Q A S K R I K N E T D I   |
| UniRef90_UPI000476F658 | R V L L N D L L G Q R A L R V G K R A H T E T H L   |
| UniRef90_K0JJD3        | A N L L S I L F D R A L K V G S R V R T A T G I     |
| UniRef90_UPI00040E9A80 | P F L L H R L L M H T V F F T N K R V V Q E T A     |
| UniRef90_B9D551        | A K L L G R A M E F A F K C A A E V R N K T D I     |
| UniRef90_R5H6C1        | H R V V N I I F Q S A V T A K R I K T E T A I       |
| UniRef90_V6F686        | P E L L E A V L L Q A A F N A A K R I I R S E T R I |
| UniRef90_E4TSZ2        | P F L L H R L L M H T I F F T N K R V V Q E T       |
| UniRef90_Q12WM5        | K V L L S T A F S K A I Q V G K R V R T E T F I     |
| UniRef90_J1L2L5        | Q V I I D L L C M K K A V H V G I E V R K Q T K I   |
| UniRef90_K8EM76        | R H L L T G L F K K A I V I A G K R V R N E T T I   |
| UniRef90_F7K7G5        | Y E L L N T A F Q G A L A C A K K I K T E T E I     |
| UniRef90_D7E6D2        | P A L L D T A F S K A I Q V G K K A R T E T R       |
| UniRef90_R9KKL0        | K E L L N K V V R D A I T C A K Q I K T E           |
| UniRef90_A9KP81        | S V L L E T L L F R F A I T S A K Q V K T Q         |
| UniRef90_UPI00047A4DA3 | Q G I L S R V M H Y A F K C A A Q V R T A T S L     |
| UniRef90_UPI00047DF3D7 | E H M S R V M H Y A F K C A A Q V R T A T S L       |
| UniRef90_K4RJT6        | K H L L S R L V H F A F K C A G R V R S V T A I     |
| UniRef90_B5JGQ7        | K L I I N R V F Q K G F Q A A K I I R N S T         |
| UniRef90_L0FR56        | P F L L H R L M H T I F F T N K R V V Q E T A       |
| UniRef90_M1MBG6        | L E L L H R L F Q E A I T A G K R F R K E A K K L   |
| UniRef90_B6BLM3        | Q K I L A R A M H N A F K C A A K V R N A T D I     |

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|                        |   | 90  | 100                                       | 110 | 120 |
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| UniRef90_D5V278        | A | H H L F S V A S A L D S L V I G E T Q             | V G Q L K D S F R L A L S K G Y C G       |     |     |
| UniRef90_C0BL55        | A | H H L F C V G T G L D S Q I L G D F F E           | I A Q I K K G F T S A K K V G L A N G     |     |     |
| UniRef90_Q97MU6        | A | I N H L M E V A C G F D S L G D F D Q             | I A Q I K A A Y D T A L K N K T S G       |     |     |
| UniRef90_R6BHV9        | A | V Q H L F F R L A C G L E S R I L G E D Q         | L T Q V K G A L V T A R E H Y A A D       |     |     |
| UniRef90_A9DT17        | A | I S H L F F R V G T G L D S Q I L G D F E         | I S Q L R K G F K N S Q K V G L I N       |     |     |
| UniRef90_I3ZAA4        | A | I N H L F F N V S M G L L D S A Q V V G D M Q     | S N Q V K R A Y Q A T V D L D M A G       |     |     |
| UniRef90_M4EY85        | A | T Q H L F E V S A G L D S L V L G E G Q           | L A Q V K Q V K E K L R N G F G           |     |     |
| UniRef90_UPI00047107F6 | A | V H H L F A L V V S G Y R S L V Q G E T Q         | V G Q V K E A L F L A R S G S V T T       |     |     |
| UniRef90_FONYU6        | A | V E H L F F R V S S G L E S Q I L G D F D         | I G Q I K I W F T R F K K E G T T N       |     |     |
| UniRef90_K4KY21        | A | F V H L F Q T A C G L K S Q I W G E S Q           | L S Q I K K A I E E A R E T G T A D       |     |     |
| UniRef90_D1B2M6        | A | I H H L F S V C S S L D S L V I G E T Q           | A G Q L K D A F K F A F E N G Y C         |     |     |
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| UniRef90_U6EA5         | A | L E H V L K L S C G L E E S M I I G E D Q         | L L G Q L K D A Y K S S L K T G C C       |     |     |
| UniRef90_G7WL01        | S | N H L L R L A S S G L E E S M I I G E D Q         | L L G Q L M K E L Y N M A K A A E T T G   |     |     |
| UniRef90_Q1QED0        | A | L T H W L R V A A G L D S M I I L G E P Q         | L L G Q L K R A V H M A Q D Q K A L S     |     |     |
| UniRef90_A7J1R7        | A | I H H L F S V V A S S L D S L V V G E T Q         | V G Q V K D A Y N F A K N E R K S G       |     |     |
| UniRef90_W7CBN1        | A | I A H L F E V S T S S L A S S M I V V G E T Q     | L L G Q V K D S F E C A R E V N T T G     |     |     |
| UniRef90_M0M4P1        | S | L R H L M R V A C G L E E S L V L G E D Q         | L L G Q L Q D A Y T N A R A V V G G       |     |     |
| UniRef90_G8PEN1        | A | V Y H L M E L T C G L D S P D I G E P H           | L L G Q V V K N A F F T A Q S S K S T G   |     |     |
| UniRef90_C0B2U4        | A | V S H L M R V A S S G L D S L V L G E P Q         | L L G Q V V K N S L                       |     |     |
| UniRef90_R9J817        | A | I A Y L F F R I A A G L E S S L V L G E N Q       | L L G Q V V K E A L E Y S V T M G H S G   |     |     |
| UniRef90_E4RQW9        | A | L T Y L F F E V A L G L H S Q V V G D Q Q         | I I N Q V V K Q A Y Q W A A D M D M T G   |     |     |
| UniRef90_D4N096        | A | V S Y F Q V T A G L E E S M V L G E D Q           | L L G Q V V K D A L D F S R T M G F S K   |     |     |
| UniRef90_E7G13         | A | I H H T F S V V I S S L E S M V V G E T Q         | T T G Q F F K S A Y K T C L E A K L C G   |     |     |
| UniRef90_R5A1P3        | A | V R H L M E V A A G I R S R I F G E D Q           | I I S Q V V K N A I I T I A R E A G T A D |     |     |
| UniRef90_F7V3Z1        | A | M V H L F F R V I S G M D S M V V G E D E         | L L G Q M R Q A Y L Y A K D R G A A A     |     |     |
| UniRef90_B0P7S2        | A | V R H L M E V A A G G L K S Q I W G E D Q         | L L S Q V V K S A I A A R K A G A A D     |     |     |
| UniRef90_UPI0002D2A02F | A | V E H M L M T V A S S G L D S M A I G E S Q       | L L G Q L Q R S Y S G A Q G A G Q L T     |     |     |
| UniRef90_UPI000373EDA9 | A | V Q H L F E V G A G L E E S Q I L G D E Y E       | I I G Q I K C A V K F S K E R R G F V S   |     |     |
| UniRef90_F8KSU4        | A | I H H V F C V A S S L D S M V V G E T Q           | T T G Q F F K S A Y K M C L E H K L C A   |     |     |
| UniRef90_C7P3Q4        | S | L R H L L R V A A G L E S I V L G E D Q           | L L G Q V V R R A Y Q D A R A V V G G I G |     |     |
| UniRef90_C8WIZ3        | A | V E H L F F R V V I S S L D S L V L G E A Q       | I I G Q V V R R A F A A A E D A G A V I G |     |     |
| UniRef90_S2DNQ2        | A | I D H L F F R V S S M G L E E A Q V V G D M Q     | S N Q V V K R A Y Q L S A D L D L A G     |     |     |
| UniRef90_Q30S94        | A | I H H L F S V A S S L D S M V I G E T Q           | A G Q L K D A F R F S Y D N G F C S       |     |     |
| UniRef90_H1YY64        | A | L K H L L Y L A A G M D S M I V G E D Q           | L L G Q L R K A L A S Q E K G T S C       |     |     |
| UniRef90_E3GX4         | A | I L L H L L K L A S S G L E E S M I I G E T Q     | L L G Q I K D A L Q A Q N N G T C G       |     |     |
| UniRef90_W8T7A9        | A | A V H L M S V A A G L L D S M V L G E D Q         | L L S Q V V K S A H T L A L E C K S S G   |     |     |
| UniRef90_J5K6V9        | A | L V H M S K V A S S G I L D S Q V V L G E Q E     | F F G Q F F K T A Y K K A K D I G I V G   |     |     |
| UniRef90_UPI00035C1C0C | A | L R H L L F A V A A S S L D S M I V G E P H       | V L L G Q V V K A A H R M A R D A G V L G |     |     |
| UniRef90_L0JZW1        | S | L R H L L R V A T G L E S S V V L G E D Q         | G G L Q V V R T A Y E D A R S A G G L     |     |     |
| UniRef90_C7PKZ3        | A | I K H L L Y Q V G T G L D S S Q I V L G D Y E     | I I G Q V V R N A T K F S K A N G C F G   |     |     |
| UniRef90_E4U285        | G | I H H L F F S V A S S L D S M V V G E T Q         | A A G Q L K D A H K L S V D N G F S A     |     |     |
| UniRef90_LOG089        | V | L N Y F Q V V S S G L D S S Q I V L G D A Q       | R S Q V V K Q A Y Q L A H E A Q A T G     |     |     |
| UniRef90_W5XXJ7        | A | A E H M M V V A A G M D S M S V V G E Q Q         | I I G Q V V R T A Y Q H A T E I G T V G   |     |     |
| UniRef90_G0IW55        | A | I S H H L F F R V A M A G L E E A Q V I I G D M Q | S N Q V V K R S Y Q T A V D M D M A G     |     |     |
| UniRef90_UPI00047E7D9F | A | A E H V V R I A S G L E E S Q V V L G D G Q       | L L G Q V V K A A Y K R A S R G Q A A G   |     |     |
| UniRef90_U2EZA2        | A | V D H L F A L A C G L R S R I V F G E D Q         | I I A Q V V K G A L A L A R S C G S A D   |     |     |
| UniRef90_G2MGR2        | A | I R H L M R V A C G L E E S L V L G E D Q         | I I G Q V V K E S L E R G Q E Q G T       |     |     |
| UniRef90_I0AGZ8        | S | V E H L F F R V A T G L D S L L I G D N Q         | F K Q V V K D S F I I S E E M N F A G     |     |     |
| UniRef90_UPI00047086A7 | A | V H H L F S V A S S L D S S L V I G E T Q         | T T G Q V V K D A M S F A L D R N F A G   |     |     |
| UniRef90_SOJ2S2        | A | M G Y L F R I A A G M E S L V L G E D Q           | L L G Q V V K D A L D Y S R T M G Y S G   |     |     |
| UniRef90_U3GY35        | A | A E H L I R V A A G L E E S M V V G E Q Q         | I I G Q V V K R Q A Y R G A G A G         |     |     |
| UniRef90_U4T384        | A | L T H W L R V A A G L L D S S M I V G E P Q       | L L G Q V V K R S V H L A Q D Q K A L S   |     |     |
| UniRef90_I0ETH6        | A | V H H V L C V C S S L D S S L V I G E T Q         | T T G Q V V K M N A Y K F A F E E K F C   |     |     |
| UniRef90_M0LWK2        | S | L R H L L R V A A A G L E E S V V L G E D Q       | M G Q V V R D A Y E D A R D A G G G       |     |     |
| UniRef90_R7RPP8        | C | V L H L L R N V A C G L E E S K I V G E E Q       | L L G Q V V R D A L T S E E L K T V S G   |     |     |
| UniRef90_UPI00040D0010 | A | I L H L F F R V S M G L E E A Q V I I G D Q       | S N Q V V K R A Y Q A A A D S E M A G     |     |     |
| UniRef90_UPI000372738A | A | L T H L L R V A A A G L L D S S M I V G E P Q     | F G Q V V K K T V N T A K E Q G F         |     |     |
| UniRef90_B8GJJ4        | A | I R H L L E V A C G I D S S M I V V G E D Q       | L L G Q V V K K A L A A A Q T A G A C S G |     |     |
| UniRef90_D3DZM5        | A | L H L F R M T S G L E E S M I I V G E D Q         | L L G Q V V K D S K K S E K E G H C       |     |     |
| UniRef90_E7C6Q5        | A | F A H L L R V M T G L E E S M I V G E P D         | F F G Q V V K K A Y E N S R S F G Y L     |     |     |
| UniRef90_UPI00047E0ACB | A | I H H L F F S V A S S L D S S L V V G E T Q       | S S G Q V V K S A F K F S Y E L G C C G   |     |     |
| UniRef90_Q5V118        | S | R H H L L R V A A G L E E S S I V L G E D Q       | L L G Q V V R T A Y E T A R G V V G G I   |     |     |
| UniRef90_Q2RWE2        | V | V A H M F R I T S A L E S S Q V V L G E P H       | L L G Q V V K A A H R S A D R A G T V G   |     |     |
| UniRef90_I4AKZ0        | A | V K H L F F S V S M G L Q S V I V G E D Q         | S N Q V V K A Y Q Y S Q V A D L N L A S   |     |     |
| UniRef90_R6VGH0        | A | V K D L F A L A G G L K S S Q I V L G E D Q       | L T Q V V M K D A A D F S R K F F G T D   |     |     |
| UniRef90_A4G0A1        | A | T F H F L K V S C G M D S M I L G E N Q           | L L G Q V V K T S F Q K A R E L K K T S   |     |     |
| UniRef90_A7HBF2        | A | Y R H L L V R V A A S S L E S A I L G E P Q       | L L G Q V V K E A F Q R S I D Q G V A A G |     |     |
| UniRef90_I7BXP2        | S | L R H L L R V A A A G L E E S V I V G E D Q       | I I G Q V V R T A Y E D A R A A G G G I   |     |     |
| UniRef90_B9L8M0        | A | I E H I F K V A A S L D S S M V V G E T Q         | T T G Q V V K E A F Y E A Y E K H F I G   |     |     |
| UniRef90_B2UXC6        | A | C K H L F E V T C G F H S K I V L G E D Q         | L L G Q V V K T S Y F K S L N A K A L N   |     |     |
| UniRef90_C3XMN0        | A | I H H L F F S V A S S L D S S L V V G E T Q       | A A G Q V V K S A F K F S Y E M G C C G   |     |     |
| UniRef90_V8CAN4        | A | L H H L F F S V S G L L D S S V V I G E T Q       | V G Q V V K S A Y K C Y D G V C           |     |     |
| UniRef90_M0DCZ5        | S | L R H L L R V A A A G L L D S S V V I G E D Q     | L L G Q V V K R A F E D A R G A G G G I   |     |     |
| UniRef90_A6ELI9        | A | V A H L F F K V G T G L D S S Q I V L G D F E     | I I S Q L R A G L R R R S K N Q G V L N   |     |     |
| UniRef90_T1CSJ1        | A | V H Y V F N V A V A S S L D S S V V I G E T Q     | T G Q V V K N A Y K M C F D L G I C       |     |     |
| UniRef90_B3EPK1        | T | A R H L F E V S S A V D S S L I V G E G Q         | L L G Q V V K N A Y R I A V E V Q S A G   |     |     |
| UniRef90_UPI000255631F | A | I K H L I S V A G G L L D S S L N I G E Y E I     | A A G Q V V K D A Y A I I A R N N G Y T G |     |     |
| UniRef90_H2JDG0        | S | I F H L M E V A C G L Q S M V V L F E D Q         | I I T Q V V K N A A T V A R E E K T I     |     |     |
| UniRef90_Q59292        | A | I F H L M E V A C G L Q S M V V L F E D R V       | I I T Q V V K N A A A S R E E K T I       |     |     |
| UniRef90_A0RXF8        | V | L E H L L R L T S G L D S S M V V G E E Q         | L L G Q V V K N A I T S A R T S G A S G   |     |     |
| UniRef90_C6PWV0        | V | L E H L M D V V C G F N S L I L G E D Q           | L L G Q V V K T S Y D L Q A T G G I       |     |     |
| UniRef90_W0JS0         | S | K H L I R V A C G L L D S S V V L G E D Q         | I I G Q V V R T A Y E D A R T A G G G I   |     |     |
| UniRef90_D8JA91        | S | L R H L L R V A A A G L L D S S V V L G E D Q     | I I G Q V V K E A Y A E A R G L G A L G   |     |     |
| UniRef90_C7P6Y7        | A | E H L F F V A C G L E E S M I V V G E D Q         | I I G Q V V K N A Y L K A K E K G K I     |     |     |
| UniRef90_E0URL0        | A | H H L F F V A V A S S L D S S M V V G E T Q       | A A G Q V V K D A F K F S Y D R G Y S A   |     |     |
| UniRef90_K9AVF1        | A | L Q H L L K V A C G L D S S M A I G E A Q         | L L G Q V V R S T F T D S M A A G A L T   |     |     |
| UniRef90_TONG68        | S | R H L F L V S S G L L D S S M A I V G E Q E       | L L R Q V V K S S Y D L S T K R G K S D   |     |     |
| UniRef90_UPI000464569E | C | V D H L F F E L V S G L L D S S M V V G E T Q     | F F G Q V V K A A Y E A A H Q L Q A T G   |     |     |
| UniRef90_UPI000473E71C | A | A L A H M C K V A S S G L L D S S Q V V G E Q E   | F F G Q F K T A L R N A K E Y K I I G     |     |     |
| UniRef90_D6YS67        | C | F I H L A R V T A G L L D S S A I V A E T E       | Q G Q V V K I A Y E K A A D A A I L P     |     |     |

130                    140

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|------------------------|---|
| UniRef90_E4S6S1        | P V L E R L F E V A L K C S K E F R T K S K L       |
| UniRef90_D5V278        | K D I L S K A M N Y A F K C A A N V R N E T S L     |
| UniRef90_C0BL55        | P F M E R L T N A V I Q A S K R I K N E T D I       |
| UniRef90_Q97MU6        | S E L K K K L F Q L V I T C G K E F R S             |
| UniRef90_R6BHV9        | N V L E V L F R M A V T A G K K V R T               |
| UniRef90_A9DT17        | G F M E R L V N A V I T A S K R I K N E T E I       |
| UniRef90_I3ZAA4        | P F L H R L M H T I F F T N K R V V Q E T A         |
| UniRef90_M4EY85        | M V I P G L F E K A I T A G K R A R A E T G I       |
| UniRef90_UPI00047107F6 | N I I L R L F D K A L E V A K V V R T               |
| UniRef90_FONYU6        | A F L L E R L I N T S I Q I S K R I K N E T         |
| UniRef90_K4KY21        | L Y L E K L F Q M A I T S A K K V K T Q             |
| UniRef90_D1B2M6        | Q K L G R A M H H A F R C A A E V R S R T D I       |
| UniRef90_R7NIW0        | Y E F N M I F Q K S F E C A K I I K N E T           |
| UniRef90_U6EA5         | P I L S T V F T K A I H V G Q S V R K K T R I       |
| UniRef90_G7WL01        | W T L D V D A F K K A I S V G K R V V R R E T T R I |
| UniRef90_Q1QED0        | N Q L G W I V D Q V F A A A K R V R N E T Q V       |
| UniRef90_A71R7         | V M L D L A I N S A L K C A A V I R S K T D I       |
| UniRef90_W7CBN1        | V V L N E L F K R A I T V G K Q A Q S E T L I       |
| UniRef90_M0M4P1        | P I F E E G I Q K A I H V G E R A R T E T T A I     |
| UniRef90_G8PEN1        | V L F N H L F K Q A I S F S K W T H Y E Y K I       |
| UniRef90_C0B2U4        |   |
| UniRef90_R9J817        | K E L N K I V R D A V T C A K K I Q T K L K I       |
| UniRef90_E4RQW9        | T Y L H R V M H T I F F A N K R V V Q E T E         |
| UniRef90_D4N096        | K E L N K V V R D A I T C A K K V K T T F R I       |
| UniRef90_E7G113        | K H L S R L A H F A F K C A A S V R N T T A I       |
| UniRef90_R5A1P3        | A V L E T L F R Y A V S A G K E V R T K V R L       |
| UniRef90_F7V3Z1        | Y E L N T I F Q A A L V A A G A K K V K T D T       |
| UniRef90_B0P7S2        | P V L E T L F R N A V V A A G K A I K T Q           |
| UniRef90_UPI0002D2A02F | G E L S R T V Q D S L R V G K R A H A E T A L       |
| UniRef90_UPI000373EDA9 | A F T E R L V N S A I Q S T K V V K N Q T A L       |
| UniRef90_F8KSU4        | Q H I L T R L L A H F A F K C A A A V V R N S T T I |
| UniRef90_C7P3Q4        | S V L E D G I T K A I H V G E R A R T E T T A I     |
| UniRef90_C8WIZ3        | E T T R R L L F R S A L E V V G K R V V R E E T A I |
| UniRef90_S2DNQ2        | P F L H R L M H T V F F S S K R V V Q E T A         |
| UniRef90_Q30S94        | Q K L A R A M H H A F K C A A K V V R N A T D I     |
| UniRef90_H1YY64        | P V L D L C I T K A V V H A G I E V V R K R T N I   |
| UniRef90_E3GX4         | D L L E L I F N K A I H V G Q V V V R K K T K       |
| UniRef90_W8T7A9        | K A I N R L F M N S I S C A R H I K S T L G         |
| UniRef90_J5K6V9        | R E L I Y L S E K V I E I S K K A R T Q T K         |
| UniRef90_UPI00035C1C0C | G D L D T C V Q A A F S A A K R V V R N E T T       |
| UniRef90_L0JZW1        | P M L D A A V T K A I H V G E R A R T E T T A I     |
| UniRef90_C7PKZ3        | G F Q E R L V N S V L Q V S K L I K N E T G L       |
| UniRef90_E4U285        | Q K I I G R A M S Y A F K C A A E V V R N A T N I   |
| UniRef90_LOG089        | T Y T H R L L Q V I F S A N K R I V A S Q T G       |
| UniRef90_W5XXJ7        | P A L H G L V Q A S L H T G K R V H T E T T N I     |
| UniRef90_G0IW55        | P F L H R L M H T I F F T N K K V V Q E T A         |
| UniRef90_UPI00047E7D9F | P V L H R L F E T A L R A G K R V V Q T E T S L     |
| UniRef90_U2EZA2        | G V L D R L F L S A V T T A A K E V V K T S V R L   |
| UniRef90_G2MGR2        | P V L E E A M L K A V V H V G E R A R T E T T A I   |
| UniRef90_I0AGZ8        | F L V K R L M D A A V R V G K R A I S E T T A I     |
| UniRef90_UPI00047086A7 | D N L K R V V V E C S F R C A A E V V R N K T E I   |
| UniRef90_S0J2S2        | K E L N K V V V R D A I T C A K Q I K T E           |
| UniRef90_U3GY35        | P V L H S I A Q S A L R A G K R V H S E T E I       |
| UniRef90_U4T384        | N Q L G W I V D Q V F A A A K R V V R N E T K V     |
| UniRef90_I0ETH6        | K D L T R L L H F A F K C A A K V V R N L T G I     |
| UniRef90_M0LWK2        | P M L D P A V T K A I H V G E R A R T E T T E I     |
| UniRef90_R7RPP8        | G T L K R L F D V A L S C G K E F R T K S S L       |
| UniRef90_UPI00040D0010 | P F L H R L M H T I F F T N K R I V V Q E T A       |
| UniRef90_UPI000372738A | N Q L S W V V V E Q I F A A A K R V V R N E T D V   |
| UniRef90_B8GJJ4        | P L I E Q C V N K A V H V G V E V V R R R T E I I   |
| UniRef90_D3DZM5        | K T L D T I F T K A I H V G Q V V V R N K T K       |
| UniRef90_E7C6Q5        | S N L D A L F S K S I N I T K E I V R S A T N L     |
| UniRef90_UPI00047E0ACB | L H L S R A I H Y A F R C A A S V V R N S T S I     |
| UniRef90_Q5V118        | P M L E D G V T K A I H V G E R A R T E T T K I     |
| UniRef90_Q2RWE2        | S A T E A L M Q A A Y A I A K R V V R S E T R I     |
| UniRef90_I4AKZ0        | P F L H R L L H T V F Y T N K R V V A Q E T S       |
| UniRef90_R6VGH0        | K I L E T L F R M A V T A G K E I K T N I N L       |
| UniRef90_A4G0A1        | R Y L L D S L F L K A I H V G Q R A R T E T T K I   |
| UniRef90_A7HBF2        | K E L T S V L N R A L S A A K R V V R T D T A       |
| UniRef90_I7BXP2        | S M L E A A V T K A I H V G E R A R T E T T A I     |
| UniRef90_B9L8M0        | Q D L T R L I I H F S F K C A A K V V R N Q T Q     |
| UniRef90_B2UXC6        | L E L L Q R L L F Q Y A I T C G K K F K S Q S R L   |
| UniRef90_C3XMN0        | L Y L S R A I H F A F R C A A S V V R N S T S I     |
| UniRef90_V8CAN4        | Q E I T R L L A H F A F R C G G G R V V R S Q T Q   |
| UniRef90_M0DCZ5        | R V L D D A V T K A V H V G E R A R T E T T A I     |
| UniRef90_A6ELI9        | A Y M E R L G N A V I Q A S K R I K N E T E I       |
| UniRef90_T1CSJ1        | Q N I T R L I I H F A F R C A A Q V V R N Q T Q I   |
| UniRef90_B3EPK1        | I L L T R L L H T A F S                             |
| UniRef90_UPI000255631F | F Y L N T V F Q Q S I I A Y A K N I H S             |
| UniRef90_H2JDG0        | S T L L E T M F R L S I T A A K K A K T E I K I     |
| UniRef90_Q59292        | S T L L E T L F R L C I T A A K K A K T E           |
| UniRef90_A0RXF8        | R R L N T L F D R A I R S G T R I R N S T           |
| UniRef90_C6PWV0        | R D L Q R L F Q T A V T C G K E F R T K S S L       |
| UniRef90_W0JSJ0        | P L L E M A V T K A I H V G E R A R T E T T K I     |
| UniRef90_D8JA91        | E I L L D D A L L K A I H V G E R A R T E T T A I   |
| UniRef90_C7P6Y7        | K K L E K I I I L K A I H T G Q R A R V V E T K I   |
| UniRef90_E0URL0        | K K M S R A L S H A F R C A A K V V R N L T D I     |
| UniRef90_K9AVF1        | S D L S H A L Q Q S L R V V G K R A H S E T G L     |
| UniRef90_TONG68        | K F L S Y T F Q K A I S V V G K D V V R T M T G     |
| UniRef90_UPI000464569E | V W L N R L F Q T S F S A A K A R S R T F I         |
| UniRef90_UPI000473E71C | N K L S Y F A D K V I E I A K K A R T D T E I       |
| UniRef90_D6YS67        | R E L H Y L F Q K S L K I G K S I R S E L G L       |

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|------------------------|---|--|--|--|
| UniRef90_I2FB98        | T Q Y M V I S F S H K N T D I A M R E K L N I T Q A K I L Q E I N E S E S I S       |  |  |  |
| UniRef90_M0CSG7        | I S G A S V D I D R A T T V D E L E A A T V E S Q R A V E R L L S V P A V E         |  |  |  |
| UniRef90_UPI000362F69E | M L L F K A D Y K K Y S I P L L E K M R F D E E E F Y K K Y                         |  |  |  |
| UniRef90_A6LKW9        | N L V G L G R N T P I P L L E K F D F D E Q E F F S S L K V K T T                   |  |  |  |
| UniRef90_L9VVM5        | V T H E S G S V D D L A A A S P E S Q R A V A D L L S V P S V K                     |  |  |  |
| UniRef90_U1QQR0        | I T G V S V A H D A A T V D E I E A A S A D D T A A I A D L Q A K P G V R           |  |  |  |
| UniRef90_D6E8W8        | H T I V V V G L S I K R A P L E I L E Q L S V H S Q C V Q D V K A A A G L A         |  |  |  |
| UniRef90_J2ZFD7        | I T G V S V S H T N A T V D E I E T V C R D D E R F V E T L L A R E G V D           |  |  |  |
| UniRef90_E4TCL3        | H F T V L S I S F E K A D T E T R G R F A F F D E H I Q D F V N K E K N M G         |  |  |  |
| UniRef90_G7Z6J7        | T S Y L V I G A S H R T C S G A V R D R L S T D E A E V M L E R L R A A G V G       |  |  |  |
| UniRef90_M0P9F1        | I C G V S V A H S R A T V D E I E A A G G D G V R A V S D L L A R D G V E           |  |  |  |
| UniRef90_W0K0U2        | V R V S H E T A S L D E L E A A S A A S D A V L D A L L D Q P A V A                 |  |  |  |
| UniRef90_E1IDF6        | V T A A R V T H E S G S V D H L A D A S E S Q E A A V E E L L T V P A I E           |  |  |  |
| UniRef90_P42809        | I L N I R L D H K T S D V K T M E T A S G R I E E I V G E L E A L G A V I           |  |  |  |
| UniRef90_M5TVG2        | L Q M I G C S H D A A V E I R E Q S F S T E Q A L S S F G E R F D G A               |  |  |  |
| UniRef90_H1ANG1        | E F A V I G V S H K Q L A L D K R S L F S T P T D T Q K I E S L L L T Y G I E       |  |  |  |
| UniRef90_R5VRP0        | M F C I S I N H K N T P A D V R E R F A F T T K Q R Q F T E R L K A E V G           |  |  |  |
| UniRef90_U7VC43        | K H F I V F G I S H K N L D L Y Q R E N F I Q N D P S V V E R L L F K E K K I V     |  |  |  |
| UniRef90_V4X415        | I A G V S V A H G S A T V D E I E A A G E D S V R A V S D L L A R E G I E           |  |  |  |
| UniRef90_R6VOE6        | E F G I Y G V S Y K E A D A D V R D C T A F S D T Q K M E L Y N Q L L D V D         |  |  |  |
| UniRef90_C9RIA9        | I T I L K A D Y K K Y N V S E L E K L R I D E E K F Y E N F                         |  |  |  |
| UniRef90_R7FF52        | R L F M A G L D V H S A E I A V R E A L A F S T E Q A L T A L V Q E S G V S         |  |  |  |
| UniRef90_V4H9N8        | I S G V T V S H T L A S V A E I E S A G G G A E A T V A E L R A R D G V T           |  |  |  |
| UniRef90_E2SJN7        | E F G V L G V S Y K E A S V D I R D L T A F T D T E K M E L Y N Q L L D I A         |  |  |  |
| UniRef90_H6RFQ6        | F Y N V G L S Y K K A D V N V R G V F N I T K E D L L L K E A K E N G C E           |  |  |  |
| UniRef90_A3CU63        | P L A L A G I S H H A A D L A T L E A F R F P D E A A F L H E A R E R F R           |  |  |  |
| UniRef90_UPI0002629A91 | L L C L S F D H R G C S F P L E R L T G R T Q E I T E A L T A P D I E               |  |  |  |
| UniRef90_U2MYC3        | I Q L I G I L K Q G T S V D I R E K F V I R D K Y I L D K I I N I K E F N D         |  |  |  |
| UniRef90_I4EX30        | I V N I G L S H R T A P T E L L E E L A V P A A A M L A R L H A V P T I D           |  |  |  |
| UniRef90_V5A6X4        | I T G V S V A H G H A T V D E I E A A G R D S T Q V V S N L L A R E G V E           |  |  |  |
| UniRef90_UP1000362D2A1 | V R V A H P E A A V E D I E D A A E S T A L L D A L H A Q G G V E                   |  |  |  |
| UniRef90_UP100036CB660 | L L C L T V D H R N A D L A L L E R I E R R T D T V T A A L S D P E L A R           |  |  |  |
| UniRef90_UP10003192A3A | L L V L G I S H H S A P L D V L D A L A L D A E R A D L L R R S A A E V N           |  |  |  |
| UniRef90_UP10001B439ED | E E M A L V T L Q X E K S I L   |  |  |  |
| UniRef90_UP100035E9D91 | L E D L T V I G V N A R T A G R R L R D R L F V P D Y E S V L K A L K A D G R G     |  |  |  |
| UniRef90_UP10003AAD5D6 | L E N F I V I G V S H E S L T L E E R E R F I K T P S H I I E K L F L E E K I K     |  |  |  |
| UniRef90_M0H4P6        | I S G V S V A H D R A S V Q E I E C A S E D D V Q T V V D Y L A Q E G V T           |  |  |  |
| UniRef90_K2L1C5        | L D R L L M V I G T N H R R S S E D T R D R L F I D E A R L L P Q F I S A I L Q A R |  |  |  |
| UniRef90_UP100042A4666 | M I S L M G I R R D I P I Q I R E A F T I K K R K N E I L N E I L K Y F D           |  |  |  |
| UniRef90_U1QZB1        | V A G V S V A H D S A T V D Q I E A A G G P D E Q V V E G L L A A P G V E           |  |  |  |
| UniRef90_M9SIQ8        | M K N L K V I A F T H K H V D L K D L G N L V I C N E E L L I N L K N N L D I P     |  |  |  |
| UniRef90_U2HGB6        | V L S L H V T R A T A L L P V L E R L T E D R A I L A G I R R R F P Q A             |  |  |  |
| UniRef90_T1BEJ6        | Q R V V I V G A N H R S S S G L R D A L Y V D D A S A F L D G L K Q A G L A         |  |  |  |
| UniRef90_H8FR30        | H Y V S I S F T H K N T D I G V R E K L S F S D N E I L R L I G A N D S I A         |  |  |  |
| UniRef90_A0RNT0        | L S K I R A T L L N H K R V S T I T L S E T Y F N R D E V Y G K L M N Y Y D         |  |  |  |
| UniRef90_M1XLB2        | E L Q L F G I N H K T S N V S E R E Q F I L I N E S N Q I L K R K F K D K I D       |  |  |  |
| UniRef90_A8MAH6        | M I C I S N H K N S I T E T R E R F A L S D E E K E Q F F R E C E D I G             |  |  |  |
| UniRef90_UP100036410B7 | M T S F G A I I W N Y R L D P P S F N E M V S L T P E K I I D N L A A S V S Q       |  |  |  |
| UniRef90_R6YKL7        | I C G V R V S H N R A S V E E I E L A G E R D S Q I M E T L L T R Q G I T           |  |  |  |
| UniRef90_T0LUG8        | L S P L S A V I L T Y R E A D A N A L G R I I G E E M R R C I E V I G P K T         |  |  |  |
| UniRef90_U1PP83        | L L C V T A S H K T A S F E L L R S R T P D D V I A P T I V G A P C V Q             |  |  |  |
| UniRef90_A4WN38        | D K Y A L S L S H K R L S V D E L S E I I S R N V H K T C Y N V Q                   |  |  |  |
| UniRef90_UP100035E0FE9 | L I C G V R V S H N R A S V E E I E L A G E R D S Q I M E T L L T R Q G I T         |  |  |  |
| UniRef90_A3MW83        | D K Y A L S L S H K R L S V D E L S E I I S R N V H K T C Y N V Q                   |  |  |  |
| UniRef90_H6JSY8        | L M V G V N Q K V T P L A L R D R L S L D D P S V L L T R L R Q R G L T             |  |  |  |
| UniRef90_B9DZF9        | I Q L I G I V K S Q C D I G I R Q K F S I T S E V L E G K L K N E L V G             |  |  |  |
| UniRef90_R6U8S7        | M K N F T C I S V N H K L C Q G Q A F R S L T F D S A Q C E K L L F D V K D L S     |  |  |  |
| UniRef90_V4JXI0        | L Q S L L A Y G V T F R D S C F A D L L P V A E G I K R R A Y E L L A P L S R       |  |  |  |
| UniRef90_F8AN31        | D Y K K Y S I P E L L R F N E E F Y K K Y   |  |  |  |
| UniRef90_Q8ZYV6        | L A P L A A V I L T Y R E V D A D T L G R V G E E E M K K C I E I L G V K           |  |  |  |
| UniRef90_K1MXR5        | H F S V L S I S Y K E K A D A E V R S K F T F F D D H V F V S S I S E N K I G       |  |  |  |
| UniRef90_UP1000478C411 | N D L I L Y G L S H R C V S G A L R E Q L F L E S A Q R Q R A D L A E L G F Q       |  |  |  |
| UniRef90_UP100034DAEF4 | L L C V S A S H K T A S F D L L E R L S V P T T P V A P L I A A H D E V Q           |  |  |  |
| UniRef90_C9DDF6        |   |  |  |  |
| UniRef90_A1RQP7        | L S P L S A I V L T Y R E V D T D T L G K I G E E M R K C L E Q M G R G T P I       |  |  |  |
| UniRef90_UP10003759512 | I S I S H K T A S V S K R E E Y H I S D C E I N L I Q T A F P D I A                 |  |  |  |
| UniRef90_UP10004019BB1 | M K D L K V I A F T H K H I D L K E L G K F V I C N E T I L L Q T V K L K F D I P   |  |  |  |
| UniRef90_U2K5C6        | M A G V D V H S A D V S A R E Q F A F S E E Q I L T E L V Q K D G I S               |  |  |  |
| UniRef90_C7NCC5        | K N F Y I L S F S Y K N L S L E E R E K F V K E G Y R V L R E Y L E K R I I K       |  |  |  |
| UniRef90_J9HBV8        | V L   |  |  |  |
| UniRef90_S6VIU8        | F L A L G I N H K T A S V D V R E R V A F T P E Q A L Q Q L C H L T E S R           |  |  |  |
| UniRef90_UP100036D2775 | L L S L T A S H R E L D L D A L E R L S T G R S S S V G R V V V G T C G V A         |  |  |  |
| UniRef90_X0VZM8        | E I I I V G L S H K T A P L D I R E T V S F S E E D G V R A L V A C P D V S         |  |  |  |
| UniRef90_A5TVZ1        | L E N I I I V I G T S H E N L S L E R E N F M R T P K Y I I E N L Y T E K K I N     |  |  |  |
| UniRef90_J1FBY6        | M E Y I L L L S F S H K N T N I V D R D K I S F Q D D R K L S E F M T R A K V N D   |  |  |  |
| UniRef90_W6N2K6        | I I Q L I G I K S E C D I D I R Q K F S I V S S S L E E K L K K N K F V D           |  |  |  |
| UniRef90_UP100036C1D5C | L L F A T G I D E R L P L R E R Y L A F P E R E L P E I L K E V G C S               |  |  |  |
| UniRef90_D1COP5        | L L L S L T A S H R E L D L D A L E R L S S G S T S V A R T I V S C K P V Q         |  |  |  |
| UniRef90_F4C4V6        | M E H L K V I A F T H K H V D L K D L G N L V I C N E E L L I N V K N N F D I E     |  |  |  |
| UniRef90_R6DPGP3       | M Y C I S I N Y K Q L K T E S R E A F S M Q E K E Q F S R I I Q K E V S I D         |  |  |  |
| UniRef90_R9GUA7        | M K Q L K V L A F T H Q Q D L K D G K L V I C N Q S L L N F V R Q K F D I P         |  |  |  |
| UniRef90_UP100036F1A6A | E L Q L F G I N H K T S E V S E R E K F I L N E Q Y Y L S K N L K K K K L D         |  |  |  |
| UniRef90_UP100036AE1A9 | M S Y K T I G L K E L E H Y S L R Y D A F K M I S N L I P                           |  |  |  |
| UniRef90_A5CNH4        | L I C L T A S H H N A S F E V L E K L S V A P S A G A L M E Q N D F I A             |  |  |  |
| UniRef90_UP10004117D44 | M K Y L L K I I A F T H K Q I E L D K L G C L V L C N D A I L H L V R E K F N I S   |  |  |  |
| UniRef90_H1DB62        | I K N F A M I G I S H K I L S M Q E R E E F I R K K P V L L E E L Q T G K I R       |  |  |  |
| UniRef90_I5BY31        | M E I R E I I A L D E K A I L L K L K E F F S I T                                   |  |  |  |
| UniRef90_S0ATW0        | M G D I E L L S W N Y K D T P D T F S E I I K R D Y R F E S M M E S R S I K         |  |  |  |
| UniRef90_UP10003B57E7D | L I C L T A S H H N A S F E V L E K L S V A P S A G A L M E Q N D F I A             |  |  |  |
| UniRef90_F8A7Q9        | L L S L V A S H R E L D L A V L E R L S V P S D H A V G R E L V A S P S I A         |  |  |  |
| UniRef90_C3MZS1        | L Q N Y C S I L F T Y K T I G I S N L H L Y Y F R E T E I K S L R Q L I N A         |  |  |  |

50            60            70            80

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|------------------------|---|
| UniRef90_I2FB98        | E S I L L C T C N R I E I Y V S A R S H I Y A T □ L A K Y I E Q N A I V R L N E Y     |
| UniRef90_M0CSG7        | E A Y V L Q T C N R V E A Y V V G R A A L A A F F E G V P S D V L A E L G H E E       |
| UniRef90_UPI000362F69E | K C V L I Q T C N R I E V Y F D N D K E E K L V E D F K Y F D T L T G K E             |
| UniRef90_A6LKW9        | E V A V L K T C H R R E E Y G D K E P L T I N E I I E P Y I I R K S G I D             |
| UniRef90_L9VVM5        | E A Y V L S T C N R V E A Y V V G R A A L E E F F L D V A T D A V V V T D H D E       |
| UniRef90_U1QQR0        | E A F V V Q T C N R A E A Y V V T D R D A V T D A E P V I R S G A V V M T H E E       |
| UniRef90_D6E8W8        | G A V V L S T C N R L E F Y G V C E D A D E A A P A R Q F R E L L Y A F T D G R       |
| UniRef90_J2ZFD7        | E A Y V I Q T C N R A E A Y V V G R Q V L A F C D I V G K Y C D V K K G E D           |
| UniRef90_E4TCL3        | D A F V V S T C N R T E I Y T T S H N Y V A Q L F C D I V G K Y C D V K K G E D       |
| UniRef90_G7Z6J7        | Q A V W L S T C D R V E V Q A V H E R P N E A A L A I A E A P Q L Y T R T G I D       |
| UniRef90_M0P9F1        | E A F A L Q T C N R S E A F I V T D K T V D G A V A E V R S G A I R R L D H E E       |
| UniRef90_W0K0U2        | E A F V L Q T C H R V E A Y V V T D D P A T G R R A D P A G A G A I S M G H E E       |
| UniRef90_E1IDF6        | M I L S T C N R V E L Y G V T A Q N L A E F L A E F H G H T L F F H S G E E           |
| UniRef90_L9Y1F8        | E A Y V L S T C N R V E A Y V V A A D H A L E E F F A G I D D D A V V T T D H D       |
| UniRef90_P42809        | E K V P L M T C N R V E Y Y L H V T G V P P E F D F N G F T V E K D E D               |
| UniRef90_M5TVG2        | E L V V L S T C N R V E L Y A A G V A E C L E K P A D F V A E H M A V R Q G R E E     |
| UniRef90_H1ANG1        | Q V L I L S T C N R S E V Y L M Y Q T D I D F L P S I Y L N Y L Y V K T G D E E       |
| UniRef90_R5VRP0        | G C V V L L S T C N R M E I Y F T D K Y E Q V E K L L A N D R N Y S M N Y E G F Q     |
| UniRef90_U7VC43        | G Y V N L S T C L R V E Y Y L D L D K N V A D F Q K D I G L K D I F I K Q Q G H D     |
| UniRef90_V4X415        | E A F A I R T C N R S E A Y V V S A Q P A L E S F A P T V R G A A V R R L G E E       |
| UniRef90_R6VOE6        | Q A V I L S T C N R S E L Y F I Y E K E E Q L Q D I R K L F L F L K T G V T           |
| UniRef90_C9RIA9        | D A I L L Q T C N R V E M I F D A E K Y K N I K E L E K I G I N L E I I S G E K       |
| UniRef90_R7FF52        | G A V L L A T C N R T E L Y I T A E S D I S A A K S E T A V P E L L L E E M A         |
| UniRef90_V4H9N8        | E A F A L S T C N R V E A Y V V T E R A L A E F A P D V R D G A V V R L D H E E       |
| UniRef90_E2SJN7        | Q A V L V S T C N R S E L Y I Y E T D E A K R L F L Q A A N H L F L K T G R D         |
| UniRef90_H6RFQ6        | G L F V V S T C N R T E I T G F A K H E L I S L L V K Y S K G N L E V Y K N K A       |
| UniRef90_A3CU63        | G V L L L Q T C N R I E V L V Q G D A R S L E F L Q E K G R H G F T V I E G E A R     |
| UniRef90_UP10002629A91 | G V V V L S T C N R F E V Y A Q A P R D T S A E L V E Q I S M A A D V E V D H R       |
| UniRef90_U2MYC3        | E V L I I I N T C N R T E I Y F D S E D S S H E I L Y K I F R E Y I F H I K E E K     |
| UniRef90_I4EX30        | E V A V L S T C N R I E V Y A V T R Q T V A G L A E R I A R A C V H V D A A           |
| UniRef90_V5A6X4        | E A F S L I T C N R A E A Y V V T P D A A A G R Q A D V R D G A I L R R L D H E E     |
| UniRef90_UP1000362D2A1 | E A Y A L Q T C N R V E A Y V V T A D P A L D A V G L G D H S A A V A S G H E E       |
| UniRef90_UP100036CB660 | G A V V L L A T C N R F E A Y L D A P G L A P E Q A L D G L A R A A D V I H R G D A K |
| UniRef90_UP10003192A3A | S A V V L S T C N R L E I I A D G L A D L G T A L V D V S G S H T Y V H F D D K       |
| UniRef90_UP10001B439ED | E N V I I I S T C N R T E I V A V V D Q I H T Q M D M E K I E P Y L F F H E E T E     |
| UniRef90_UP100035E9D91 | G V V L V A T C E R F D Y Y T A L I A G E A G L E Q E F F L R K Q C Y C H R G L D     |
| UniRef90_UP10003AAD5D6 | A Y V N L S T C L R V E F Y L E L L N E D I L K I K D L F P L I Y V K S S M E         |
| UniRef90_M0H4P6        | E A F S L Q T C N R A E A Y V V T E R A L D D F A P E V R D G G V R H M D H E E       |
| UniRef90_K2L1C5        | Q A I V V S T C N R T E I H L L A S E A W A D I D R D K L A S E L Y I R S G R D       |
| UniRef90_UP100042A4666 | E V I I I I T T C N R T E I Y V D S K E E V I D V I F K T I G W F I F Y V E A E K     |
| UniRef90_U1QZB1        | E A F A L S T C N R A E A Y V A G D D A L S G F A A P V P T G V V D R L D H E A       |
| UniRef90_M9SIQ8        | E Y V I I I R T C N R L E A Y V A T D D D N H K K T I P Y S D R E F W Y I L Q D N E E |
| UniRef90_U2HGB6        | E I F Y I A T C N R V E F V F Y G A H E L T D D F I A H F M D K M N F Y S G L E       |
| UniRef90_T1BEJ6        | E V V S L R T C N R F E L Y V E G P P E T E I R Q Y L A P T Q F L R E G T L           |
| UniRef90_H8FR30        | E A L V L S T C D R V E V W C D T E A D H A T T L A E G L A S H L Y T L S G G E       |
| UniRef90_A0RNT0        | E S M A L S T C N R V E I I F A Y V L D T Q S S V P F E A L E L R A D I Y E D Q G G   |
| UniRef90_M1XLB2        | E A F V L Q T C N R A E A Y V V S E E A L S T Y V D G V A P E A V R E L D H E E       |
| UniRef90_A8MAH6        | E V F L L Q T C N R V E V Y V Y G D D D S V I A E D M Y K V K N H V D K L L V G M N D |
| UniRef90_UP100036410B7 | S F F G I S T C N R T E V Y Y I L A K P G L A K D I L D D T I S F L Y F L S N Q D     |
| UniRef90_R6YKL7        | G C V V L L M T C N R C E I I Y L S G L N K I Y R E V R E E F W K Y A M R Y E K K A   |
| UniRef90_T0LUG8        | H Y V V L S T C N R V E I I Y F T T S D D S P H V D M A G G I Y L S G L D             |
| UniRef90_U1PP83        | E S F A L Q T C N R S E A Y V V A D R A L A N F A P S V R D G A V I E M S H E E       |
| UniRef90_A4WN38        | P M F V L H T C H R V E A Y L Y G A E E L S L S L V E R Y K R H A R I L L R G I E     |
| UniRef90_UP100035E0FE9 | G A V V L L A T C N R F E A Y V E M D E P V T A A I P C A A D L D G A Y V H S G R R   |
| UniRef90_A3MW83        | A F V F F H T C N R V E V Y Y D A D A G P A E H I K R S Y G P Y V E E F R G V E       |
| UniRef90_H6SJY8        | D V M A L S T C D R V E I I C A H S T E P V L E E L C E C L E G H L L D V R G A S Y   |
| UniRef90_B9DZF9        | S V L I L S T C N R T E I I Y V D S N L E E K K L D T V F Y S Y I F Y I K D K Y       |
| UniRef90_R6U8S7        | P V L I I C T C N R T E I I Y V D S P G T P E E G I R L L C E Q S R K V M L F T D K T |
| UniRef90_V4JXI0        | G V V V L S T C N R F E V Y Y L D S P A P R S E E V I R S L L K A P W R L E G E E     |
| UniRef90_F8AN31        | N C I L L Q T C N R I E A Y F D K S Y C G G E L N G K N D F K D F K V L E G H D       |
| UniRef90_Q8ZYV6        | P M F V L H T C G R V E A Y Y N A S E E E I N S V T L R Y R R Y A R V V R G V E       |
| UniRef90_K1MXR5        | D A F V V S T C N R T E I I Y S T S S N Y I A E E F C K E F L Q F A N L F T R E A     |
| UniRef90_UP1000478C411 | Q V L L L S T C D R L E V L A V S D A D W I G V G S G D V V R S S A Y S L R G T D     |
| UniRef90_UP100034DAEF4 | G A V V V A T C N R F E A Y V D M D E P V T A A V A V A V G V E A T L T V L G G G D   |
| UniRef90_C9DDF6        | H I Y H S S D A E   |
| UniRef90_A1RQP7        | Y V L H T C G R V E A Y L Y G A P E E V Q T V A E T Y R K Y V R I I A G V E           |
| UniRef90_UP10003759512 | G L L L L T T C N R T E I Y I E S A E T T A I D L R D F L V N Y L F N L S N E D       |
| UniRef90_UP10004019BB1 | E I F Y I G T C N R V E F V F T T S L D I T P E F I L E D F S K Q V L I Y E S E E D   |
| UniRef90_U2K5C6        | G A V V L L A T C N R T E I Y S S A E D D A V S Q P A E L L R Q Y A H V L T E I D     |
| UniRef90_C7NCC5        | G Y V A V E T C L R I E L Y D V S K E F E I E K L K R D F K I E K M K Y R G T E       |
| UniRef90_J9HBV8        | E S V V L L S T C N R T E V Y Y A L V N S T H A A H D F Q D L S E H H M Y L K Q G E A |
| UniRef90_S6VIU8        | E A A I L L S T C N R S E E L Y I E G A D S I L A W L A N Y H H L S L Y V H E D D A   |
| UniRef90_UP100036D2775 | G A V V I V S T C N R F E I Y L D V D A P L S G D S V K H A T R H F T V R T G P E     |
| UniRef90_X0VZM8        | E G L I V V S T C N R V E A Y T A A K S E I I G F L A D F H D P H I Y T M S G E E     |
| UniRef90_A5TVZ1        | A Y I N L S T C L R T E F Y I I E N S N I D I N E I K N L F S V D M I V K S G I E     |
| UniRef90_J1FBY6        | E I M I L L N T C N R V E F F I T A D K Q H S G L P F E K L L E I V S I S R R E E     |
| UniRef90_W6N2K6        | S S L I L L S T C N R T E V Y Y D S I D Q G K K L I N M I F A N Y I F Y V K D I T     |
| UniRef90_UP100036C1D5C | A F V L V L E T C Q R F E E V Y Y G T A A E E S L Q R L P D P Y R A S V F Y L E N A D |
| UniRef90_D1COP5        | G A V V I S T C N R F E I Y L D V E A P A S D V T A E T A A S F T V R T A S E         |
| UniRef90_F4C4V6        | E I F Y V G T C N R V E F V F H G K H T V P D E Q F D Q F L N Q V T T Y E G L D       |
| UniRef90_R6DPG3        | G V I L L L M T C N R C E I Y A A G S K D T M S V I E E L F Y E H I M R Y E K E N     |
| UniRef90_R9GUA7        | E I F Y I G T C N R V E F V F C A S Q T I P E D K M E D F I L S K V K F Y E D Q D     |
| UniRef90_UP100036F1A6A | A F F G L S T C N R T E M Y L T G E K G I A K Q L H I P D S S F Y F L S N Q D         |
| UniRef90_UP100036AE1A9 | E L Y L L Q T C N R V E V Y A F G S E E D F Q A L G K D V V H K G T V L K G R E       |
| UniRef90_A5CNH4        | G A V V L L A T C N R F E A Y L D V E E P L T A A R A D D V R G S V D V K C G D A     |
| UniRef90_UP10004117D44 | E I F Y V G T C N R V E F V F H G K H T V P D E Q F D Q F L N Q V T T Y E G L D       |
| UniRef90_H1DB62        | A Y V D L S T C L R V E F Y M E L D N T R L E E I R E R F Q R G L Q M K Q G E E       |
| UniRef90_I5BY31        | D T L I L S T C N R T E V Y Y A H D I D I S T E I I K D Y L E Y F Q V F N D D E       |
| UniRef90_S0ATW0        | N Y V I L V T C N R I E I Y F R P E E I I L M G S I E G S L Y L E Y P E               |
| UniRef90_UP10003B57E7D | G A V V L V A T C N R F E A Y L D L D A D V A G L E P D E L R A T F G F V H G N A     |
| UniRef90_F8A7Q9        | G A V V L V A T C N R F E I Y L D V D D A A S G Y D A R K V A A H L A V G T G S E     |
| UniRef90_C3MZS1        | E F A I L Q T C N R V E I Y L Y S N T N T I S E I N K M Q Y Q A R V I C G K D         |

|                        | 90   | 100 | 110 | 120 |
|------------------------|--|-----|-----|-----|
| UniRef90_I2FB98        | I Y H   F G V A S S L   D S [REDACTED] V V G E T Q   T G Q   K N A Y K   S F D N K L   C G                 |     |     |     |
| UniRef90_M0CSG7        | S L R H   L M R V A S S G L   D E S [REDACTED] V V G E D Q   L G Q   V G D A Y E D A R A A G G G V   G     |     |     |     |
| UniRef90_UPI000362F69E | A I I H   L L R V S C G L   D E S [REDACTED] M I V G E D Q   L G Q   V K K S Y   K A R E   L K K T T       |     |     |     |
| UniRef90_A6LKW9        | V V R H   L F K V S C G L   D E S [REDACTED] M V L G E H Q   L G Q   V K N T H   K N F   C H G             |     |     |     |
| UniRef90_L9VVM5        | S L R H   L L S V A S S G L   D E S [REDACTED] V V L G E D Q   L G Q   V R T A Y E D A R T A G G   G   G   |     |     |     |
| UniRef90_U1QQR0        | S L R H   L L R L A A G L   D E S [REDACTED] L V I V G E D Q   I G Q   V K N A   E T A R R A E G   G   G   |     |     |     |
| UniRef90_D6E8W8        | A V R H   L F E V V C G L   D S L [REDACTED] V V G E T E   A G Q   V S R A Y R A S   C K A G A N D         |     |     |     |
| UniRef90_J2ZFD7        | S I R H   L M R V A A A G L   D E S [REDACTED] L V V G E D Q   L G Q   V K T A M A E A R A V   V G G   G   |     |     |     |
| UniRef90_E4TCL3        | A L N H   L F R V A A A G L   D E S [REDACTED] Q I L G D F E   I S Q   I K K A Y S R F K T Y K T T N       |     |     |     |
| UniRef90_G7Z6J7        | A V R H   L F F A V A C S L   D D S [REDACTED] Q I V G E P H   L G Q   L K A A H R S A A G A G M T G       |     |     |     |
| UniRef90_M0P9F1        | S L E H   L M R V A S S G L   D E S [REDACTED] L V L G E D Q   I G Q   V R E A Y E E S K S A G G G   V   G |     |     |     |
| UniRef90_W0K0U2        | S L R H   L L R V A A G L   D E S [REDACTED] L V V G E D Q   L G Q   V R D A F D A A Q A A G G   G   G     |     |     |     |
| UniRef90_E1IDF6        | V A K H   L C A T T S S G L   R S L V I V G E A Q   Q G Q   V R N A F E   A Q Q A G T V   V G              |     |     |     |
| UniRef90_L9Y1F8        | A V I Q H   L L R V A T G L   E E S V I L G E D Q   V I G Q   V R T A Y E D A R D A G G   G   G            |     |     |     |
| UniRef90_P42809        | A L L H   L L R L A A S G L   E S M I V I G E D Q   L G Q   V K A A R L Q A L R E G T   C G                |     |     |     |
| UniRef90_M5TVG2        | A V D H   L F L V A A S L   D D S M V L G E A Q   L S Q   V V Q K A Y D L S N V A G A T                    |     |     |     |
| UniRef90_H1ANG1        | A F R H   L L K V T C G L   E S M L I R E D Q   L G Q   V V Q A Y D F T   C R M S L G G                    |     |     |     |
| UniRef90_R5VRP0        | C V L H   L C R V A C C G M D S M V L G E V E   I H Q   V V K S A Y L V A K E   L G A C                    |     |     |     |
| UniRef90_U7VC43        | A V N Y H   L F R V T C G F E S V I K G E D Q   L A Q I   K K A Q L T S M E N K   I S S                    |     |     |     |
| UniRef90_V4X415        | S L R H   L M R V A A S G L   E S L V I V G E D Q   I G Q   V V R E A Y Q E S R A A G G   G   G            |     |     |     |
| UniRef90_R6V0E6        | A A C Y H   F E V A A G Y H S M V L G E D Q   L G Q   V V Q S C Y Q M A N Q   C Q A C G                    |     |     |     |
| UniRef90_C9RIA9        | A I E H   F R V A S S G L   E S M I V I G E D Q   L G Q   V K N S Y   L K A K E K G K   L S                |     |     |     |
| UniRef90_R7FF52        | A A Q H   L M E V A C G L   H S Q I L H E E Q   V T T Q   G G A L E M A R S   C H T T D                    |     |     |     |
| UniRef90_V4H9N8        | S L R H   L M R V A A A G L   E S L V L G E D Q   L G Q   V V K R A L S E S R A A G G   G   G              |     |     |     |
| UniRef90_E2SJN7        | A V L Y H   F E V A A G Y H S M V L G E D Q   L G Q   V V Q S S Y   L A D Q   C H A C Q                    |     |     |     |
| UniRef90_H6RFQ6        | A V N H   F N V G V G L   D S Q I L G D Y E   V V G Q   L K N S F I   Q A K K I   G V I N                  |     |     |     |
| UniRef90_A3CU63        | V P R H   L L E L A A G I   D S [REDACTED] I V G E D Q   L G Q   L K Q A   L A A A E E A G T   C C         |     |     |     |
| UniRef90_UPI0002629A91 | A A E H   F A V A S S G L   K S A V V G E E E   A G Q   V V R R A H   V E A R E R G T V T                  |     |     |     |
| UniRef90_U2MYC3        | V V K H   L M E L A C G L   H S K L G E D Q   L S Q   V V K E A Y D N S   L N V K G L   H                  |     |     |     |
| UniRef90_I4EX30        | A V E H   V F A V A C G L   D S S M A V G E D Q   T A Q   V V R A A A R A A A E A R T S G                  |     |     |     |
| UniRef90_V5A6X4        | S L R H   L M R V A A G L   D E S L V L G E D Q   L G Q   V V R T A Y E E A R A A G G   G   G              |     |     |     |
| UniRef90UPI000362D2A1  | S L R H   L M R V A A G L   D E S L V L G E D Q   L G Q   V V R R A Y E T A   V D A G D   L G              |     |     |     |
| UniRef90UPI00036CB660  | V V E H   L F A V A S S G L   E S V S V G E G E   T G Q   V V R R A I   D A A R A S G R S S                |     |     |     |
| UniRef90UPI0003192A3A  | A Q E H   L F L L A A G L   D S S M A L V G E T Q   L G Q   L R A S L   H E G E R G G S   V G              |     |     |     |
| UniRef90UPI0001B439ED  | A V N H   L Y K V T A G L   D S L V L G E T Q   L G Q   V V K H A F E   L A K Q T A T T T G                |     |     |     |
| UniRef90UPI00035E9D91  | A L R H   L F A V A A S L   D S L V V G E P Q   L G Q   V V K D C V R R A Q A   L E L L D                  |     |     |     |
| UniRef90UPI0003AAD5D6  | A L D Y H   L F K L S C G F Y S I I K G E D Q   I L A Q I   K I A Y S E A L E N K   H S S                  |     |     |     |
| UniRef90_M0H4P6        | S L R H   L M R V S A S G L   E S L V L G E D Q   I G Q   V V K A A   I E A S R D   V G G   G              |     |     |     |
| UniRef90_K2L1C5        | A L R H   V F A V A A A S L   D S L V I V G E P E V   F G Q   V V K D A H R I   A R Q   H Q   V G          |     |     |     |
| UniRef90UPI00042A4666  | A Y R H   L F R L A C G Y H S R I V G E D Q   L G Q   V V K N V Y I E S L E E G T   C S                    |     |     |     |
| UniRef90_U1QZB1        | T I H   L M R V T S S G L   E S L V L G E D Q   I G Q   V V R D A V G   L A R E V V G G   L D              |     |     |     |
| UniRef90_M9SIQ8        | C I K H   L F T V V C G I   D S L I V G E D Q   Q H Q   T R D A F M K A Q K E G H   V G                    |     |     |     |
| UniRef90_U2HGB6        | A L N H   L F R M S C S L   E S L V V G E K E   L A Q   V V R R A Y E K   C K E A G F T   G                |     |     |     |
| UniRef90_T1BEJ6        | S V Q H   L F R V A S S G L   D S S Q I L G E R E   V L G Q   V V R D A Y R A A R K R G E A G              |     |     |     |
| UniRef90_H8FR30        | A V R H   G F T V T S A L   D S S L V I V G E P H   V G G Q   V V K A A H   R   A R E A G T   V            |     |     |     |
| UniRef90_A0RNT0        | A I H   L F F A V A V A S S L   D S L V V G E T Q   A G Q   L V K E A F K F A Y D N E D   C G              |     |     |     |
| UniRef90_M1XLB2        | S F R H   L M S V A C G L   E S L V L G E D Q   I G Q   L R D A Y E D A R G A G A   G   G                  |     |     |     |
| UniRef90_A8MAH6        | A V I R H   L F R V A A G L   E S A A V G E S E   L L G Q   V V E D A F N D A R K R G A L   G              |     |     |     |
| UniRef90UPI00036410B7  | A L I H   H M C K V A S G I   D S S Q V L G E Q E   L G Q   F K K A I R   O A K N N N   I A K              |     |     |     |
| UniRef90_R6YKL7        | A V K H   L Y Q V V C G L   D S A V L G E V E   I R Q   V V K L A Y E S A K T R Q M T D                    |     |     |     |
| UniRef90_T0LUG8        | A V S H   L F R V A S G L   E S S M S L G E H E   L A Q I   K K S S Y E K Y S K M N R T D                  |     |     |     |
| UniRef90_U1PP83        | S L R H   L L R V A T G L   E S S L V L G E D Q   L G Q   F K R A V E   L A R G   G   G                    |     |     |     |
| UniRef90_A4WN38        | A A R H   L F R V A A G L   E S S M L G E T D   I L G Q   L E E A Y D R Q V R A G F T R S                  |     |     |     |
| UniRef90UPI00035E0FE9  | A V E H   L F S V A S G L   E S V V S G E G E   A G Q   V V R R A L K S A R K D G T T S                    |     |     |     |
| UniRef90_A3MW83        | A A R H   L F R V A A G L   E S S M L I G E T D   V L G Q   L E E A Y E S Q V R R G N   L R                |     |     |     |
| UniRef90_H6SJY8        | A V S H   L F R V A A S S Q V I V G E P H   V L G Q   V V K A A H R   L A R D A G   A G                    |     |     |     |
| UniRef90_B9DZF9        | A I K H   L M E V S C G F H   D S S K I G E D Q   I L G Q   V V K T A Y D A A L E A K T I K                |     |     |     |
| UniRef90_R6U8S7        | A V K R L   L Y S V S C G I   E S A V I G E D E I   L G Q   V V R R A Y D L S R E R   I G L S              |     |     |     |
| UniRef90_V4JXI0        | A A R H   L L R V A A G L   E S S Q I V V G E D E   V L G Q   V V R E A W L E A R R A G L   T S            |     |     |     |
| UniRef90_F8AN31        | A I I H   L L R T A S G L   E S S M I V G E D Q   I G Q   V V K K S H Y N A K K   L G K T T                |     |     |     |
| UniRef90_Q8ZYV6        | A A R H   L F R V A A G L   E S S M I V G E D T   D L G Q   V V E E A F D R Q V R A G Y T R                |     |     |     |
| UniRef90_K1MXR5        | A L N H   L F R V A G G L   E S S Q I V V G D F E   I L G Q   V V K K A Y N R F K K E K K S N G            |     |     |     |
| UniRef90UPI000478C411  | A L H H   L F F A V T A A L E E S Q V L G E P H   V L G Q   V V K E S H R Q S E A   L G   L S G            |     |     |     |
| UniRef90UPI00034DAEF4  | V A E H   L F S V A S G L   E S S V V G E G E   A G Q   V V R R A L T E S R Q L   G T T S                  |     |     |     |
| UniRef90_C9DDF6        | A V R H   L F R V A C G L   D S S M I I G E P Q   L G Q   V V K D A Y Q A A A D N G A A G                  |     |     |     |
| UniRef90_A1RQP7        | A A R H   L F R V A A G L   D S S M L I G E T D   V L G Q   L E E A F D R Q V R A G Y T R                  |     |     |     |
| UniRef90UPI0003759512  | T V R H   L L E V S S S G L   D S S S I V G D A E   I I H Q   V V K K A H Q   L A I A N H   L Q G          |     |     |     |
| UniRef90UPI0004019BB1  | A L N H   L L R I S C S L   E S S L V V G E K E   I L A Q   V V R K A Y T T C   K D A G F T   G            |     |     |     |
| UniRef90_U2K5C6        | A V Q H   L H M E V A C G L   H S Q I L H E E Q   V T V Q   V V H A V E   L A R A C   C R S T D            |     |     |     |
| UniRef90_C7NCC5        | A V D Y H   L L R V I C G L   D S S I K G E D Q   L V Q L   V V K A Y F D A   L D K N I T S G              |     |     |     |
| UniRef90_J9HBV8        | A V A H   A M R V A C G L   D S I V V G E T Q   L G Q M R E A F Q T A F E A G N T G                        |     |     |     |
| UniRef90_S6VIU8        | A V R   V T E H   L F A V A S S G L   D A M V V G E R E   A G Q   V V K R S L A   A R E Q E T T S          |     |     |     |
| UniRef90UPI00036D2775  | V T E H   L F A V A S S G L   D A M V V G E R E   A G Q   V V K R S L A   A R E Q E T T S                  |     |     |     |
| UniRef90_X0VZM8        | C V G H   L F R V A S S G L   D S M V V G E P Q   L G Q   V V K E A F G   C A                              |     |     |     |
| UniRef90_A5TVZ1        | A I K Y H   L F K V S C G F Y S V I K G E D Q   L A Q   V V K G A Y A E A   L E N E H   S S                |     |     |     |
| UniRef90_J1FBY6        | A I Y H   L F S V V S S L   H S L V I V G E T Q   V V G Q   V V K D A F K F A F E G G F   V G              |     |     |     |
| UniRef90_W6N2K6        | A V K H   L L E V S C G F H   D S S K I L G E D Q   L G Q   V V K D S Y L S G L K A R T   L K              |     |     |     |
| UniRef90UPI00036C1D5C  | A V R R   L F R I A A G L   E S S A L H G E V H   L G Q   V V K R A W E K A   H Q N G H   T D              |     |     |     |
| UniRef90_D1COP5        | V P E H   L F S V A S G L   D S M V V G E R E   A G Q   V V K R A L E V   A R D E G T T S                  |     |     |     |
| UniRef90_F4C4V6        | A L H H   L F R M S C S L   E S S L V V G E K E   L A Q   V V R R A Y E R   C R K G G L   T G              |     |     |     |
| UniRef90_R6DGP3        | A I R H   L L Y R V I C G L   D S S A V L G E V E   I H Q   V V K A A Y L F S K A H   D M L D              |     |     |     |
| UniRef90_R9GUA7        | A F N H   L L R I S C S L   E S S L V V G E K E   L S Q V L K V R A Y E Q C   R E A G F T G                |     |     |     |
| UniRef90UPI00036F1A6A  | A M V H   L M A K V A S G L   D S S Q I L G E Q E   L G Q F K V S A M Q V A L D S N I L K                  |     |     |     |
| UniRef90UPI00036AE1A9  | V V R H   A F E V A S S G L   D S L A I G E Y E   L R Q M K E A L E S S S K K A G I   L S G                |     |     |     |
| UniRef90_A5CNH4        | V A E H   L F A V V S S G L   D E S V V V G E G E   A G Q V V R R A L E G A R T G G T T S                  |     |     |     |
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| UniRef90_H1DB62        | A L L H   L A K V V C G F F S V I K G E D Q   L S Q M K H   Y A T K A L E E K H   H S S                    |     |     |     |
| UniRef90_I5BY31        | A I Q H   L F R V S M G L   E S A Q V V G D M Q   A N Q V K R A Y Q A S A D   D M A G                      |     |     |     |
| UniRef90_S0ATW0        | S V K H   L F M V A S G L   E S S M A I G E N D   L R Q V K S S F D   A S K R G K   L D                    |     |     |     |
| UniRef90UPI0003B57E7D  | V A G H   L F S V A S G L   E S S V V V G E G E   A G Q V V R R S L E R A R A E G T T T                    |     |     |     |
| UniRef90_F8A7Q9        | S A A H   L F A V A S G L   E S S M V V G E R E   A G Q V V R R A L S T A R Q D G T T T                    |     |     |     |
| UniRef90_C3MZS1        | S I K H   L F V A S G A D S L S I G E Y E   L S Q V R S T I   D M F K K   L G F S G                        |     |     |     |

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|                        |   |
|------------------------|---|
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| UniRef90_UPI000362F69E | K Y L D N I L L K S I H V G Q R V R K E T K           |
| UniRef90_A6LKW9        | K I L N K L F N E A V S L G K E A R T K T G           |
| UniRef90_L9VVM5        | E M I L E A A V T K A I H V G E R A R T E T E         |
| UniRef90_U1QQR0        | P I L E D T L M K A V H V G E R A R T E T T G         |
| UniRef90_D6E8W8        | K M V N V W F Q R A L S L G K K V R S E T T R         |
| UniRef90_J2ZFD7        | E M L D D T L T K A L H V G E R A R T E T E           |
| UniRef90_E4TCL3        | S Y M E R A I N Y A I Q I S K K I K N Q T G           |
| UniRef90_G7Z6J7        | P E L E A V L Q A A Y A A A K R V R S E T P           |
| UniRef90_M0P9F1        | P V L K D A V T K A L H V G E R A R N E T S           |
| UniRef90_W0K0U2        | T V L R Q A V T K A I H V G E R A R T E T T           |
| UniRef90_E1IDF6        | P V L H R L F Q H A L T A G K R V R H E T A           |
| UniRef90_L9Y1F8        | S M L E A A V T K A I H V G E R A R T E T A           |
| UniRef90_P42809        | P L L D M V F T K A V H V G Q T V R R K T K I         |
| UniRef90_M5TVG2        | P V T H A A F Q A A N R A A K R V Q T E T T           |
| UniRef90_H1ANG1        | K E L L S L L F Q E T L N F V K K M K                 |
| UniRef90_R5VRP0        | G E L N I A F Q                                       |
| UniRef90_U7VC43        | S N I N V I F N K A I E L G K K F R N K S K           |
| UniRef90_V4X4I5        | P V L E D A V T K A L H V G E R A R T E T S           |
| UniRef90_R6VOE6        | K Q L H R M F Q S C F A A V K Q L K T A Y K           |
| UniRef90_C9RIA9        | K R L E K I I L K A I H T G Q R A R L E T K           |
| UniRef90_R7FF52        | A V L D T L F R T A V S A G K E A L T Q V A V         |
| UniRef90_V4H9N8        | P V L E E A V V M K A V H V G E R A R S E T A         |
| UniRef90_E2SJN7        | K Q L H R I F Q S C F A A V K Q L K A T Y K           |
| UniRef90_H6RFQ6        | T Y L E R L M N L V L Q A S K D V K N N T K           |
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| UniRef90_I4EX30        | P V L T G L L D A A L R V S K R A R T Q T T           |
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| UniRef90UPI0001B439ED  | T L L N K L L F R E V V T F A K K V H H H T K         |
| UniRef90UPI00035E9D91  | P L L D G I I Q A S L A A A K R V R T E T T           |
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| UniRef90_K2L1C5        | R E L L E L V Y Q T A Y A I S K K V V R S R T G       |
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| UniRef90_U1QZB1        | G A L E A I L T K A L H V G E R A R T E T A           |
| UniRef90_M9SIQ8        | K S L Y A L F N N A I I V G K R V R T E T E L         |
| UniRef90_U2HGB6        | D F L R L M M D R L V K T A K E V Y T H T N           |
| UniRef90_T1BEJ6        | A A I G R L F E R A I H V G R T L R Q E T G L         |
| UniRef90_H8FR30        | G H L D A F V Q A A F V A V A K R V R T E T A V       |
| UniRef90_A0RNT0        | V N I S S A M H F A F K C A A E V R A L T T           |
| UniRef90_M1XLB2        | P T I L D D A I I L K A I H V G E R A R S E T A I     |
| UniRef90_A8MAH6        | G L L G F T I I E R A I R T G K E I I R S             |
| UniRef90UPI00036410B7  | P P K I L T Y T K K V I E I V K K V V R T K T S       |
| UniRef90_R6YKL7        | G D L N V I F Q S A L Q I L A K E I                   |
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| UniRef90_U1PP83        | P M L D A G V T K A I H V G E R A R N E T S I         |
| UniRef90_A4WN38        | G L L K T V V E R A V V R V G K K V V R T E T G I     |
| UniRef90UPI00035E0FE9  | P E L L E R L F Q R A S Q A Q R K V V K N V T A L     |
| UniRef90_A3MW83        | G L L K T V V E R A V V A V V G K R V V R T E T G I   |
| UniRef90_H6SJY8        | S A L E A L L Q A A Y Y T T A K R A R A E T           |
| UniRef90_B9DZF9        | G K L Q R L F Q K K A I T C G K E F K                 |
| UniRef90_R6U8S7        | S E V N M I F Q G A I A C A K K I K T E T E L         |
| UniRef90_V4JXI0        | E L L D A V F H S A I S A G A R A R R E T R I         |
| UniRef90_F8AN31        | K Y L D T I F L K A V H V G Q M V V R R K T K I       |
| UniRef90_Q8ZYV6        | G L L K T I V V E R A I R A G K R V V R A E T G I     |
| UniRef90_K1MXR5        | P Y L L E R A I I N S A I Q I L S K K I K N Q T A L   |
| UniRef90UPI000478C411  | P R L L D R V M Q A A Y R L A K R V V R S E T S L     |
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| UniRef90_A1RQP7        | G L L K T I V V E R A V V V G K R V V R T E T A I     |
| UniRef90UPI0003759512  | S I L L E R A M Q T V V F K T H K R I I S N E T E     |
| UniRef90UPI0004019BB1  | D Y L R L I M N R I V V K T A K E V Y T H T N         |
| UniRef90_U2K5C6        | G V L D T I F R T A V S A G K E A Q T Q               |
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| UniRef90_S6VIU8        | P L L G R L F Q A T F N A A K Q V V R T D T A I       |
| UniRef90UPI00036D2775  | K T L L E L L F Q T A S R T S K R V V G T E T E L     |
| UniRef90_X0VZM8        | K F L N I I F N K A I E L G K K F R T K S M I         |
| UniRef90_A5TVZ1        | Q K I I S R A I I H Y S F R C S A E V R Q Q T A I     |
| UniRef90_J1FBY6        | G R I L Q R L F Q Y A I T C G K E F K N               |
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| UniRef90_D1COP5        | D F M R L L M M N S L V K T A K E V Y T H T M I       |
| UniRef90_F4C4V6        | P T I L H I F Q G A L H L A K E I I A S Q Y Q L       |
| UniRef90_R6DGP3        | D Y L L R M I L M S Q V V K T A K Q V V Y T D T N I   |
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| UniRef90UPI00036AE1A9  | T G I L E R L F Q T A S N T S R G V V K T R T G L     |
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| UniRef90_S0ATW0        | P E L E R L F Q R A S Q T S R R V V K N Q T G V       |
| UniRef90UPI0003B57E7D  | G A L E Q L F Q Q A A S R V V S R R V V E A A T G L   |
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M E Y L K L I I A F T H K Q I D L K S L G K L V I C E D D R L R N I Q S E L G V K  
M N T L Q A I S S H E T A S L E W R Q A L Q L S K E E A M V H L K E R E L A D  
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L I G I N H F S S S L S Q R E K V A K V C R E L F I A K Q V S F P I Q  
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P I T A M G L S H L S S F E D L A A L A G T V D T V I D G L A V R P E L S  
M S R L T C L A F P G R S I P M A V L E R L S V A A R E L L V R A L R A V P G V D  
M K H L Q V I S I S H Q T A T L E Q R Q A L Q L S R E E A M Q E L K A A G L V E  
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N L L S L V A T H T D V D L E T I A R L S A G S S E V V G T S V I D D G H I S  
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I I V L K A D Y K K Y S V N D L E K L R F N E K E F Y S K Y  
F L S L V A S H S Q D L L E T V A Q I S A S A D G A A A S V N G S A A I N  
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N L F A C G L R Y A T I P L A V R E Q V V F S P A S A L R E I K Q L T Q A E  
R L V M V G V C H A H A P Q E L L E R V A V R Q A D L F M E G L R E Q G F G  
L L S L T A S H H E L D L D A L E R L S T G A H S I G S A V A A C D V I T  
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L D K L F S A S I T F R E I P T D K L G E L G R S V M E L L G I A P Y F P V  
L F S L V A S H R T V D L S T V A R L A D G A A S A P L E L G P T A G L S  
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I H V L S A D H R Y A P L D D I A R L S G A T D L G P T L M R S L A Q V R S  
L A A L R A S H E H L D L E M L D A L A E S L P E A L E E L Q A E P V V S  
I E R L A C L T V A G H D G S L E R I G D L A P D D P A A A E S V V A T D R I T  
P V L A I G V S H Q T T D E L T A F S Q Q L S A T G A I A G L E G V N  
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V F S L V A S H H D L D L T V A R L S A G A T G V G P A L P G S G A A  
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L Q H I H I L T L T H R H A K L K A I G E A A F E A D G K L Q E H R E R G L A D  
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L A A L R A S H E H L D L D V L D A L T R D A D T L P A V L A E A P V L A  
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G L R F D Q V S P S E R K V F S F T E K Q L C D K I R K Q T K S E  
M E R L A L I G V S Q R R G G S A A L Q A W N E W L Q V R L E P P P L Q  
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L I S L V A T H S E L D L E T V G T L S A G A A E L A G S V H M  
L K D L K V I A Y T F R R N C T L D E V G S L V I D K S E R L K A L K E K F N F G  
L L S V S A S H R D A D L A D L E R L S S G V G R V W A D V A H G L D G A  
I A V Y G V N S K L V S K D E I L R L V S D Y E E I F A R F L N V F A V A  
D E I Y W Y D I L D K F G I K  
M E P V L L S F H A P V H D D Q V A Q H V P A R L R E W Q R A S G A R  
D L H A L V I A T H A D Q D L E T V A R L S A G S T S V A G N G  
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Y A F V A S H H T V D L T T V A A L S A G P D V L A A D I A R Q L G V K  
L E P L R L V G L S L R T A R I E L E G A A Q G L D R A W R E F R D R S D L Q  
I H L L S A D H R V Q G L E A V S R L G G V S A H L G P D L L R T R G L D  
I H L L S A D H R L S Q G L D V V A R L L G A N P R R L G P D L L A A P G L R  
H L L S A D H R L P G L D I V A R L G A V A P G L G P D L L E A P A L R  
A I R E L C S L N H I E

|                        |             | 50  | 60  | 70 | 80 |
|------------------------|-------------|---|---|----|----|
| UniRef90_D9PZM3        | G V V V L   | S T C N R F E V Y L D S A H D R A D S A I S E M L G C H V H L T G V D       |   |    |    |
| UniRef90_H1CIG8        | C V L L     | S T C N R T E L Y L S C A S G A E P E G A P F G A F V T R G T C             |   |    |    |
| UniRef90_UPI0002E7AEA3 | E V V I I   | S T C N R T E V Y L S N S N K V F T T L N W P T E Y K S F I Y C N E         |   |    |    |
| UniRef90_F4H674        | G A V V L   | A T C N R F E L Y E V G D A D Q T P A A A D E V L T H L R P L T G P A       |   |    |    |
| UniRef90_C6XST1        | E I F Y V   | C N R V E F V F T S D M G L P A Q Y M E Q F I E N V S V Y E Q V D           |   |    |    |
| UniRef90_UPI00046EEAF5 | A V M V     | V T T C N R T E V Y F E S A G T T A E V I A A F S P L F K H F T H S E D     |   |    |    |
| UniRef90_UPI000365447C | G M L L     | L S T C N R M E I Y F E S S T T K A E D F I Q W F L K F K E I D K G D K     |   |    |    |
| UniRef90_H2C686        | E M A V L   | Q T C N R I E I Y L Y S D D Y L N S V H G R D I S T D A T I L R G V D       |   |    |    |
| UniRef90_F4GHW6        | G V V V L   | S T C N R T E V W V H G G N G D P F P H M C R Y Q D L F Y H K R G D E       |   |    |    |
| UniRef90_F8L3F5        | Y V L       | L S T C N R T E L Y F S A P N L A R E E I Q D P F D Q N L Y S F F G S D     |   |    |    |
| UniRef90_F4G173        | E M T L     | Q T C N R I E I Y L Y S E D D N L S K V L D Y I S S D A T I L R G K E       |   |    |    |
| UniRef90_UPI0003786890 | G F V L     | L A T C N R F E L Y V D G P T F H V E A V V D V I R G A L E V H A G E L     |   |    |    |
| UniRef90_A1SI37        | Q V L V L   | S T C E R T E V Y W W T D E A D P A A L P E P L L E H A V G L T G R E       |   |    |    |
| UniRef90_M4LY0         | E Y V L I   | R T C N R L E A Y I A T D D N V R K N V E F G D R Q F W Y L I E D K A       |   |    |    |
| UniRef90_JOLDH4        | G V V L V   | T T C N R T E V Y Y E T T A T E T A A V A A F A P L F T Y H S Y S E S       |   |    |    |
| UniRef90_UPI0003B7632D | G S V V L   | A T C N R F E A Y L D V D E D V S E L V G L V S Q G Q S E L L T S D A       |   |    |    |
| UniRef90_UPI00047CE703 | G A V V L   | S T C N R Y E I Y C E L P S E G D A G T A Q T V E Q S F A V N T G V D       |   |    |    |
| UniRef90_UPI0003622B51 | G S V V L   | A T C N R F E A Y L D D E P L P A A R A D L L R G A S A V Y S D H A         |   |    |    |
| UniRef90_N6VXR8        | N A I I L   | Q T C N R V E L I F Y G Y S L D E I K N K F K L L E D E                     |   |    |    |
| UniRef90_E1VXL8        | G A V V L   | A T C N R F E V Y A D V D E D A A E H L P D F L A R R L T T L E G D P       |   |    |    |
| UniRef90_Q9PLR2        | G S V V L   | L S T C H R V E L Y G M A T E A I F S T L I R E M G A I P Y R N Q D         |   |    |    |
| UniRef90_UPI00029B2CDB | E V V M     | L S T C N R T E F Y G V N G Q E L C Q T K Q L S W Y T Y H H N A             |   |    |    |
| UniRef90_UPI00047CEFD4 | D M V L     | M S T C S R T E V C S V A P R S G A S T V D L L A S H A Q V R T G R A       |   |    |    |
| UniRef90_U1YX10        | G A V V L   | V L T C N R F E L Y L D V D A P L D G T G V Q H A T E H F R T R A G T E     |   |    |    |
| UniRef90_D2Z8E9        | E L L P I   | H T C N R T E L Y G I I S E G S E L P S D I P S C A D I L T G K D           |   |    |    |
| UniRef90_F2L4T2        | P L F V L   | H T C N R V E V Y W D V P Q T A V E L V L A H Y R D Y A D I R K G R E       |   |    |    |
| UniRef90_M2X8T2        | G S V S L   | S T C N R L E I Y G E A R E A L A R L L A R S G V A L E L H V D E D         |   |    |    |
| UniRef90_F4L215        | E L L Y L   | S T C N R V M Y F F H T D R Q I E D D I L L A T L D D S V Q I L E G D K     |   |    |    |
| UniRef90_UPI00047AB692 | S A V I V   | S T C H R T E L Y W W G D G E L L H E W F A E L L R D D L K F E R A D A     |   |    |    |
| UniRef90_C6WZF4        | D A F V V   | S T C N R T E I Y T T S Q N Y L L L I A E H L Y C F M L Y V N I L K H E E   |   |    |    |
| UniRef90_10R383        | S H V S L   | A T C N R F E L Y F E T D D F H T N E N R D S V S Q S L Q I L S G D K       |   |    |    |
| UniRef90_L0JPI4        | E A V V L   | S T C N R V E A Y L S T R D A A R E A L G D P D G A R T E T E L A           |   |    |    |
| UniRef90_D5UCS3        | G A V V L   | V L T C N R F E L Y L D V A D T A S G Y S P E D V E Q H L H P L V G A E     |   |    |    |
| UniRef90_UPI00035E66CE | E I L I L   | S T C N R T E I L L I G E E H A A Q D L H Q A R E L F L F M E K E D E       |   |    |    |
| UniRef90_S2ZFC3        | G V M V L   | R T C N R V T I Y V D A P D A V E R E L A P R A D V Q L R H L W G R A       |   |    |    |
| UniRef90_UPI00026C6B2D | G A V V L   | S T C N R L E V Y V L D T E R F H E G V E L V I D A V S R T S G L D R E     |   |    |    |
| UniRef90_UPI0002631FF2 | E C F V L   | T T C N R V E V Y V G G R S D L P N A L E A A R R T L S R I H T G L D       |   |    |    |
| UniRef90_X0SJ07        |             |   | F Q P E N F Y L L G G D E                   |    |    |
| UniRef90_UPI0003687F06 |             |   | R R H L F L L L H Q D                       |    |    |
| UniRef90_D7BDK1        | E V V P I   | T T C N R C D L V L A L P R G V S S E L I P A G L P R G Y A F A G E A       |   |    |    |
| UniRef90_F2CYK5        |             |   | R E H L F M P R D S D                       |    |    |
| UniRef90_UPI0004681E6F | G S V V L   | A T C N R F E L Y L D A G R E T P E F A E A A I I A R S A R I A T D V A     |   |    |    |
| UniRef90_M7MTB7        | G A V T L   | A T C N R Y E I Y C E V P Q E V I S Q I A D T I S T A L V S K S E T E       |   |    |    |
| UniRef90_W9HAS7        | E M L W L   | S T C D R V E V L T A S P D P A A G M T H E A L A P E L Y T L T G G D       |   |    |    |
| UniRef90_UPI00047E563C | G A V V L   | A T C N R F E I Y G A P S E D D V E P A S V S S S F V T N T G E A           |   |    |    |
| UniRef90_C1AAC6        | S A V L L   | S T C H R T E L Y W W G E E E L G E W F S G G P N V R I D R V D A D L       |   |    |    |
| UniRef90_B8HBS2        | G A V V L   | A T C N R Y E I Y G E A P N T D D V E A A R A V S R S F S T R T G P E       |   |    |    |
| UniRef90_D6ZJZ8        | S L V L     | V S T C N R V E I Y T S A D P E V P L Q V P S H N Q T H W N F I E G R A     |   |    |    |
| UniRef90_C5CB93        | G A V V L   | A T C N R V E I Y A E A D G A G V E A P D E D V H A A F R T L D A D A       |   |    |    |
| UniRef90_M0L2L5        | E C F V L   | A T C N R V E V Y V A G R E A V R Q T L S M P A D A S I R L Y A G T D       |   |    |    |
| UniRef90_R6BGA1        | Y I F L     | K T C N R S E I Y Y G E G E V P   |   |    |    |
| UniRef90_U2X5C3        | G A V V L   | V L T C N R F E A Y F D L R D D A S D L P Y R T V R E T V D F A H G N K     |   |    |    |
| UniRef90_S3XED1        | G L I T V   | V A T C N R C D L V L A D P R G V S S E L I P A G L P R G Y A F A G E A     |   |    |    |
| UniRef90_A0A031FTF9    | G A V V L   | V A T C N R F E A Y F D L V D K L H V A Q K A T E L A G R I D V T R T G C T |   |    |    |
| UniRef90_H0QS23        | G A V V L   | A T C N R Y E I Y G E A P H A D D V E A A Q L V S R S F S T H T G P D       |   |    |    |
| UniRef90_W8K1H5        | G S F I L   | L T C Q R A E M Y F F S P T D H T A L I F E V A G V T P Y C Q G F V         |   |    |    |
| UniRef90_UPI000367D661 | E L F Y I   | S T C N R V C L L E S T K H S V D D T F L D P A M A E M E H V R G L K       |   |    |    |
| UniRef90_EORN86        | E A M L L   | Q T C N R W E L V V P D S P R A M A R V G S W C E R G R I Y R G R E         |   |    |    |
| UniRef90_Q5L782        | S F V L L   | L T C H R A E I Y Y S N R H I Q S K L L S R I S S L G A Y C Y Q G L A       |   |    |    |
| UniRef90_C7MGZ9        | G E V V V   | S T C N R L E I Y L D T D R F H S G L D S E V V S L C F E A A M D A P       |   |    |    |
| UniRef90_U1FCE4        | G A L V L   | S T C N R V C L V E T S P D S A A Q G F D E T A D S A Q I H C E N D         |   |    |    |
| UniRef90_G8QR81        | A T V L L   | C T C D R I F E L W T S T Y E P L C R D L G S S P K Q Y S Y A K E G P G     |   |    |    |
| UniRef90_UPI000407EFC0 |             |   | A E F K Q L P L S E V D P Y L Y V H R D V H |    |    |
| UniRef90_M0ZTX8        |             |   | C Q H R F L L Y N Q D                       |    |    |
| UniRef90_Q93A66        | E W V P     | L L T C N R S E L V G V E L E Q L R Q H L I P S H L P R G Y A F A G E A     |   |    |    |
| UniRef90_UPI000478AC71 | G A V A L   | L A T C N R F E I Y G E A A S E A D I F A A R K V S D S F T T M T G H E     |   |    |    |
| UniRef90_UPI000255D7A1 | A V T L     | A T C N R L E I Y A E A P S E S K D L A A S R D E S F R T L I E D D         |   |    |    |
| UniRef90_Z9JQC1        | G W V V     | V S T C N R L E E V Y V D A R R F H S G M S R D L V A L C F E T A M D A P   |   |    |    |
| UniRef90_C7M2H4        | E A A V L   | A T C A R T E L Y L A V T Q F H A D V P R S L V E Q L A T V H F G T G       |   |    |    |
| UniRef90_A0A010RN96    | P A V T L   | A T C N R M E I Y A S T R E Q L L D V V A E T V G R S F R T L V E D D       |   |    |    |
| UniRef90_D8DTU8        | E S V F L   | Q T C N R M E L Y S G N G D V P K R V A                                     |   |    |    |
| UniRef90_S3Y7I8        | G W V C L   | A T C N R L E I Y A D V D H D A I D L V T R A V H H T S G L P R E E V       |   |    |    |
| UniRef90_H8KS50        | E L F Y I   | A T C N R V E F I F S S E K E L P D F T A E Q H D Y Y A A M Y A N M A       |   |    |    |
| UniRef90_D1B7N3        | E A A L N L | K T C W R D E W Y A L C E N P D G A E F T G P K                             |   |    |    |
| UniRef90_C5C5B0        | G V V L L   | A T C N R F E V Y L D V A D D D A A G P G D P S A A L R V R V G P K         |   |    |    |
| UniRef90_K2AKD0        | E A V V V   | S T C L R Y E I L V S G A L K I K A W L A E V K E G A L Y Y S E G T E       |   |    |    |
| UniRef90_T1DCZ4        | Q S V L L   | R T C N R V E I Y Y I Q E A T A V E F E I P N Y K E Y S G D E               |   |    |    |
| UniRef90_UPI00042A17EE | E L F Y I   | A T C Q R V L W M V W G G D P G A L D P G P G V R R Y E G E E               |   |    |    |
| UniRef90_UPI00037DB7B2 | I V L V     | A T C N R F E I Y A L A D Q P H R H E L I D F I S R S L R P L N S S E       |   |    |    |
| UniRef90_F9ECK4        | G V L L I   | S T C N R V A I V L D A P D G R P E A L R D A V A A F L A E R S R G H A     |   |    |    |
| UniRef90_UPI000364F470 | G A V V L   | S T C N R V E L Y L D V A A D L I S G D D E D E L R A H M R V L G D K H     |   |    |    |
| UniRef90_D7CY08        | E W V P I   | V T C N R W D V V V A Q R A L T P T G Q L C R P Y A T G D G                 |   |    |    |
| UniRef90_J2ZJW2        | G V M V L   | R T C N R V T I Y Y D T P D A V E R E L A P R A D V R L R H L W G R D       |   |    |    |
| UniRef90_D2NS30        | G A V V L   | A T C N R L E M Y V A H V M R E L I A D S I A Q S F D V Y A D E E           |   |    |    |
| UniRef90_E3CWTS3       | T C         | W R R E L Y A L L P E T P A P G L P E P D L R G G G                         |   |    |    |
| UniRef90_A0A011QWG1    | E V V L L   | V T D N R R E Y Y L Y V D E D L R Y L S D Y T E K S L Y S K F N E D         |   |    |    |
| UniRef90_T1AWB0        | E I A L I   | K T C H R V E L L S A S R L P A W R N D L E R R G R G W T E R S G L E       |   |    |    |
| UniRef90_J0NPF7        | G V L V L   | G T C N R L A I L L D A P E F C A E R S G T G A P I D L S L W S G R A       |   |    |    |
| UniRef90_UPI0002F5E6C6 | E L V Y L   | T C C Q R V L W M L W E G D V Q G L S L A P E V M K L T G D A               |   |    |    |
| UniRef90_UPI00031CA08  | G V L V L   | S T C N R L T L L I D A D E T I T A F L A E R S G L L L T H L V G A A       |   |    |    |
| UniRef90_F2U4Y8        | E A A V L   | S T C N R I E I Y V V G V R E V T E W M C K Y S G V S I F L Y N K D         |   |    |    |
| UniRef90_K4AYS5        |             |   |   |    |    |

|                        | 90          | 100                 | 110                     | 120                                       |
|------------------------|-------------|---------------------|-------------------------|---|
| UniRef90_D9PZM3        | A A R H L   | L R V A S G L       | E S A I L G E D E       | V L G Q V R D A W V Y S R R A G Y S S     |
| UniRef90_H1CIG8        | A A R H L   | M E V A G G L R     | S Q I W G E D Q I       | L T Q V K G A A A A R E A G T A D         |
| UniRef90_UPI0002E7AEA3 | A A S H L   | F E V S C G F H     | S K I L G E D Q I       | L G Q I R S A Y E D S C S L Q L V K       |
| UniRef90_F4H674        | A G E H L   | F A V A S G L       | E S M V V G E R E       | A G Q V R K A Y E A C R V A G F T G       |
| UniRef90_C6XST1        | A F N H L   | L L R T S C S L     | E S L V V G E K E I     | L A Q I L T A R R D G T T T               |
| UniRef90_UP100046EEAF5 | T L Q Y H L | L L E V G L G L     | R S Q V L G D R Q       | I G Q F K D S Y Q L T K D L N L G G       |
| UniRef90_UPI000365447C | T L Q H L   | L L V S S G L       | D S A I V G D F Q       | I S Q I K Q A Y K V A I K N G L Q G G     |
| UniRef90_H2C686        | V V R H I   | F E V A A G I       | D S L V V G E Y E       | L S Q I K E A M M S S I L K G L G S       |
| UniRef90_F4GHW6        | V V P Y L   | F E L A S G M       | R S A L Y G E T T       | I P Q I I H S I D I A R A T G A A D       |
| UniRef90_F8L3F5        | C F L H R   | L G R V I S G M     | D S L I F G E S D       | Q R Q V K V S Y E S A R I K R R L T       |
| UniRef90_F4G173        | A I T H L   | F E V A S G I       | D S L S V G E Y E       | L K Q I K D S M K E A T K L G L A S       |
| UniRef90_UP10003786890 | A V Q H L   | L L E V A A G I     | D A M V V G E D E       | L G Q V V R E A L A T A D T H T T         |
| UniRef90_A1SI37        | A V Q H L   | L L R V T A G L     | D S F V R G E S D       | V G Q V V R A A V Q A A R A E G A V G     |
| UniRef90_M4LY0         | C I K H L   | F T V I C G I       | D S L I V G E D Q       | Q H Q I K E S F E Q A R K E G H V K       |
| UniRef90_J0LDH4        | T L Y Y L   | E V G L G L         | R S V L G D R Q         | I G Q L K D S Y R L T N D L K L G S       |
| UniRef90_UPI0003B7632D | V A E H L   | F S V S S G L       | E S V V V G E G E       | A G Q V V R R A Y T S A R K A G T V T     |
| UniRef90_UP100047CE703 | V S R H L   | F S V G S G L       | D S A V V V G E R E     | A G Q V V R R A L I E A Q E T G T A S     |
| UniRef90_UP10003622B51 | V A E H L   | F A V T S G L       | E E S V V V G E G E     | A G Q V V R R A L E S A R R D G S V T     |
| UniRef90_N6VXR8        | A I L H L   | F R L A A G L       | D S S M I V G E V Q     | L G Q I K D A F L K A N I K D             |
| UniRef90_E1VXL8        | V I E H L   | F S V G A G L       | D D S A V V G E R E     | A G Q V V R R A L T Q A Q Q E K T T T     |
| UniRef90_Q9PLR2        | C F S H L   | F C V V G G M       | D S L V L G E T E I     | Q G Q V V K R A Y L Q A I E E Q K L A     |
| UniRef90_UP100029B2CDB | A L R H L   | L R V A S G L       | D D S V I V G E A Q     | V G Q L K Q A F                           |
| UniRef90_UP100047CEFD4 | V V E H L   | F S V T A G L       | E E S R V V G E A D     | V Q A Q V V R R A Y R V A Q S V G M T G   |
| UniRef90_U1YX10        | V A E H L   | F A V A S G L       | D D S M V V G E R E     | I A G Q V V K R A L E T A H A D G V T S G |
| UniRef90_D2Z8E9        | V V E H L   | L R V L L G L       | E D S M A C G E S F V   | V V S Q V V K K E Y D R Y S P L C G       |
| UniRef90_F2L4T2        | A A L H L   | L L E V A A G L     | D S M L I G E T D       | L G Q L E E A Y D S Q V K A H I A R S     |
| UniRef90_M2X8T2        | A A H H L   | F T V V I S G L     | E S A V V G E R E       | T T Q V V R R A L I D A Q R G G G T A S   |
| UniRef90_F4L215        | A L E H Y   | T V S A S M D S     | M V I G E R Q           | L G Q V V R D A Y D Q C K D W N L I G     |
| UniRef90_UP100047AB692 | A V R H L   | F A V A A G M       | K S A R F G E P E       | L G Q I V R A W M L A Q S A G T S R       |
| UniRef90_C6WZF4        | A L N H L   | F R V A A G L       | E E S Q I I G D F E     | I I G Q I V K N A Y H R F K K V K R A N   |
| UniRef90_I0R383        | V A Q H L   | F S V T S G L       | D D S M I V G E S E     | V T Q G V V R R A L S R A Q L S G P L A   |
| UniRef90_L0JPI4        | V A E H L   | F R V A C G L       | E E S A V I G E A H     | V L Q G L V R T F D A A L E A D L A G     |
| UniRef90_D5UCS3        | A G E H L   | F A V A S G L       | E E S M V V G E R E     | I A G Q V V R R A L T T A R R D G T T T   |
| UniRef90_UP100035E66CE | I L H Y I   | F R V S A G L       | E E S Q I L G D A Q     | I I S Q L K A A Y Q L S Q S T A T A G     |
| UniRef90_S2ZFC3        | G L V D L   | F A T A S G L       | E E S M V I G E R E     | I A G Q M R R A A R T A W E D G T L S     |
| UniRef90_UP100026C6B2D | V V Q H L   | F F E V T S G L     | R S I V M G E A E       | S S Q G V V Q K Q A Y E A A R R A G H T T |
| UniRef90_UP10002631FF2 | A V G H L   | S R L A A G L       | E E S P I L G E D E     | I I G Q L V R R A L E A A D E A G L V D   |
| UniRef90_X0SJ07        | A A R H L   | F G V A A A S L     | D S L V I G E A Q       | L L Q G V V K E A F A E S R S A G L V G   |
| UniRef90_UP10003687F06 | A V M H L   | L R V A A A G L     | D S L V L G E G Q       | L L A Q V V K N T H K L G Q Q Y N G I K   |
| UniRef90_D7BDK1        | A F E Q L   | C R V A A S L       | D S L N P G E D Q       | M N Q V R S A F E A A R S K G T V G G     |
| UniRef90_F2CYK5        | A T R H L   | F E V S S G L       | D S L V L G E G Q       | L A Q V V K Q V V R S G Q N S G G L       |
| UniRef90_UP10004681E6F | A A E H L   | F A V A S G L       | E E S A A L G E E E I   | A G Q V V R R A L I T A Q H E G T A S     |
| UniRef90_M7MTB7        | A I E H L   | F S V G A G L       | D D S A V I G E R E     | A G Q V V R R A L N E A Q A A G T A T     |
| UniRef90_W9HAS7        | A V R H L   | F A V A C G L       | D S Q V V G E P H       | V L Q G V V K T A H R A S V A H A S G     |
| UniRef90_UP100047E563C | V A E H L   | F A V A S G L       | D S A V V G E R E       | A G Q V V R R A L I D A Q S T G A A S C   |
| UniRef90_C1AAC6        | A V R H L   | F S V A S G M       | Q S A R Y G E P E I     | L G Q V V R R A W T A A C E A G T A C     |
| UniRef90_B8HBS2        | V T R H L   | F A V S A G L       | D D S A V V G E R E     | A G Q V V R R A L I T A Q H E G T A S     |
| UniRef90_D6ZJZ8        | V A E H L   | Y R V A A G L       | D D S M V V G E A E V   | V A G Q V V R R S F T R A Q D L G E V H   |
| UniRef90_C5CB93        | T A R H L   | F E V G V G L       | D D S A V V G E R E     | A G Q V V R R A L T A A Q E A G T A S     |
| UniRef90_M0L2L5        | A V A H L   | A L A A G L         | E E S P I L G E D E I   | I I G Q L V R R A L T A A Q E A G T A S   |
| UniRef90_R6BGA1        | V A R H L   | F R V V A G L       | E E S A I I G E R A V   | V Q G Q V V K E A Y Y T A K D Q R P L T   |
| UniRef90_U2X5C3        | V A H H L   | F S V A S G L       | D S L V L G E G Q       | A G Q V V R R A L D D A R R G G L T T     |
| UniRef90_S3XED1        | A V T H L   | F E V S C G L       | D S M V I G E N E I     | I I G T S S                               |
| UniRef90_A0A031FTF9    | V A H H L   | F T V A S G L       | D S V A V V G E D E     | A G Q V V R R A L E A A R G R G L T T     |
| UniRef90_H0QS23        | V S Q H L   | F A V S S G L       | D S A V V V G E R E     | A G Q V V R R A L I T A Q Q E G T A S     |
| UniRef90_W8K1H5        | C F R H L   | F T V T S G M D S   | L I F G E T E I         | Q Q G Q V V K R A Y M K A K A E R D L P   |
| UniRef90_UP1000367D661 | A V Y H L   | F E V G G S         | D S L V L G E R Q       | L G Q F V R D A Y E Q S R N W G L I G     |
| UniRef90_E0RN86        | A F F H L   | L C R V V A G M     | D S V P G D T E I       | V S S Q F K V K A A W R Q V A E A G T V G |
| UniRef90_Q5L782        | C F T H L   | F T V T S G M D S   | L I S G E T E I         | I Q Q G Q V V K R A Y I K A K T D R D L P |
| UniRef90_C7MGZ9        | V T Q H L   | Y E V T S G L       | R S L V L G E A E I     | A G Q V V R Q S Y E S A R R E G R T T     |
| UniRef90_U1FCE4        | A V W R H L | F V R A A A G L     | E E S M V V G E R E     | V A G Q V M K R A L N E A R K E Q T V S S |
| UniRef90_G8QR81        | C V T Y L   | Y E L A C G L       | H S P L F G E D Q       | I I S Q L V R E A I E R S R L C G C T S   |
| UniRef90_UP1000407EFC0 | A L T H W L | R V A A G L         | D S M I L G E P Q       | I I L G Q I V K Q A V H L A Q N E K V L N |
| UniRef90_M0ZTX8        | A T Q H L   | F E V A A G L       | D S L V L G E G Q       | L L A Q V V K Q V V K N G Q G V P G F G   |
| UniRef90_Q93A66        | A L E H L   | A R V A A S L       | D S V N P G E D Q       | M Q Q V V R A A F E A A S A G T V G       |
| UniRef90_UP1000478AC71 | V P R H L   | F L F S V S A G L   | D S A V V V G E R E     | A G Q V V R R A L I L E S Q G V G T A S   |
| UniRef90_UP1000255D7A1 | A V G H L   | F E V G A G L       | D S A V V V G E R E     | A G Q V V R K S L A E A Q E A G T V N     |
| UniRef90_Z9JQC1        | V T H H L   | F E V T S G L       | R S L V I G E A E I     | I G G Q V V R S D F E A A R A E G L T T   |
| UniRef90_C7M2H4        | A L R H L   | Y R V S A G M E S   | V I I G E S E I         | V A Q V V K D A I A R A Q R R R L A G     |
| UniRef90_A0A010NRN6    | A V S H L   | F E V G A G L       | D S A V V V G E R E     | A G Q V V R K S L A D A Q H A G T I S P   |
| UniRef90_D8DTU8        | R H L       | F R V V S G L       | E E S A I V G E R A V   | V Q G Q V V K E A Y L K A R N D H H L P   |
| UniRef90_S3Y7I8        | A A R H M   | Y E V A A G M N     | S Q V L G E A E I       | T T Q G Q V V R A S F T N A L A A G H T T |
| UniRef90_H8KS50        | A A R H M   | M R I S C S         | L S E S L V V G E K E I | T T Q G Q V V R E M Y E E C R D W G L T G |
| UniRef90_D1B7N3        | A A M H M   | I R V L L G L       | E S F A V G E F H       | L V N Q V V K R C Y R E Q H A S C G       |
| UniRef90_C5C5B0        | A A R H M   | F G V A S G L       | D S I V V V G E R E     | A G Q V V R R A I A A A R R A G T T T     |
| UniRef90_K2AKD0        | A V R H L   | F S V M S G F       | E E S D I G E I Q V     | L L Q G Q I V K D S Y K R C R E A S I A G |
| UniRef90_T1DCZ4        | A I K H L   | F S V A S G L       | E E S M S V G E Q E I   | L L Q G Q I V K E A Y E E S I K I G       |
| UniRef90_UP100042A17EE | A W V H L   | L A M S A G L       | E E S A N L G D R E     | P P G Q M V K D A L A Q A R Q V G V A G   |
| UniRef90_UP100037DB7B2 | A G E H L   | F S V A A G L       | D S D A V V G E R E     | A G Q V V R R A L L S E A Q A A S A V P   |
| UniRef90_F9ECK4        | A H L E L   | F L F A T A A G L   | T T S M V V G E R E     | A G Q L V R R A L T S A T A E G T A T     |
| UniRef90_UP1000364F470 | V P E Y L   | F S V S S G L       | E S V A V V G E G E     | S S G Q V V R R R S L Q R A R Q Q R L T T |
| UniRef90_D7CY08        | A L E Q L   | T R I A A S L       | D S L N P G E D Q       | M A Q V V R S A F A A A Q A A G S T G     |
| UniRef90_J2ZJW2        | G L V D L   | F E T A A S G L     | E E S M V V G E R E     | A G Q M V R R A A R T A W E D G T L S P   |
| UniRef90_D2NS30        | A A R H L   | L T V A S G L       | E E S A V V G E R E     | T T G Q V V R R A L L A A A Q A K A Q L P |
| UniRef90_E3CWT3        | V V R H L   | L L R V L L G L     | E E S F A V G E S H     | V V R Q V V R D A Y E G C A T C G         |
| UniRef90_A0A011QWG1    | V V R H L   | L L D S S N         | N V S E H Q T D E       | T T V D V I D D A L S A A L K N H T A K R |
| UniRef90_T1ABW0        | A V R H L   | F H V A S G L       | E E S L A V V G E R E   | V R Q Q V I R S A I G T V Q S R H P R     |
| UniRef90_J0NPF7        | A Y R E L   | F A I A A G L       | E E S M V V G E R E     | I A G Q L V R R A L L I L A T A E G T V T |
| UniRef90_UP10002F5E6C6 | A Y R E L   | L I A T A A G L     | E E S M V V G E R E     | A G Q L V R R S L V R A A E E G T T S     |
| UniRef90_UP1000310CA08 | A W L H L   | L S L A M I A A G L | E E S A N V G D R E     | P P G Q I V R T A L D T A L D A G T A G   |
| UniRef90_F2UY48        | A R R E M   | M L A M I A A G L   | E E S M V V G E A Q     | V V G Q V V R R A A E A A A E G T L S     |
| UniRef90_K4AYS5        | A T Q H L   | F E V A A G L       | D S L V L G E           |   |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E | L | D | T | V | F | H | S | A | I | S | A | G | A | R | V | R | S | S | T | N | I |   |
| G | V | L | E | I | L | F | R | N | A | A | A | G | K | E | I | K | T | K |   |   |   |   |
| G | D | L | M | K | L | F | Q | L | A | I | A | C | G | K | E | F | K | T | T | T |   |   |
| S | A | L | E | S | L | F | Q | A | A | S | R | V | S | R | A | V | E | S | E | T | G |   |
| D | Y | M | R | M | I | M | N | R | V | V | K | T | A | K | E | V | Y | T | H | T | N |   |
| T | L | L | H | Q | A | L | Q | T | L | F | R | T | H | K | R | V | H | N | E | T | S |   |
| K | F | L | E | R | S | M | Q | A | T | F | R | L | N | K | K | I | S | N | E | T | A |   |
| R | H | M | R | I | L | L | E | R | A | L | K | V | G | R | R | V | R | I | E | T | S |   |
| G | V | L | E | Q | L | F | R | Q | A | V | T | A | A | K | E | V | H | S |   |   |   |   |
| P | S | L | H | Y | M | F | Q | K | G | L | K | I | G | K | E | I | R | T |   |   |   |   |
| K | H | M | R | C | L | E | R | S | L | K | V | G | R | K | V | R | L | E | T | G | I |   |
| P | A | L | R | R | L | F | H | A | A | L | T | T | G | K | A | V | T | S | Q | T | E |   |
| L | E | V | Q | R | L | V | D | A | A | V | N | T | S | R | R | V | H | R | S | T | G |   |
| K | K | L | Y | A | L | F | C | K | A | L | V | V | G | K | R | V | R | T | E | T | D |   |
| P | L | L | H | Q | A | L | Q | T | L | F | R | A | H | K | R | V | H | N | E | T | D |   |
| G | D | L | E | R | L | F | F | Q | G | A | S | T | T | S | R | G | V | K | N | S | T | G |
| G | G | L | T | R | L | F | Q | T | A | S | K | T | A | K | D | V | G | S | R | T | G | L |
| S | E | L | E | R | L | F | Q | V | A | S | R | T | S | R | G | V | K | N | R | T | G | I |
| K | R | F | E | K | I | M | L | K | I | H | T | G | Q | R | V | R | E | E | T | E | I |   |
| S | N | L | T | R | L | F | Q | N | A | T | R | A | A | K | D | V | G | S | N | T | D |   |
| F | A | L | H | F | L | F | Q | K | A | L | K | E | G | K | V | F | R | T | K |   |   |   |
| P | L | L | D | R | L | F | P | A | A | L | R | S | A | E | R | A | H |   |   |   |   |   |
| S | T | I | E | L | E | F | F | Q | T | A | R | S | T | K | K | V | S | T | Q | T |   |   |
| R | I | L | N | R | L | F | Q | R | S | F | N | L | A | G | G | L | R | T | E |   |   |   |
| E | P | L | R | T | V | V | E | R | A | I | R | F | G | K | M | V | R | T | R | T | N | I |
| G | G | L | V | R | L | F | F | E | E | A | K | T | A | R | E | V | G | T | S | T | S | I |
| D | N | L | R | M | A | D | Q | A | V | V | A | V | K | S | I | Y | S | N | T | R | I |   |
| G | P | I | D | G | A | F | R | Q | A | I | I | D | A | A | R | H | I | R | A | D | M | G |
| P | F | L | E | R | A | I | N | S | A | I | Q | I | S | K | R | I | K | N | E | T | G | I |
| P | S | V | Q | Q | L | F | Q | T | A | L | R | V | S | K | K | V | S | Q | T | T | G | I |
| G | V | T | R | A | D | A | A | V | S | V | G | R | R | C | R | D | E | T | D | I |   |   |
| S | T | I | E | L | A | F | Q | A | S | R | T | S | R | A | V | E | K | S | T | G | L |   |
| T | F | I | H | R | L | M | Q | M | V | F | C | A | N | K | K | I | S | Q | E | T | A |   |
| C | D | L | G | R | A | E | R | A | S | A | T | S | R | R | V | A | T | E | T | G | L |   |
| S | M | L | H | D | L | F | Q | H | G | F | R | C | A | K | S | V | A | T | Q |   |   |   |
| G | V | V | G | R | A | E | C | G | L | R | A | G | R | A | C | R | A | E | T | G | I |   |
| S | E | L | Q | R | L | F | Q | S | A | F | H | V | G | K | K | V | R | R | G | T | D |   |
| T | I | L | N | R | L | F | K | Q | A | I | T | A | G | K | R | V | R | T | E | T | S |   |
| P | T | T | S | L | A | F | N | L | A | R | I | A | K | R | V | R | R | E | T | E | G | I |
| P | T | S | L | A | R | F | Q | S | A | T | R | T | A | K | D | V | R | S | E | T | N | I |
| P | V | L | N | L | C | Q | Q | V | L | G | V | A | K | R | I | R | S |   |   |   |   |   |
| F | A | L | H | F | L | F | Q | K | A | L | K | E | G | K | D | F | R | S | Q | V | S | L |
| S | M | L | H | D | L | F | Q | H | A | F | R | C | A | K | S | V | A | T | Q |   |   |   |
| Y | I | I | G | H | V | V | E | E | A | L | K | T | S | R | H | V | A | T | E | T | A | L |
| A | V | L | E | Q | L | F | Q | T | A | S | R | T | A | K | D | V | G | A | Q | T |   |   |
| T | E | L | G | W | I | V | D | Q | V | F | A | A | K | R | V | R | N | E | T | E |   |   |
| R | K | I | S | E | L | F | Q | R | A | T | S | R | A | V | K | N | S | T | R | I |   |   |
| P | V | L | N | L | C | Q | Q | V | L | G | V | A | K | R | I | R | S |   |   |   |   |   |
| F | A | L | H | F | L | F | Q | K | A | L | K | E | G | K | D | F | R | S | Q | V | S | L |
| S | M | L | H | D | L | F | Q | H | A | F | R | C | A | K | S | V | A | T | Q |   |   |   |
| Y | I | I | G | H | V | V | E | E | A | L | K | T | S | R | H | V | A | T | E | T | A | L |
| A | V | L | E | Q | L | F | Q | T | A | S | R | T | A | K | D | V | G | A | Q | T |   |   |
| T | E | L | G | W | I | V | D | Q | V | F | A | A | K | R | V | R | N | E | T | E |   |   |
| R | K | I | S | E | L | F | Q | R | A | T | S | R | A | V | K | N | S | T | R | I |   |   |
| P | V | L | N | L | C | Q | Q | V | L | G | V | A | K | R | I | R | S |   |   |   |   |   |
| F | A | L | H | F | L | F | Q | K | A | L | K | E | G | K | D | F | R | S | Q | V | S | L |
| S | M | L | H | D | L | F | Q | H | A | F | R | C | A | K | S | V | A | T | Q |   |   |   |
| Y | I | I | G | H | V | V | E | E | A | L | K | T | S | R | H | V | A | T | E | T | A | L |
| A | V | L | E | Q | L | F | Q | T | A | S | R | T | A | K | D | V | G | A | Q | T |   |   |
| T | E | L | G | W | I | V | D | Q | V | F | A | A | K | R | V | R | N | E | T | E |   |   |
| R | K | I | S | E | L | F | Q | R | A | T | S | R | A | V | K | N | S | T | R | I |   |   |
| P | V | L | N | L | C | Q | Q | V | L | G | V | A | K | R | I | R | S |   |   |   |   |   |
| F | A | L | H | F | L | F | Q | K | A | L | K | E | G | K | D | F | R | S | Q | V | S | L |
| S | M | L | H | D | L | F | Q | H | A | F | R | C | A | K | S | V | A | T | Q |   |   |   |
| Y | I | I | G | H | V | V | E | E | A | L | K | T | S | R | H | V | A | T | E | T | A | L |
| A | V | L | E | Q | L | F | Q | T | A | S | R | T | A | K | D | V | G | A | Q | T |   |   |
| T | E | L | G | W | I | V | D | Q | V | F | A | A | K | R | V | R | N | E | T | E |   |   |
| R | K | I | S | E | L | F | Q | R | A | T | S | R | A | V | K | N | S | T | R | I |   |   |
| P | V | L | N | L | C | Q | Q | V | L | G | V | A | K | R | I | R | S |   |   |   |   |   |
| F | A | L | H | F | L | F | Q | K | A | L | K | E | G | K | D | F | R | S | Q | V | S | L |
| S | M | L | H | D | L | F | Q | H | A | F | R | C | A | K | S | V | A | T | Q |   |   |   |
| Y | I | I | G | H | V | V | E | E | A | L | K | T | S | R | H | V | A | T | E | T | A | L |
| A | V | L | E | Q | L | F | Q | T | A | S | R | T | A | K | D | V | G | A | Q | T |   |   |
| T | E | L | G | W | I | V | D | Q | V | F | A | A | K | R | V | R | N | E | T | E |   |   |
| R | K | I | S | E | L | F | Q | R | A | T | S | R | A | V | K | N | S | T | R | I |   |   |
| P | V | L | N | L | C | Q | Q | V | L | G | V | A | K | R | I | R | S |   |   |   |   |   |
| F | A | L | H | F | L | F | Q | K | A | L | K | E | G | K | D | F | R | S | Q | V | S | L |
| S | M | L | H | D | L | F | Q | H | A | F | R | C | A | K | S | V | A | T | Q |   |   |   |
| Y | I | I | G | H | V | V | E | E | A | L | K | T | S | R | H | V | A | T | E | T | A | L |
| A | V | L | E | Q | L | F | Q | T | A | S | R | T | A | K | D | V | G | A | Q | T |   |   |
| T | E | L | G | W | I | V | D | Q | V | F | A | A | K | R | V | R | N | E | T | E |   |   |
| R | K | I | S | E | L | F | Q | R | A | T | S | R | A | V | K | N | S | T | R | I |   |   |
| P | V | L | N | L | C | Q | Q | V | L | G | V | A | K | R | I | R | S |   |   |   |   |   |
| F | A | L | H | F | L | F | Q | K | A | L | K | E | G | K | D | F | R | S | Q | V | S | L |
| S | M | L | H | D | L | F | Q | H | A | F | R | C | A | K | S | V | A | T | Q |   |   |   |
| Y | I | I | G | H | V | V | E | E | A | L | K | T | S | R | H | V | A | T | E | T | A | L |
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

|   |   |
|---|---|
| UniRef90_UPI0003689CAD<br>UniRef90_R8ZR29<br>UniRef90_W1NSP3<br>UniRef90_E1X321<br>UniRef90_F9PKL7<br>UniRef90_B0SF67<br>UniRef90_E7NBB7<br>UniRef90_I2QN09<br>UniRef90_G9PRE9<br>UniRef90_K5C026<br>UniRef90_M6FDN1<br>UniRef90_B8IIJ5<br>UniRef90_F3P7Y9<br>UniRef90_V7FWW1<br>UniRef90_UPI000372D294<br>UniRef90_Q52994<br>UniRef90_I0XLQ4<br>UniRef90_X5RX15<br>UniRef90_V6HMH2<br>UniRef90_A0A024EZ86<br>UniRef90_V7EC04 | 1                    10                    20                    30                    40<br> |
|---|---|

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|                        | 90  | 100 | 110 | 120           |
|------------------------|---|-----|-----|---------------|
| UniRef90_UPI0003689CAD | V V R H L F E L   M G G F   D Y T T N E F   L   Y Y S   L R R   F E   H Q F S T Q H   |     |     |               |
| UniRef90_R8ZR29        | A Y R F   L L E V V S G   L R S K   F G E S E   L   Q A Q F R D R F   |     |     | R E E N T N G |
| UniRef90_1NNSP3        |   |     |     |               |
| UniRef90_E1X321        | A Y S Y   L L E T   T   C G   K S K   L   G E N E   T   S Q F   K K S Y T K Y   L   E Y G   V R N   |     |     |               |
| UniRef90_F9PKL7        | A R R E   M L A   T   A A G   L   R S M   V   V   G E A Q   V   G Q V   R   R A A E   T   A A A E   G T   L   S                                       |     |     |               |
| UniRef90_B0SF67        | A Y R F   L L E V V S G   L   R S K   L   F   G E S E   I   Q A Q F R D R F   R E E N T E R S N F   |     |     |               |
| UniRef90_E7NBB7        | A R R E   M L A   I   A A G   L   S S M   V   V   G E A Q   V   G Q V   R   R A A E   T   A A A E   G T   L   S                                       |     |     |               |
| UniRef90_I2QN09        | A   R R E   V A E   L   A S G A   H   S S Q   I   L   G E S Y   S   Q Q L   T   K A   F   V   S S A F   |     |     |               |
| UniRef90_G9PRE9        | A R R E   I L A   I   A A G   L   N S M   V   V   G E A Q   V   G Q V   R   R A A E   T   A A A E   G T   L   S                                       |     |     |               |
| UniRef90_K5C026        | A Y R F   L L E V V S G   L   R S K   L   F   G E S E   I   Q A Q F R D R F   R E E K N E S T F A   |     |     |               |
| UniRef90_M6FDN1        | G Y R F   V L E V   I   S G   L   H   S S K   L   L   G E T   E   V   L   S Q F   R   N K F   K   P   S S A F G                                       |     |     |               |
| UniRef90_B8IIJ5        | A Q R   V A E   I   A S G V   R   S   P   I   L   G E R N   I   Q   Q   L   E G A Y   K R   |     |     |               |
| UniRef90_F3P7Y9        | A R R E   M L A   I   A A G   L   S S M   V   V   G E   V   Q   I   A G Q V   R   R A A E   T   A A A E   G T   L   S                                 |     |     |               |
| UniRef90_V7FWW1        | A   I   Q R   L   A E   I   A S S A   H   S S Q   I   L   G E N Y   I   S   D   Q   L   A   K   A   L   E   F   |     |     |               |
| UniRef90_UPI000372D294 | V A K R   L   A E   I   S S G A K   S S Q   I   L   G E   P   Y   V   S E Q   V   S N A   V   A   L   D   |     |     |               |
| UniRef90_Q52994        | A   I   E R   L   A T   I   A   A G   V   H   S   S Q   I   L   G E   G F   I   S   Q   G   L   M   Q   A   I   E   S   G                             |     |     |               |
| UniRef90_10XQL4        | A Y R   L   L   L E   I   I   S   S G   L   K   S S K   L   F   G E   T   E   V   L   S   L   S Q F   K   Q R   F   Q                                 |     |     |               |
| UniRef90_X5RX15        | A   V   Q   R   L   A E   I   A S G A   H   S S Q   I   L   G E N Y   I   S   D   Q   L   V   N   A   I   E   R                                       |     |     |               |
| UniRef90_V6HHM2        | A Y G   L   L   L E   I   I   S   S G   L   R   S S K   L   F   G E   T   E   V   L   A   Q   F   R   Q   R   F   Q   E   P   S S A F G               |     |     |               |
| UniRef90_A0A024EZ86    | A   L   S   Q   L   L   L E   I   I   S   S G   L   H   S   P   I   V   G   E   T   E   V   F   G   Q   F   K   S   D   O   I   A   K   A   I   E   I |     |     |               |
| UniRef90_V7EC94        | V   T   Q   R   I   A E   I   A S G A   H   S S Q   I   E   G   E   N   Y   I   S   D   Q   L   V   N   A   I   E   I                                 |     |     |               |

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 UniRef90\_R8ZR29      Q M **L** K E **L** F E S **A** L E F A  
 UniRef90\_W1NSP3      S N **L** L R **L** R D Q **I** L E Q T K Q **I** R S K T G **I**  
 UniRef90\_E1X321      S Q I M S I L E E K L F M D A K K I R T  
 UniRef90\_F9PKL7      P E L V R V V E R A S A T A R R V A H E T E L  
 UniRef90\_B0SF67      A I L Q R L R D Q I L E H T K Q I R S K T G I  
 UniRef90\_E7NBB7      P E L V R V V E R A S A T A R R V A H E T E L  
 UniRef90\_I2QN09      P I L Q V A R S G I N T G R A V R  
 UniRef90\_G9PRE9      P D L V R I I E R A S T A A R R V A H D T E L  
 UniRef90\_K5C026      L S L L R L R D Q I L E H T K Q I R S K  
 UniRef90\_M6FDN1      E Y L A R L R D S L I Q D S R S I R S  
 UniRef90\_B8IJ5      P E L V R V I E R A S A T S R R V A H E T A L  
 UniRef90\_F3P7Y9      UniRef90\_V7FWW1      P A L S R I A R L A L G V G R R V R  
 UniRef90\_UPI000372D294      E Y I A R L  
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