

| QUERY                  | 1 | 10 | 20 | 30 | 40 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|----|----|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UniRef90_B5YEQ1        | M | F  | I  | D  | R  | A | K | I | Y | V | K | A | G | R | G | G | N | G | A | V | S | F | R | R | R | E | K | F | V | P | K | G | G | P | D | G | G | D | G | G | K |   |   |   |
| UniRef90_DOMKF6        | F | V  | D  | Y  | V  | T | I | T | Y | V | K | R | A | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | K | Y | V | P | P | K | G | G | P | A | G | G | D | G | G | D |
| UniRef90_B2V968        | M | F  | I  | D  | K  | A | K | I | Y | V | K | A | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | K | Y | V | P | P | K | G | G | P | A | G | G | D | G | G | D |   |
| UniRef90_F3ZYF8        | M | F  | V  | D  | R  | A | K | I | Y | V | K | A | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | K | Y | V | P | P | R | K | G | G | P | D | G | G | D | G | G | D |
| UniRef90_F8C3Z7        | F | V  | D  | Q  | V  | K | I | H | V | K | A | G | D | G | G | N | G | A | V | S | F | S | S | W | R | R | E | K | K | Y | V | P | P | K | G | G | P | D | G | G | D | G | G | D |
| UniRef90_K1XWF2        | M | F  | I  | D  | E  | V | K | I | T | I | K | A | W | K | G | G | N | G | A | V | S | F | W | R | R | E | K | C | Y | V | P | P | N | K | G | G | P | Y | G | W | D | G | G | Y |
| UniRef90_UPI00036FF153 | F | L  | D  | Q  | A  | K | I | W | K | A | G | D | G | G | N | G | A | V | S | F | V | A | F | R | R | E | K | F | I | E | F | F | G | G | P | W | G | G | D | G | G | K |   |   |
| UniRef90_UPI0002F700BB | M | F  | V  | D  | Q  | V | K | I | W | K | A | G | D | G | G | N | G | A | V | S | F | R | R | R | E | K | Y | V | P | P | L | G | G | P | A | S | G | G | D | G | G | K |   |   |
| UniRef90_C0QUB5        | F | I  | D  | K  | A  | K | I | H | V | K | A | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | Y | V | P | P | R | M | G | G | P | N | G | G | D | G | G | N |   |   |
| UniRef90_S9PGS4        | F | V  | D  | E  | V  | R | I | Q | V | K | A | G | D | G | G | N | G | A | V | S | F | F | F | R | R | E | K | Y | V | D | R | G | G | P | N | G | G | D | G | G | N |   |   |   |
| UniRef90_Q2S9T3        | F | V  | D  | E  | A  | T | I | Y | L | K | A | G | D | G | G | N | G | A | V | S | F | F | F | R | R | E | K | Y | V | P | P | K | G | G | P | N | G | G | D | G | G | D |   |   |
| UniRef90_R5XTA6        | F | L  | D  | Q  | A  | K | I | W | K | A | G | D | G | G | N | G | A | V | S | F | F | F | R | R | E | K | Y | V | P | P | E | F | G | G | P | N | G | G | D | G | G | K |   |   |
| UniRef90_R6HSM8        | M | F  | I  | D  | R  | A | R | I | Y | V | E | A | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | F | V | E | K | G | G | P | N | G | G | D | G | G | R |   |   |   |
| UniRef90_G4E4S6        | F | V  | D  | E  | A  | K | I | R | V | K | A | G | D | G | G | N | G | A | V | S | F | F | F | R | R | E | K | Y | V | P | P | F | F | G | G | P | N | G | G | D | G | G | D |   |
| UniRef90_A5E965        | F | L  | D  | E  | A  | K | I | R | V | R | S | G | D | G | G | N | G | A | V | S | F | F | F | R | R | E | K | F | I | E | F | F | G | G | P | N | G | G | D | G | G | D |   |   |
| UniRef90_B9M3W3        | F | L  | D  | E  | V  | K | I | H | V | K | S | G | D | G | G | N | G | A | V | S | F | F | R | H | E | K | F | I | E | F | F | G | G | P | D | G | G | D | G | G | K |   |   |   |
| UniRef90_D5XBC9        | M | F  | Y  | D  | Q  | A | K | I | R | V | K | A | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | Y | V | P | P | E | G | G | P | N | G | G | D | G | G | K |   |   |
| UniRef90_A3WVK3        | F | V  | D  | E  | V  | E | I | R | V | E | A | G | D | G | G | N | G | A | V | S | F | S | F | R | R | E | K | Y | V | P | P | K | G | G | P | D | G | G | D | G | G | D |   |   |
| UniRef90_T0N0F9        | M | F  | I  | D  | T  | A | K | I | V | R | S | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | Y | V | P | P | L | G | G | P | D | G | G | D | G | G | N |   |   |   |
| UniRef90_Q6GG60        | M | F  | V  | D  | Q  | V | K | I | S | L | T | F | A | G | D | G | G | N | G | A | V | S | F | T | A | Y | R | R | E | K | Y | V | P | P | F | F | G | G | P | A | G | G | D |   |
| UniRef90_UPI0003B4C47E | F | I  | D  | E  | A  | V | I | T | V | K | A | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | F | V | P | P | L | G | G | P | D | G | G | D | G | G | D |   |   |   |
| UniRef90_UPI000362C218 | F | L  | D  | Q  | A  | K | I | Y | V | R | S | G | N | G | G | S | G | A | V | S | F | F | R | R | E | K | Y | V | P | P | E | Y | G | G | P | N | G | G | D | G | G | K |   |   |
| UniRef90_G0VLT9        | M | F  | I  | D  | R  | A | R | I | F | V | Q | S | G | D | G | G | N | G | A | V | S | F | F | R | H | E | K | F | V | P | P | K | G | G | P | N | G | G | D | G | G | Q |   |   |
| UniRef90_W6RVE5        | M | F  | L  | D  | K  | A | R | I | F | V | K | A | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | Y | V | P | P | L | G | G | P | D | G | G | D | G | G | N |   |   |
| UniRef90_F6B8N6        | M | F  | Y  | D  | R  | A | K | I | Y | V | K | A | G | D | G | G | N | G | A | V | S | F | A | M | R | R | E | K | Y | V | P | P | F | G | G | P | W | G | G | D | G | G | R |   |
| UniRef90_D6XWZ9        | M | F  | V  | D  | R  | V | I | T | F | V | K | A | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | Y | V | P | P | N | G | G | P | A | G | G | D | G | G | D |   |   |
| UniRef90_A8F478        | F | V  | D  | R  | V  | I | T | F | V | K | A | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | Y | V | P | P | K | G | G | P | D | G | G | D | G | G | D |   |   |   |
| UniRef90_M5DTP1        | F | V  | D  | E  | A  | R | I | T | V | E | A | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | F | V | P | P | K | G | G | P | D | G | G | D | G | G | D |   |   |   |
| UniRef90_UPI000299F476 | M | F  | V  | D  | Q  | A | R | I | K | A | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | F | V | P | P | K | G | G | P | A | G | G | D | G | G | H |   |   |   |   |
| UniRef90_B8JBP2        | F | V  | D  | E  | V  | K | I | H | V | K | A | G | D | G | G | N | G | A | V | S | F | W | R | R | E | K | F | V | P | P | N | R | G | G | P | A | G | G | D | G | G | N |   |   |
| UniRef90_E8T3E4        | F | I  | D  | R  | A  | K | I | F | V | Q | G | G | H | G | G | N | G | A | V | S | F | F | R | R | E | K | F | V | P | P | K | G | G | P | S | G | G | S | G | G | K |   |   |   |
| UniRef90_W0DDP3        | M | F  | V  | D  | V  | A | K | I | F | V | K | A | G | D | G | G | N | G | A | V | S | F | L | R | R | E | K | F | V | P | P | F | F | G | G | P | A | G | G | D | G | G | K |   |
| UniRef90_D5C4A6        | F | I  | D  | E  | A  | I | K | V | Q | A | G | A | G | G | N | G | A | V | S | F | F | R | R | E | K | F | V | P | P | F | F | G | G | P | D | G | G | N | G | G | N |   |   |   |
| UniRef90_Q2BLR2        | F | V  | D  | E  | A  | V | I | T | V | E | A | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | Y | V | P | P | K | G | G | P | D | G | G | D | G | G | D |   |   |   |
| UniRef90_T0T2V4        | M | F  | I  | D  | R  | A | R | V | K | A | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | Y | V | P | P | N | G | G | P | A | G | G | D | G | G | K |   |   |   |   |
| UniRef90_K2FYF5        | M | F  | I  | D  | E  | V | K | I | K | L | R | A | W | K | W | W | D | G | A | V | S | F | W | R | R | E | K | C | Y | V | P | P | N | W | W | P | F | W | G | N | W | W | K |   |
| UniRef90_A0Q1T4        | M | F  | I  | D  | T  | A | K | I | L | V | K | S | G | N | G | N | G | A | V | S | F | F | R | R | E | K | Y | V | P | P | A | M | G | G | P | N | G | G | D | G | G | N |   |   |
| UniRef90_L0DP14        | M | F  | V  | D  | R  | V | I | T | F | V | R | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | Y | V | P | P | R | G | G | P | N | G | G | D | G | G | H |   |   |   |
| UniRef90_UPI0002626C37 | M | F  | V  | D  | Q  | V | K | I | F | V | K | A | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | Y | V | P | P | K | G | G | P | A | G | G | D | G | G | N |   |   |
| UniRef90_Q605N2        | F | V  | D  | E  | A  | E | I | R | V | D | A | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | Y | V | P | P | F | F | G | G | P | D | G | G | D | G | G | D |   |   |
| UniRef90_R9KKF4        | M | F  | A  | D  | R  | A | K | I | E | A | H | A | G | K | G | G | N | G | A | V | S | F | F | R | R | E | K | Y | V | P | P | N | G | G | P | D | G | G | D | G | G | M |   |   |
| UniRef90_J3R3NZ5       | M | F  | V  | D  | Q  | I | K | I | E | A | H | A | G | K | G | G | N | G | A | V | S | F | F | R | R | E | K | Y | V | P | P | N | N | G | G | P | A | G | G | D | G | G | R |   |
| UniRef90_J3JAU3        | M | F  | I  | D  | Q  | V | K | I | T | A | K | A | G | R | G | D | G | A | V | S | F | F | R | R | E | K | F | V | P | P | L | G | G | P | A | G | G | D | G | G | R |   |   |   |
| UniRef90_Z9JJK5        | F | V  | D  | E  | A  | E | I | Q | V | M | A | G | N | G | G | D | G | A | V | S | F | F | R | R | E | K | F | V | P | P | F | F | G | G | P | D | G | G | D | G | G | H |   |   |
| UniRef90_D8JQA8        | F | L  | D  | Q  | A  | K | I | Y | I | K | S | G | A | G | G | N | G | A | V | S | F | F | R | R | E | K | F | V | P | P | E | F | G | G | P | N | G | G | D | G | G | N |   |   |
| UniRef90_D5WUQ7        | M | W  | I  | D  | T  | A | E | I | Y | V | K | A | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | Y | V | P | P | M | G | G | P | A | G | G | D | G | G | R |   |   |
| UniRef90_Q0TNI5        | M | F  | I  | D  | T  | A | K | I | E | V | K | A | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | Y | V | P | P | L | G | G | P | D | G | G | D | G | G | K |   |   |
| UniRef90_E4THS3        | F | I  | D  | T  | V  | K | I | I | V | K | A | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | Y | V | P | P | K | G | G | P | D | G | G | H | G | G | R |   |   |   |
| UniRef90_U7FPQ0        | F | V  | D  | E  | A  | T | I | E | V | H | A | G | K | G | D | G | A | V | S | F | F | R | R | E | K | Y | V | P | P | E | F | G | G | P | D | G | G | D | G | G | A |   |   |   |
| UniRef90_H0A584        | F | L  | D  | E  | A  | K | I | W | V | K | A | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | Y | V | P | P | E | F | G | G | P | D | G | G | N | G | G | R |   |   |
| UniRef90_UPI0003B4F33B | F | L  | D  | Q  | A  | K | I | Y | R | S | G | H | G | D | G | G | N | G | A | V | S | F | F | R | R | E | A | Y | V | P | P | E | Y | G | G | P | D | G | G | D | G | G | D |   |
| UniRef90_UPI000369DA20 | F | V  | D  | E  | V  | K | I | K | V | D | A | G | D | G | G | N | G | A | V | S | F | F | R | R | E | K | Y | V | P | P | N | G | G | P | D | G | G | D | G | G | D |   |   |   |
| UniRef90_UPI00046A889D |   |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

QUERY UniRef90\_B5YEQ1 UniRef90\_DOMKF6 UniRef90\_B2V968 UniRef90\_F3ZYF8 UniRef90\_F8C3Z7 UniRef90\_K1XWF2 UniRef90\_UPI00036FF153 UniRef90\_UPI0002F700BB UniRef90\_C0QUB5 UniRef90\_S9PGS4 UniRef90\_Q2S9T3 UniRef90\_R5XTA6 UniRef90\_R6HSM8 UniRef90\_G4E4S6 UniRef90\_A5E965 UniRef90\_B9M3W3 UniRef90\_D5XBC9 UniRef90\_A3WVK3 UniRef90\_T0N0F9 UniRef90\_Q6GG60 UniRef90\_UPI0003B4C47E UniRef90\_UPI000362C218 UniRef90\_G0VLT9 UniRef90\_W6RVE5 UniRef90\_F6B8N6 UniRef90\_D6XWZ9 UniRef90\_A8F478 UniRef90\_M5DTP1 UniRef90\_UPI000299F476 UniRef90\_B8JBP2 UniRef90\_E8T3E4 UniRef90\_W0DDP3 UniRef90\_D5C4A6 UniRef90\_Q2BLR2 UniRef90\_T0T2V4 UniRef90\_K2FYP5 UniRef90\_A0Q1T4 UniRef90\_L0DP14 UniRef90\_UPI0002626C37 UniRef90\_Q605N2 UniRef90\_R9KKF4 UniRef90\_H3RNZ5 UniRef90\_J3JAU3 UniRef90\_Z9JJK5 UniRef90\_D8JQA8 UniRef90\_D5WUQ7 UniRef90\_Q0TNI5 UniRef90\_E4THS3 UniRef90\_U7FPQ0 UniRef90\_H0A584 UniRef90\_UPI0003B4F33B UniRef90\_UPI000369DA20 UniRef90\_UPI00046A889D UniRef90\_N4WCG1 UniRef90\_UPI00041E4FAD UniRef90\_I7LGP6 UniRef90\_N1ZYP4 UniRef90\_K2AE06 UniRef90\_UPI0003640E60 UniRef90\_Z9JXL9 UniRef90\_J0N643 UniRef90\_UPI000371FB47 UniRef90\_D0VNB5 UniRef90\_G4L7Y8 UniRef90\_W4CKX5 UniRef90\_I0GTE6 UniRef90\_C8W5P3 UniRef90\_B3CNP2 UniRef90\_C1A1L5 UniRef90\_R6XZ96 UniRef90\_UPI0003087F79 UniRef90\_UPI0003B52E49 UniRef90\_I1XGA9 UniRef90\_G2KRH2 UniRef90\_V4PZ70 UniRef90\_H9U9X2 UniRef90\_C0GEU7 UniRef90\_G2LHY5 UniRef90\_UPI0003774DB5 UniRef90\_W6N880 UniRef90\_C7Q8B1 UniRef90\_B6BUX5 UniRef90\_UPI00039A50EA UniRef90\_UPI00028A3EC9 UniRef90\_D0RQZ7 UniRef90\_D1Y1T7 UniRef90\_UPI00036063D4 UniRef90\_Q31PN0 UniRef90\_A2SD36 UniRef90\_S9ZPM4 UniRef90\_G9ETI2

50 60 70 80

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

| QUERY                  | G | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UniRef90_B5YEQ1        | G | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_DOMKF6        | G | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_B2V968        | G | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_F3ZYF8        | G | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_F8C3Z7        | G | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_K1XWF2        | W | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_UPI00036FF153 | G | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_UPI0002F700BB | A | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_C0QUB5        | G | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_S9PGS4        | A | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_Q2S9T3        | G | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_R5XTA6        | G | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_R6HSM8        | A | D | D | V | I | V | K | V | P | M | G | T | L | V | R | D | D | A | T | G | V | R | L | A | D | L | V | E | D | G | Q | E | Y | V | V | A | K | G | G | R |   |   |
| UniRef90_G4E4S6        | G | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_A5E965        | G | K | S | V | L | I | K | V | P | V | G | T | Q | I | F | D | E | D | R | E | T | L | H | F | T | T | V | G | E | R | F | V | L | A | Q | G | G | N |   |   |   |   |
| UniRef90_B9M3W3        | G | K | D | L | R | L | L | P | V | G | T | V | I | K | D | A | E | T | D | E | V | L | A | D | L | T | E | P | G | Q | P | L | V | L | L | K | G | G | R |   |   |   |
| UniRef90_D5XBC9        | A | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_A3WVK3        | A | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_T0N0F9        | G | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_Q6GG60        | A | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_UPI0003B4C47E | A | E | D | V | T | I | K | V | P | P | G | T | E | I | L | N | V | A | T | D | E | I | L | G | D | L | V | E | H | G | Q | R | I | K | V | A | Q | G | G | E |   |   |
| UniRef90_UPI000362C218 | G | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_G0VLT9        | A | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_W6RVE5        | G | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_F6B8N6        | G | K | D | L | V | I | E | V | P | A | G | T | V | V | R | E | A | E | T | G | R | V | I | A | D | L | V | E | D | G | Q | Q | V | V | V | A | R | G | G | R |   |   |
| UniRef90_D6XWZ9        | R | E | A | N | I | V | K | V | P | P | G | T | T | V | K | D | A | E | T | G | D | I | L | A | D | L | T | V | H | G | Q | K | A | T | I | A | R | A | G | K |   |   |
| UniRef90_A8F478        | G | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_M5DTP1        | G | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_UPI000299F476 | A | E | N | L | V | L | K | V | P | L | G | T | V | V | K | D | A | A | T | H | E | L | Q | L | G | D | L | T | T | E | N | G | E | R | V | V | A | E | G | G | R |   |
| UniRef90_B8JBP2        | A | E | N | L | V | L | K | V | P | P | G | T | V | V | K | D | A | A | T | H | E | L | Q | L | G | D | L | T | T | E | N | G | E | R | V | V | A | E | G | G | R |   |
| UniRef90_E8T3E4        | G | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_W0DDP3        | G | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_D5C4A6        | G | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_Q2BLR2        | G | E | D | V | I | L | R | V | P | V | G | T | T | V | I | D | E | T | D | E | L | V | D | L | T | T | E | I | G | Q | T | E | K | I | A | Q | G | G | F |   |   |   |
| UniRef90_T0T2V4        | S | D | P | L | V | I | P | V | P | L | G | T | V | I | K | D | E | E | T | G | K | F | L | C | D | L | V | S | N | D | G | T | F | V | I | A | K | G | G | R |   |   |
| UniRef90_K2FYP5        | W | I | D | L | V | I | N | V | P | L | G | T | V | I | R | D | A | S | T | W | E | F | L | Y | D | L | V | S | N | D | G | T | F | V | I | A | K | G | G | R |   |   |
| UniRef90_A0Q1T4        | G | E | D | L | V | I | E | V | P | R | G | T | R | V | F | D | A | D | T | G | E | L | L | A | D | L | V | S | H | G | Q | T | V | L | V | A | R | G | G | A |   |   |
| UniRef90_L0DP14        | A | E | D | K | V | I | P | P | G | T | L | I | K | S | D | E | D | T | G | H | V | L | R | D | L | K | E | V | D | F | V | A | V | A | Q | G | G | R |   |   |   |   |
| UniRef90_UPI0002626C37 | A | V | P | L | V | V | N | V | P | P | G | T | L | I | S | D | E | D | T | G | E | V | L | A | D | L | T | D | H | V | A | V | I | A | R | G | G | R |   |   |   |   |
| UniRef90_Q605N2        | G | E | D | C | F | I | H | P | P | T | G | T | V | T | D | A | D | T | G | E | H | M | G | D | L | T | R | S | G | D | R | L | V | A | R | G | G | F |   |   |   |   |
| UniRef90_R9KKF4        | G | N | D | L | V | I | K | V | P | P | T | T | V | K | E | L | E | S | G | K | I | L | A | D | M | S | G | N | N | R | Q | V | I | L | S | G | G | K |   |   |   |   |
| UniRef90_H3RNZ5        | A | S | D | L | V | I | A | V | P | P | E | G | T | V | R | I | D | D | D | Q | G | A | I | M | G | D | L | T | Q | P | G | N | Q | E | L | V | I | A | K | G | G | R |
| UniRef90_J3JAU3        | A | K | D | T | Y | I | S | V | P | P | G | T | T | V | R | R | I | D | D | D | Q | L | L | G | D | L | T | T | E | D | G | R | L | V | A | R | G | G | T |   |   |   |
| UniRef90_Z9JJK5        | G | R | D | K | I | N | V | P | V | G | T | Q | V | I | N | V | D | E | T | L | L | G | D | M | V | T | E | P | H | G | Q | R | L | V | A | R | G | G | T |   |   |   |
| UniRef90_D8JQA8        | G | R | D | C | T | V | K | V | P | P | G | T | V | V | F | A | E | D | G | E | T | L | A | D | L | T | T | E | P | G | A | R | V | R | L | A | K | G | G | N |   |   |
| UniRef90_D5WUQ7        | A | D | D | L | V | I | K | V | P | P | G | T | V | V | R | D | R | G | S | G | R | I | L | A | D | L | T | R | H | G | Q | R | L | V | V | A | R | G | G | R |   |   |
| UniRef90_Q0TNI5        | G | E | N | L | T | I | K | V | P | M | G | T | I | I | R | D | V | E | T | N | K | V | M | A | D | L | T | S | H | R | D | D | T | Y | T | I | C | R | G | G | K |   |
| UniRef90_E4THS3        | G | E | D | L | L | I | N | V | P | L | G | T | V | V | K | E | V | E | T | G | D | I | I | G | E | L | E | D | G | Q | R | L | V | I | V | A | K | G | G | R |   |   |
| UniRef90_U7FPQ0        | A | D | D | V | T | L | L | V | P | V | G | T | T | V | I | D | V | D | T | D | E | V | L | A | D | L | T | D | P | Q | K | P | V | M | I | A | S | A | G | R |   |   |
| UniRef90_H0A584        | S | D | D | V | L | K | V | P | V | G | T | V | I | L | A | E | D | K | E | T | I | L | A | D | L | T | E | A | G | Q | R | A | T | I | C | A | G | G | D |   |   |   |
| UniRef90_UPI0003B4F33B | A | E | D | V | L | K | V | P | V | G | T | E | L | L | A | E | D | D | K | E | T | V | I | A | D | L | D | E | V | G | K | R | V | L | L | A | A | G | G | S |   |   |
| UniRef90_UPI000369DA20 | G | Q | D | K | Y | L | K | V | P | V | G | T | R | A | T | D | A | D | T | G | E | V | L | G | E | V | L | K | H | E | Q | T | L | M | V | A | K | G | G | F |   |   |
| UniRef90_UPI00046A889D | A | D | P | V | Y | I | A | V | P | A | G | T | S | V | Y | N | E | N | G | K | L | I | G | D | L | V | E | H | H | D | Q | E | L | V | V | A | Q | G | G | K |   |   |
| UniRef90_N4WCG1        | A | D | P | L | I | L | P | V | P | P | G | T | T | V | K | D | A | H | T | G | E | V | I | A | D | L | V | E | H | H | K | Q | G | T | V | V | A | K | G |   |   |   |



|                        | 1 | 10 | 20 | 30 | 40 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|----|----|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UniRef90_A5EVP4        | F | V  | D  | E  | V  | V | I | N | V | K | A | G | K | G | G | N | G | V | S | F | R | R | E | K | Y | V | E | F | G | G | P | D | G | G | D | G | G | R |   |   |   |   |
| UniRef90_B4S5P1        | F | V  | D  | S  | A  | R | I | V | V | K | A | G | D | G | G | N | G | V | S | F | R | R | E | K | Y | V | E | F | G | G | P | D | G | G | D | G | G | R |   |   |   |   |
| UniRef90_UPI00036579CD | M | F  | I  | D  | Q  | V | D | I | T | V | K | A | G | D | G | H | G | L | V | S | F | Y | F | R | R | E | K | Y | V | E | F | G | G | P | D | G | G | D | G | H |   |   |
| UniRef90_C0GLE9        | F | I  | D  | E  | A  | S | I | T | V | L | S | A | G | K | G | G | P | G | V | S | F | R | R | E | K | Y | V | E | F | N | G | G | P | D | A | G | G | D | G | K |   |   |
| UniRef90_UPI00037D3E26 | F | V  | D  | E  | A  | T | I | A | V | Q | A | G | K | G | G | G | C | C | L | S | F | R | R | E | K | F | I | E | K | G | G | P | D | D | G | G | D | G | G | D |   |   |
| UniRef90_W0RIS8        | M | F  | I  | D  | R  | V | V | V | E | V | A | G | T | G | G | G | G | A | S | S | F | F | R | R | E | K | F | V | P | M | G | G | P | D | D | G | G | D | G | R |   |   |
| UniRef90_D5X589        | F | V  | D  | E  | V  | V | I | E | A | H | A | G | N | G | G | N | G | C | V | S | F | F | R | R | E | K | F | V | P | F | M | G | G | P | D | N | G | G | D | G | R |   |
| UniRef90_UPI000287FC06 | M | F  | V  | D  | L  | V | K | I | Y | V | K | G | G | D | G | G | N | G | M | V | A | F | F | R | R | E | K | Y | V | P | D | G | G | P | A | G | G | D | G | K |   |   |
| UniRef90_R5WBF0        | M | F  | V  | D  | E  | L | N | V | K | L | A | G | K | G | D | G | G | C | T | S | F | H | H | E | K | C | M | P | N | L | G | P | D | D | G | A | N | G | H |   |   |   |
| UniRef90_S0FM48        | M | F  | I  | D  | S  | A | K | I | V | L | K | A | G | N | G | G | G | M | V | S | F | H | H | E | K | Y | I | P | A | A | G | G | P | D | D | G | G | D | G | K |   |   |
| UniRef90_G2DY73        | F | V  | D  | E  | A  | R | I | W | V | E | A | G | D | G | G | S | G | C | V | S | F | R | R | E | K | Y | I | P | A | K | G | G | P | D | D | G | G | D | G | D |   |   |
| UniRef90_UPI000225BEA7 | F | L  | D  | Q  | V  | K | I | V | V | K | S | A | G | N | G | G | C | C | V | S | F | F | R | R | E | K | F | V | E | F | F | G | G | P | D | D | G | G | N | G | R |   |
| UniRef90_UPI00040D9AD6 | F | I  | D  | E  | A  | K | I | D | V | A | G | G | R | G | G | N | G | A | V | S | F | F | R | R | E | K | F | V | P | R | G | G | P | D | D | G | G | D | G | R |   |   |
| UniRef90_R5E4Q0        | F | V  | D  | E  | A  | K | I | E | V | F | A | G | K | G | G | N | G | V | A | S | F | F | R | R | E | K | F | V | P | K | G | G | P | D | D | G | G | D | G | R |   |   |
| UniRef90_E0UQT3        | M | F  | T  | D  | S  | V | K | E | L | T | V | S | G | K | G | G | C | V | S | F | F | R | R | E | K | F | V | L | N | G | G | P | D | N | G | G | D | G | K |   |   |   |
| UniRef90_D5BMQ4        | F | L  | D  | Q  | A  | K | I | V | A | R | S | G | H | G | G | P | G | S | V | S | F | F | R | R | E | A | H | V | P | F | G | G | P | D | D | G | G | N | G | R |   |   |
| UniRef90_UPI000368B78A | F | V  | D  | Q  | T  | R | I | Y | T | Q | S | G | K | G | G | N | G | C | V | S | F | F | R | R | E | K | F | V | E | F | G | G | P | D | N | G | G | D | G | K |   |   |
| UniRef90_K4KIF6        | F | V  | D  | E  | A  | P | I | F | V | A | A | G | D | G | G | N | G | L | M | S | F | F | R | R | E | K | F | V | A | K | G | G | P | D | D | G | G | D | G | D |   |   |
| UniRef90_L0WK38        | F | I  | D  | E  | A  | V | I | S | V | K | A | G | D | G | G | N | G | L | V | S | F | F | R | R | E | K | F | V | A | K | G | G | P | D | D | G | G | D | G | K |   |   |
| UniRef90_D6GSC6        | M | F  | I  | D  | K  | A | E | I | F | I | K | A | G | N | G | G | N | G | A | V | A | F | F | R | R | E | Y | V | P | A | G | G | P | D | A | G | G | D | G | N |   |   |
| UniRef90_G8AIU3        | F | L  | D  | Q  | A  | K | I | V | Y | L | K | S | A | G | N | G | G | P | G | A | V | A | F | F | R | R | E | K | F | I | E | F | G | G | P | D | D | G | G | N | G | R |
| UniRef90_UPI0003743BE6 | F | L  | D  | Q  | A  | K | I | Y | L | R | S | G | N | G | G | G | A | G | A | V | S | F | F | R | R | E | K | Y | I | E | F | G | G | P | D | D | G | G | D | G | K |   |
| UniRef90_UPI000479EDBE | F | I  | D  | F  | K  | I | Y | C | R | S | G | K | G | G | A | G | S | V | H | A | F | F | R | R | E | K | F | V | P | N | G | G | P | D | D | G | G | D | G | R |   |   |
| UniRef90_A9FJF8        | F | V  | D  | R  | C  | R | L | K | V | E | A | G | D | G | G | N | G | A | I | A | F | F | R | R | E | K | Y | I | P | F | F | G | G | P | D | A | G | G | D | G | R |   |
| UniRef90_K6YZX5        | F | V  | D  | E  | A  | E | I | N | R | V | E | A | G | D | G | G | N | G | V | I | A | F | F | R | R | E | K | Y | V | P | R | G | G | P | D | D | G | G | D | G | D |   |
| UniRef90_M1YPZ6        | M | F  | I  | D  | I  | A | K | I | N | L | K | A | G | K | G | D | G | A | V | A | F | F | R | R | E | K | Y | E | P | A | G | G | P | D | Y | G | G | D | G | N |   |   |
| UniRef90_UPI00034BBE4E | F | V  | D  | E  | A  | V | I | K | V | A | G | N | G | G | N | G | C | V | S | F | F | R | R | E | K | F | V | L | P | F | G | G | P | D | N | G | G | D | G | S |   |   |
| UniRef90_E8XXJ1        | F | V  | D  | E  | A  | T | L | V | V | A | G | D | G | G | N | G | C | V | S | F | F | R | R | E | K | Y | I | P | R | G | G | P | D | D | G | G | D | G | D |   |   |   |
| UniRef90_E4RMP0        | M | F  | I  | D  | E  | V | E | F | K | V | K | A | G | D | G | G | N | G | V | V | S | F | F | R | R | E | K | F | E | D | M | G | G | P | D | D | G | G | D | G | D |   |
| UniRef90_UPI0003A2092B | F | V  | D  | E  | V  | S | I | T | S | V | K | A | G | D | G | G | C | M | S | F | F | R | R | E | K | F | I | P | K | G | G | P | D | D | G | G | D | G | D |   |   |   |
| UniRef90_C8PEX4        | M | F  | I  | D  | S  | V | K | L | R | I | K | S | A | G | D | G | G | A | G | C | V | S | F | R | R | E | K | F | V | L | S | G | G | P | D | D | G | G | D | G | D |   |
| UniRef90_E8V4L5        | M | F  | I  | D  | E  | A | R | I | R | I | K | A | G | D | G | G | N | G | C | M | A | F | F | R | R | E | K | F | V | P | R | G | G | P | D | S | G | G | D | G | H |   |
| UniRef90_R6NJ69        | M | F  | V  | D  | I  | A | K | I | K | I | K | A | G | N | G | G | N | G | A | V | A | F | F | R | R | E | K | Y | V | A | A | G | G | P | D | D | G | G | D | G | K |   |
| UniRef90_B2A6B7        | M | F  | I  | D  | R  | A | K | I | K | I | K | G | G | D | G | G | N | G | L | V | A | F | F | R | R | E | K | Y | V | A | D | G | G | P | D | S | G | G | D | G | K |   |
| UniRef90_H8FUM3        | F | L  | D  | Q  | A  | K | I | V | F | V | K | S | G | D | G | G | A | G | C | C | S | F | F | R | R | E | K | Y | I | E | F | G | G | P | D | D | G | G | D | G | R |   |
| UniRef90_A0LPF9        | F | V  | D  | E  | V  | K | I | H | V | L | R | S | A | G | N | G | G | C | V | S | F | F | R | R | E | K | Y | V | P | R | G | G | P | D | D | G | G | D | G | E |   |   |
| UniRef90_UPI00036048D3 | F | I  | D  | Y  | V  | K | I | C | R | S | G | A | G | G | A | G | S | V | H | A | F | F | R | R | E | K | H | T | P | K | G | G | P | D | D | G | G | D | G | R |   |   |
| UniRef90_UPI00036F2FAF | F | I  | D  | E  | A  | K | I | E | V | I | G | G | D | G | G | N | G | C | A | S | F | C | H | E | K | F | R | P | F | F | G | G | P | D | D | G | G | D | G | K |   |   |
| UniRef90_A0A024I9H9    | F | V  | D  | E  | A  | T | D | V | V | A | A | G | D | G | G | N | G | C | A | S | F | F | R | R | E | K | K | E | F | F | G | G | P | D | D | G | G | D | G | R |   |   |
| UniRef90_K6Q1T0        | F | V  | D  | E  | A  | E | I | V | E | G | G | T | G | G | N | G | A | V | S | F | F | R | R | E | K | Y | V | P | R | G | G | P | D | D | G | G | D | G | R |   |   |   |
| UniRef90_K2E4K4        | M | F  | I  | D  | K  | S | K | I | K | V | M | S | G | S | G | G | N | G | V | V | A | W | R | K | E | K | Y | V | P | K | G | G | P | D | A | G | G | D | G | L |   |   |
| UniRef90_D4TCM3        | F | L  | D  | Q  | A  | I | T | I | F | V | E | A | G | K | G | D | G | L | V | A | F | F | R | R | E | K | Y | V | P | A | G | G | P | D | S | G | G | N | G | K |   |   |
| UniRef90_C4Z0A2        | M | F  | A  | D  | R  | V | R | I | F | V | K | S | A | G | K | G | D | G | H | V | S | F | R | R | E | L | Y | V | P | A | A | G | G | P | D | D | G | G | D | G | H |   |
| UniRef90_M5J9J7        | F | V  | D  | Q  | V  | K | I | N | V | K | A | G | K | G | D | G | A | V | S | F | F | R | R | E | H | E | K | Y | I | D | R | G | G | P | D | F | G | G | D | G | H |   |
| UniRef90_N8TEH5        | F | V  | D  | E  | A  | V | I | T | V | E | A | G | D | G | G | N | G | V | A | S | F | F | R | R | E | K | F | V | P | F | F | G | G | P | D | D | G | G | D | G | H |   |
| UniRef90_Q03YT6        | F | V  | D  | Q  | A  | Q | I | E | V | K | A | G | K | G | D | G | L | V | S | F | F | R | R | E | H | E | K | F | V | A | M | G | G | P | D | F | G | G | D | G | H |   |
| UniRef90_Q4FP46        | F | L  | D  | Q  | V  | K | I | Y | V | K | A | G | N | G | G | H | G | S | P | S | F | F | R | R | E | K | F | I | E | Y | G | G | P | D | D | G | G | D | G | K |   |   |
| UniRef90_UPI0003B4ABB8 | F | V  | D  | E  | A  | V | I | R | V | A | A | G | R | G | G | N | G | C | L | S | F | F | R | R | E | K | Y | I | P | K | G | G | P | D | D | G | G | D | G | D |   |   |
| UniRef90_UPI0003B41B56 | M | F  | V  | D  | Q  | V | K | I | H | V | Q | A | G | K | G | D | G | L | V | S | F | F | R | R | E | H | E | K | Y | V | A | Y | G | G | P | D | F | G | G | D | G | N |
| UniRef90_A0P7X3        | F | I  | D  | E  | A  | T | I | R | V | F | A | G | D | G | G | N | G | I | A | S | F | F | R | R | E | K | Y | E | P | M | G | G | P | D | N | G | G | D | G | R |   |   |
| UniRef90_E0TG97        | F | L  | D  | R  | T  | K | I | Y | I | M | S | G | G | G | G | N | G | C | V | S | F | F | R | R | E | K | F | E | P | F | F | G | G | P | D | D | G | G | D | G | R |   |
| UniRef90_UPI00047EFE37 | M | F  | V  | D  | K  | A | K | I | F | V | K | A | G | N | G | G | H | G | A | V | A | W | R | R | E | K | Y | E | P | S | G | G | P | D | A | G | G | D | G | S |   |   |
| UniRef90_UPI00036516BE | F | V  | D  | E  | A  | H | I | R | V | Q | A | G | R | G | G | N | G | V | A | S | F | F | R | R | E | K | Y | I | P | F | S | G | G | P | D | N | G | G | D | G | D |   |
| UniRef90_I2F3V0        | F | V  | D  | T  | G  | R | I | Y | V | F | K | A | G | D | G | G | N | G | S | V | S | F | F | R | R | E | K | Y | I | P | Y | G | G | P | D | D | G | G | D | G | R |   |
| UniRef90_B8KWL1        | F | V  | D  | E  | A  | T | I | V | E | V | F | A | G | N | G | G | N | G | C | V | S | F | F | R | R | E | K | Y | I | P | K | G | G | P | D | D | G | G | D | G | R |   |
| UniRef90_A4SCP4        | F | V  | D  | S  | A  | T | V | F | V | Q |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

UniRef90\_A5EVP4 G G S V Y L R A S D S G L L N T L L S D F F R Y R H F F E A E N G A A G E G G R N K K R G R S  
UniRef90\_B4S5P1 G G H V Y L R A N D S G L L N T L L D F F R Y R H F F E A E N G A A G E G G R N K K A G K T N  
UniRef90\_UPI00036579CD G G A D I F F E T D P A K R T L L M D F R R Y R H F F E A E N G G M P G G S Q N K H G K N  
UniRef90\_CQLE9 G G S V I F E T D P A K R T L L M D F R R Y R H F F E A E N G G M P G G S Q N K H G K N  
UniRef90\_UPI00037D3E26 G G S V Y V I A D N D L N T L L V D Y R Y K H Y Q A Q N G G P G G R S N K Y C T G A K S  
UniRef90\_W0RIS8 G G D V I V R A D R N L N T L L V D Y T F R K D W K A E N G G D H G R G G A N D K Y G R G A G  
UniRef90\_D5X589 G G H V I A R A D V N L N T L L V D Y R Y K L H K A G R N G G E H G R G G A N D K Y G R G A G  
UniRef90\_UPI000287FC06 G G D V I F Q V N E G L L R T L L M D F R Y R H F K G E D K G E N G R K P A K N Q T H G K N  
UniRef90\_R5WBF0 G G A S I F F E V D E K G L R T L L V D F R Y R K L K A G E E P K G Q D N G G P S N R T G A D N  
UniRef90\_S0FM48 G G D V I F Q V D E G L L R T L L I D F R Y R K H F K A E E P K G Q D N G G P S N R T G A D N  
UniRef90\_G2DY73 G G S V Y L L A D N N I N T L L V D F F R Y R R H F R A E E R G Q Q N G G M G R N Q C T G R G D  
UniRef90\_UPI000225BEA7 G G D I T I E A A D N N I N T L L I D F F R Y R H F R A P N G E K G G S G S N R N R Y G A D G  
UniRef90\_UPI00040D9AD6 G G S V Y A V A D E N V L N T L L I D Y R F R Y K R Y Q A K N G E K G G H G R N D R Y G A G G  
UniRef90\_R5E4Q0 G G S I Y A V A D R N N L N T L L I D Y R Y R K F Q A K N G E N G R G S D C Y G R G S  
UniRef90\_E0UQT3 G G D V W F K C A D N N T L L S H F Q R R M H K A E N S G R P G E G S N R C T G K S  
UniRef90\_D5BMQ4 G G D I I A R A V N N G L N T L L I D Y R Y Q H F K A E S G R P G E G S N R C T G K S  
UniRef90\_UPI000368B78A G G D V V V E A V H G L N T L L V D Y R Y R H H K A S Q K G Q H G M G S R N M T G A N  
UniRef90\_K4KIF6 G G S V Y L E G D D S L N T L L I D Y R Y R P Y R A S N G E K G G S Q N C T G A K G  
UniRef90\_L0WK38 G G D V Y A L A D D N T L N T L L V D Y R Y R K F E A H R G E N G G S K N R C T G A K G  
UniRef90\_D6GSC6 G G N I I F R A D A N L R T L L M D F Y K K S Y Q A P S G E D G K G G A N M H G K S  
UniRef90\_G8AIU3 G G D V V L E V D N G L N T L L I D Y R Y K H F K A Q T G M H G M G A N R R A G G A R  
UniRef90\_UPI0003743BE6 G G D V I A V C V D G L N T L L I D Y R Y Q H F K A K T G M H G M G A Q R A G G K  
UniRef90\_UPI000479EDBE G G H I I V K G N P H L W T L L L H L R Y R K H H I A E D G Q N G G A A K C F G K Q  
UniRef90\_A9FJF8 G G D V V F V G D D G L N T L L S T L L D F F T Y R F T L E A D R G E H G M G S D C H G R A  
UniRef90\_K6YZX5 G G S V Y L V A D E N L N T L L I D F F R F H R A E R G K N G G S D C H G R A  
UniRef90\_M1YPZ6 G G N I I I Q G D E G L R T L L M D F F R Y R S Y K A E N G E N G K T K K Q F G K K  
UniRef90\_UPI00034BBE4E G G S V W L V A D E N L N T L L V D F R Y H R A F K A Q R G E N G M G S D M Y T G K G R  
UniRef90\_E8XXJ1 G G D V Y L V A D E N L N T L L I D F F R F K S Y R A E R G T N G Q M G S D M Y T G K R  
UniRef90\_E4RMP0 G G D I I L E V D E G M N T L L A D L R Y N N Y K A E K G K N G S K G K N Q C H G K N  
UniRef90\_UPI0003A2092B G G S V Y L E V A D N N Y N T L L V D Y R Y R F F N A L R G G A P G E G R K C T G S K S  
UniRef90\_C8PEX4 G G D V Y F R V D K N S H T L S S Y K R R E F K A Q N G A P G E G R K K T G K S  
UniRef90\_E8V4L5 G G N I L M T S S T Q H N T L L L Q F R F N P H K S E R G G H G E S G S N C S G T S  
UniRef90\_R6NJ69 G G N I V F E V D D P G L S L M D Y K Y N H K G K R G E D G Q G S R N K H G R R S  
UniRef90\_B2A6B7 G G N V I L E V D P G L S L M D Y K Y N H K G K R G E D G Q G S R N K H G R R S  
UniRef90\_H8FUM3 G G D V I L E C V A N L N T L L I D Y R Y Q H F K A Q K G N H G Q G R N K T G G K  
UniRef90\_A0LPF9 G G S V I F V A S E G K N T L L L D F R Y R H F K A E S G K H G G Q G R N H G K G  
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UniRef90\_D4TCM3 G G S V I F V A D P N L Q T L L L D F F R Y K H F K A E S G D R G G P N N C T G A G  
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UniRef90\_A1AT81 G G D V V F V A K A G L S S L L E R H R K K A E K G H N G Q G K N R H G A S  
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UniRef90\_R6Y578 G G S I Y F I A T N S S N S L V N Y R H R K I K A D D G E K G M G A K M Y G K N  
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UniRef90\_K9WD51 G G D V I L R A V A N T Q T L L D F R Y K H F R A E N G G R K G G P N R T G A D  
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UniRef90\_W7CTN0 G G S V V F E V A E G L R T L L I D F F R Y R H F K G N P G E N G M S K G M H G H G  
UniRef90\_B9K736 G G F V F L R A N P S L N T L L I E F N K R K F F A E N G K H G M G K M K G R N  
UniRef90\_E1IEQ4 G G H V Y L V A D P E L N T L L H F Y Q R K F V A E H G G N G Q K N R M F G P Q  
UniRef90\_UPI000424A3D2 G G H I I L K G N K Q L W T L L L H L Q Y M K H L A K T P G E S G G S H S T G A N  
UniRef90\_M1PF87 G G D V W A V V V D G L N T L L I D Y R Y Q H F R A K T G E Y G G S N M S G A K  
UniRef90\_B5JSS1 G G S V W L C A T E G L N T L A D F H K R T Y E A E S G R P G Q G S Q C T G H S

|                        | 90  | 100   | 110           | 120 |
|------------------------|---|---|---------------|-----|
| UniRef90_A5EVP4        | G E D L Y I D V P L G T Q V F V A E T       | D E L M G D L T A V G Q T L L V A K G G F   |               |     |
| UniRef90_B4S5P1        | G K D I V I N V P C G T T L V K N S V S     | D E V I C D L V E D G E E F L L A R G G D   |               |     |
| UniRef90_UPI00036579CD | S A A L V L K V P P G G T L V K R K D D     | D T G E T I A D L L T Q H K A R T R I V A   | K G G R R     |     |
| UniRef90_C0GLE9        | G V D L I L P V P P G G T L V T R D Q E T   | G A V L A D D L L T E P G T R I T I V A K G | G G R         |     |
| UniRef90_UPI00037D3E26 | G A D V E L K V P P V G T T L V V D N D E   | T E E V V G D L L T H V G Q Q R I K V A K   | G G G F       |     |
| UniRef90_W0RIS8        | G A D V V L P V P P G G T L V L R D A E T   | N E F L G E V V E D H G Q Q E I I V A K     | G G G R       |     |
| UniRef90_D5X589        | G D D K V L R M P V G G T L V F D A E T     | D E L I A D L V Q D G Q E L I I A K G G G   | Q             |     |
| UniRef90_UPI000287FC06 | A S P L V V Q V P P G G T L V K E A E T     | G K V I A D L L T Q N G Q Q R A V I A A     | G G G R       |     |
| UniRef90_R5WBF0        | A K D V I I K V P P E G T T V I I D L D M   | T N L I A D L L T K D K E R I T V I A R     | G G G R       |     |
| UniRef90_S0FM48        | G E N M I I K V P P L G T T V I K D E M T   | L D E M T G M T L A D L L T K P G Q I I     | A R G G G R   |     |
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| UniRef90_UPI000225BEA7 | G E D L I L K V P P V G T T Q I L D D D D K | E T L I V D M V T A H G Q Q R Y T L A R     | G G G D       |     |
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| UniRef90_R5E4Q0        | A P D L E L R V P P V G T T V I T D L D T   | G E T I A D L L D K N G G E K A L L A K     | G G G K       |     |
| UniRef90_E0UQT3        | G A K K V L I V P P G G T Q I I D Q D E S   | Q E V L F D M L K D K E E E K F L Q         | G G G K       |     |
| UniRef90_D5BMQ4        | G D S V I M R L P V V G T T Q I L S D S S   | Q T V L A D L L T E E G Q E I V L A T       | Q G G S       |     |
| UniRef90_UPI000368B78A | G E D L I L K V P P V G T T Q V F D E D M   | E F L I A D L L T K V G D R R V L A K       | G G G H       |     |
| UniRef90_K4KIF6        | G D D V V L K V P P V G T T T I I D T D T   | N E I L G D I K A P G Q Q R I L V A K       | G G G W       |     |
| UniRef90_L0WK38        | A D D I Y L A V P P I G T T I I D T D L D   | V I G D L T E K P G Q K L L I A K G G D     |               |     |
| UniRef90_D6GSC6        | G E N L V L K V P P I G T T I I R D K E S   | G L V L A D L L K E N G E E A I V A K       | G G G R       |     |
| UniRef90_G8AIU3        | G E D V V L R V P P V G T T Q I L F D E D   | Q E T L D L L T E P G Q Q R V V I A K       | G G G D       |     |
| UniRef90_UPI0003743BE6 | G A D C I L K V P P V G T T Q I F E E D     | G E E P I A D L L Q V G Q E V R I L A R     | G G G N       |     |
| UniRef90_UPI000479EDBE | G K D I V E V P P I G T T L I K D A E T     | E E V L A E I M H P E Q E V V I V K         | G G G R       |     |
| UniRef90_A9FJF8        | G A D R V E K L P V V G T T Q L F D A E S   | G E L L A D V L T K H H G M R L K V I       | A R G G G K   |     |
| UniRef90_K6YZX5        | G E D L E L K V P P V G T T R A T D K D T   | G E A L G D L T K H H G M R L K V I         | A Q G G G F   |     |
| UniRef90_M1YPZ6        | G Q D L I L R V P P V G T T L V K D G D S   | G K V I V D I L K E H H N Q S F I I A       | K G G G K     |     |
| UniRef90_UPI00034BBE4E | G E D T I V R V P P V G T T V V L D N V D   | T D E V I G D L L T K H H G Q Q R L L       | V A K G G G K |     |
| UniRef90_E8XXJ1        | G K D I T I K V P P V G T T R V L D Q S T   | G E V L A D M T K N G Q V N M V A K         | G G G F       |     |
| UniRef90_E4RMP0        | G D D L I L R V P P G G T T M V Y D A D T   | D S F L A D L L K E A G G E K H I V A       | K G G G K     |     |
| UniRef90_UPI0003A2092B | G E D L I L P V P P G G T T V I D A G T     | Q E T I G D L L T E P G Q Q R L L V         | A Q G G G F   |     |
| UniRef90_C8PEX4        | G E D L Y L I V P P P G T T S V Y D E D S   | G E L V L D M L N D G G T T R L F L A R     | G G G K       |     |
| UniRef90_E8V4L5        | G E N L V L K V P P V G T T Q L Y D D E T   | G D L I H D F A H P D E T I I V A K         | G G G R       |     |
| UniRef90_R6NJ69        | G E D L I L K V P P R G T T I I R E A E S   | G A V M A D M S D G K P F Y I A A K         | G G G N       |     |
| UniRef90_B2A6B7        | G Q D K V I K V P P P G T T V V K E A T S   | G K V L A D L V H E H D S Y I A A E         | G G G R       |     |
| UniRef90_H8FUM3        | G D D V T L K V P P V G T T Q I L D E D R   | E T V L A D L L T Q P G Q Q R I V L L       | T G G D       |     |
| UniRef90_A0LPF9        | G R D L V L E V P P A G T T V I K D A E T   | G E P L V D L S H P G D R R W V A A         | R G G R       |     |
| UniRef90_UPI00036048D3 | G E D V I L E V P P L G T T I A R N P D S   | G E Q L A E I T E D A Q E I L L F P         | G G G R       |     |
| UniRef90_UPI00036F2FAF | A D D I H M R M P P V G T T L I I D D V S   | G E T L A D L L T E H G Q M E L L A K       | G G G E       |     |
| UniRef90_A0A02419H9    | G E D V V L K V P P V G T T V I S D A E S   | G Q V V C E L L Q P P G Q R V M V A         | K G G D       |     |
| UniRef90_K6Q1T0        | G E D L Y V R V P P P G T T V V R D R E T   | G D V L A D L L A D P G G E V V V A         | R G G R       |     |
| UniRef90_K2E4K4        | G N D V Y I K V P P T G T T I I R D V H S   | N K I I G D L I L H G D K I L V A S         | G G G R       |     |
| UniRef90_D4TCM3        | G K D L I V E V P P C G T T A I Y D G T     | T D G L L C D L V E P Q Q R F R A E         | E G G K       |     |
| UniRef90_C4Z0A2        | G E D L I I K V P P E G T T V I Y D D E S   | G K V I A D M S G D N L Q E T I L K         | G G G R       |     |
| UniRef90_M5J9J7        | A E D M I I R V P P Q G T T V T N A E S     | G D I I G D L L T E A G Q E L I V A K       | A G G R       |     |
| UniRef90_N8TEH5        | G E S V I L K V P P V G T T V I V D T E S   | G D I I G D L V E S G Q K L V L V A         | H G G D       |     |
| UniRef90_Q03YT6        | A D N R V V K V P P V G T T V S D A D T     | G E V L A D M L E N G Q E L V V A K         | G G R         |     |
| UniRef90_Q4FP46        | G E D L I L K V P P I G T T Q V F E E D N   | K T L I Y D F K K E G E E F I V A N         | G G G K       |     |
| UniRef90_UPI0003B4ABB8 | G E D L L L V V P P V G T T I I D E D T     | R E V L G D L V S A P G D E L K V I         | A Q G G F     |     |
| UniRef90_UPI0003B41B56 | G E D K I I K V P P L G T T V I K R E D T   | Q I I A D L L T E S A G Q Q Q V I A K       | G G G K       |     |
| UniRef90_A0P7X3        | G A D L I L R V P P V G T T V I T E K Q S   | G E V L A D F E I H G E R R I I A N         | G G G K       |     |
| UniRef90_E0TG97        | A D D L I I K V P P T G T T E I Y E E D E   | T E L I A D L L K N T G D R V L L A K       | G G G N       |     |
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| UniRef90_UPI00036516BE | G E D L Y I P V P P V G T T M V R D L E T   | Q E Q I G D L V E E G Q T M L V A R         | G G G K       |     |
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| UniRef90_B8KWL1        | G N D L L L P V P P L G T T V I D T E T     | G E V L G D I R E H D Q R L V V A Q         | G G G W       |     |
| UniRef90_A4SCP4        | G K D I V I D V P P L G T T L V R N A E S   | M E V I A D L T R P D E E I M I A R         | G G G H       |     |
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| UniRef90_F7NHR0        | A L D L K I K V P P P G T T L V K E E S     | D A L L A D L T E L G Q E Y I V A Q         | G G G R       |     |
| UniRef90_G9RQ71        | A P D L I I R V P P R G T T L V R D A Q S   | G L V I A D I S G D E P V V V A R           | G G G R       |     |
| UniRef90_F4BRN6        | A K D N I I K V P P G T T V V I E A E T     | G K V L G D L V H H G H K I V V A           | K G G R       |     |
| UniRef90_UPI00035D4D8C | S K P L I I K V P P V G T T V L A E A D     | K E T V L A D I L T E E G Q E V V L         | C K G G D     |     |
| UniRef90_I8UEJ5        | S E D M I V K V P P G T T V V T D A E T     | G E T I A D L V Y H G Q R A I V A K         | G G G R       |     |
| UniRef90_Q9ZCB6        | G K S L I L D V P P V G T T Q I F S Q D G   | D I L L Y D F T E D E K S Y F E I K         | G G C         |     |
| UniRef90_Q5PAS5        | G R N R V V V P P V G T T Q L Y D E D G N   | T L I A D L R N N I G Q Q Y T V A A         | K G G R       |     |
| UniRef90_M1PIC1        | G K S C Y L Q V P P L G S V I K S A E T     | G E I L A D L R E E G D Q Y V A A H         | G G K         |     |
| UniRef90_X1G4F6        | G Q D L I I K V P P P G T T I I Y D T E     | L E L L K D L N E I G L K V C V C           | R G G R       |     |
| UniRef90_E0Y031        | G D D I Y L R V P P L G T T S I F D D E T   | G E Y L G D V S E E K E I I V A Q           | G G G F       |     |
| UniRef90_Q47MV6        | G A D L V L P V P P D G T T V V T T L D G   | E V I A D L V G H G T R I L V A R           | G G G R       |     |
| UniRef90_K8Z8M8        | A E D L I V K V P P A G T T V R D A N T     | G Q L L G D L V E N G Q Q E L V V A         | R G G R       |     |
| UniRef90_R7LS85        | A K D L Y L K V P P V G T T V K D L K T     | G S I I A D L L T H N K Q T V L V A K       | G G R         |     |
| UniRef90_M1LQN6        | A E D I F L K V P P V G T T L I K N A N T   | N E L L A D L L N K N G D I V T L A K       | G G R         |     |
| UniRef90_Q72DK0        | G E D L V L E L P P L G T T L V F E V D T   | H Q M I A D L L S D P D Q Q V F V V A       | K G G R       |     |
| UniRef90_Q1LSJ9        | G K D L T I K V P P I G T T R V V D Q N T   | N E I L G D L I V H G Q Q L L V A K         | G G L         |     |
| UniRef90_W2UCQ0        | G E D L I M E V P P V G T T V L C E E T     | G D V L G D L T E L G Q Q L K V A Q         | G G F         |     |
| UniRef90_V2Q084        | G E D L I L P V P P A G T T V I R N A E T   | G D L I A D I T N D G Q K V L A L           | L G G R       |     |
| UniRef90_A1AT81        | G A D L V I K V P P V G T T V I S D A E S   | G E Q L A D L A E A N G Q R V V L L         | K G G R       |     |
| UniRef90_C0EG27        | G Q D L V I R V P P R G T T V V R D L K S   | G K I M A D L S S D E P Q I I A H           | G G K         |     |
| UniRef90_R6Y578        | A K D L I L E V P P V G T T V I L D N E E   | K V L A D L N E E G K K Y L A V K           | G G R         |     |
| UniRef90_C4L9M1        | G K D V L T V P P V G T T R A T D E D T     | G E V L G D L T K H G D R L L I A K         | G G F         |     |
| UniRef90_UPI0003B7B783 | G E D L I L K V P P L G T T Q V Y E E D N   | N T L I Y D F T K N K E K Y L V A S         | G G K         |     |
| UniRef90_UPI00036CB723 | G E S K I I E V P P C G T T V A Y D A H T   | G E Y L C D L T T D D G Q E V T L L         | K G G R       |     |
| UniRef90_UPI0004014B6E | A D D Y V I P V P P G T T V K Y D A T       | D T G E V I A D L T T E H G Q R A V I       | A Q G G R     |     |
| UniRef90_D6YSE9        | G K D L I L K V P P C G T T L V K D A K T   | G E I L C D L L T E P K Q R W E A C         | K G G R       |     |
| UniRef90_R5KXE7        | G S D L Y I K V P P K G T T M V K D I T     | K N V I A D L L S H P D G D E V L V A       | K G G R       |     |
| UniRef90_K9WD51        | G K D R T I Q V P P C G T T M V Y D A D     | T D E V I V D L V E P G Q Q T F C V A       | K G G K       |     |
| UniRef90_C3CU63        | S D D L M L K V P P P G T T I I K D E N S   | G Q I L A D L V T H G Q Q E A T I V         | K G G R       |     |
| UniRef90_W7CTN0        | A P D Y V I P V P P G T T V V K D A D T     | G E L I A D L V T H G Q R A V V A K         | G G R         |     |
| UniRef90_B9K736        | G R D L Y I D V P P V G T T V V K D A S T   | G O I I A D L D E P G K V V C V A R         | G G R         |     |
| UniRef90_E1IEQ4        | G A D L E V R V P P G T T V A R T I D G     | V I E Y E I D L A V I P G Q R L L A         | A R G G K     |     |
| UniRef90_UPI000424A3D2 | G E D V I L E V P P I G T T I A R F A E T   | G E T K A E I T E D G Q Q E I L T           | P G G R       |     |
| UniRef90_M1PF87        | G D D I L L K V P P I G T T I A F E D N E T | G E T L I C D L T E V G Q R Y L L A         | K G G N       |     |
| UniRef90_B5JSS1        | G A D I E V A V P P V G T M V Y D A N T     | S E F I G D L T Q P G E R L V L A           | Q G G F       |     |

UniRef90\_A5EVP4 H G L G N T R Y K T S S V N R A P R Q C K A G G G L G E E R V I R L E L K L L  
UniRef90\_B4S5P1 G G R G N A R F A T S T R N R Q A P R Y A E E N G G G K G G E E L L K V I D L L E L K L L L  
UniRef90\_UPI00036579CD G G R G N A R F A T S T R N R Q A P R D F A A E E N G G G K G G E E L L K V I D L L E L K L L L  
UniRef90\_C0QLE9 G G Q G N A R F A T S T R N R Q A P R F F A Q P G M P G G E E F L H D L L E L K L L L  
UniRef90\_UPI00037D3E26 H G L G N T R Y K T S S V N R A P R R F Q T S P G S E E G G E R R S D L R L E L L K L L  
UniRef90\_W0RIS8 G G R G N A K F A T S T H R A P R E S T E W E P G D Q E E G G E V R S L L E L L K L L  
UniRef90\_D5X589 G G L G N L H F K S S V N R A P R E S T K G Q E E G G E H R K L R L E L L K L L  
UniRef90\_UPI000287FC06 G G R G N K S R F A T S A N P A P Y S E N G G E P G G Q E R E I Q L E L L K L L  
UniRef90\_R5WBF0 G G R G N K A F A T H E N P A P K T S E Y S G D P G G E Q T R Y I K C E L L K L L  
UniRef90\_S0FM48 G G K G N Q H F A T P T R Q V P N F A K S G D L L G G E R R N L I L E L M K M  
UniRef90\_G2DY73 H G L G N A R Y K T S S T N R T P R Q S T P G T L G G E E R R Q L H L L E L L L  
UniRef90\_UPI000225BEA7 G G F G N A H F K S T A T N R A P R K A T P G W E E G G E H W V W M R L L K L L  
UniRef90\_UPI00040D9AD6 G G M G N I H F K S S V N R A P R K Q A T P G E E G G E A R T L L L E L L K L L  
UniRef90\_R5E4Q0 G G L G N L H F K S S T N R A P R Q Q C T P G E P G G E Q E R T L L K L E L L R K L L  
UniRef90\_E0UQT3 G G L G N A H F F K S P T N R A P R Y A Q P G G E K G G E E K N W L K L D L R L K L L L  
UniRef90\_D5BMQ4 G G K G N A F F K S S T N R A P R K S Q P G E P G G E E M N V W L W L R L K L L L  
UniRef90\_UPI000368B78A G G L G N T H F K S S T N R A P R R T T P G G E A G E E M Y V V F R L R L K L L L  
UniRef90\_K4KIF6 H G L G N T R F K S S V N R A P R R K T H P G E E G G E Q T R N L K L E L L K L L  
UniRef90\_L0WK38 G G F G N T R F K S S V N R A P R K A T P G F A G E T R N N I K L E L L K L L  
UniRef90\_D6GSC6 G G R G N T H F K T S T R Q A P N F A K A G T A G G E E R T V T L E L L K L L  
UniRef90\_G8AIU3 G G F G N A H Y K T P T N R A P R R K S H P G W P G G E E R T W L W L R L R L K L L L  
UniRef90\_UPI0003743BE6 G G F G N A Y F K T S T N R A P R R A N P G Q D G G E E R T W L W L R L R L K L L L  
UniRef90\_UPI000479EDBE G G L G N T H F A T P T T Q A P Q Y A Q P G E P A E I E K Y I Y F E L L K L L  
UniRef90\_A9FJF8 G G R G N L H F K S S P H D R A P R R A E S N G G E P G E A R E L R L R L E L L K L L  
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UniRef90\_E4RMP0 G G R G N A R F K K S T R K A P R F S E N G S Q G G E F R R K L R L L E L L K L L  
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UniRef90\_E8V4L5 G G R G N Q H F A T P T H Q A P R E H E L G R P G G E A R N Y R L E L L K L L L  
UniRef90\_R6NJ69 G G W G N P H F A T P T R Q V P R F A K N G I P G G E E K W V S L E L L K L L  
UniRef90\_B2A6B7 G G R G N T R F A N P K N K A P R F S E D D G K P G G E E K W V L E L L K L L  
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UniRef90\_C0EG27 G G K G N A R F A T P T R Q I P R F A K P G F P G G E G F E I S L E L L K L L L L  
UniRef90\_R6Y578 G G R G N A C F A S S T N R T P R T A E N G L P G G E K A D L I L E L L K L L L L  
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UniRef90\_UPI0004014B6E G G R G N M R F A S P R N P A P E I A E N G E P G G E R N W I S L E L L K L L L L  
UniRef90\_D6YSE9 G G R G N A T F K T S T N R A P N Q C T P G K P G G E E I A V E L E L L K L L L L  
UniRef90\_R5KXE7 G G R G N Q H F A T P T R Q V P N F A E A G E Q G G E E K Y L E L L K L L L L  
UniRef90\_K9WD51 G G L G N Q H F L S N R N R A P E Y A L P L A G G E H R R L R M E L L K L L L L  
UniRef90\_C3CU63 G G R G N V C F S T A K N P A P N I A E N G E P G G E E R D L V L D L K L L L L  
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UniRef90\_B9K736 G G R G N A H F A T P T R Q A P E I A E K G E P G G E A R W L E L E L L K L L L L  
UniRef90\_E1IEQ4 G G L G N V H F T T S T R Q A P R I A E Y G E P G G Q E L Q I D L E L L K M L L L  
UniRef90\_UPI000424A3D2 G G Q G N A H F K S P T N Q T P R Y A Q P G E P G G E E W V I L E L L K L L L L  
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UniRef90\_B5JSS1 H G L G N T R F K S S T N R A P R Q H T S G S E G G E E R R Q L R L E L M K L L L L

|                        | 1 | 10 | 20 | 30 | 40 |   |   |   |   |   |   |   |   |   |     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|----|----|----|----|---|---|---|---|---|---|---|---|---|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UniRef90_R6BND9        | M | F  | I  | D  | E  | V | N | L | K | L | I | A | G | K | G   | G | D | G | G | N | G | C | C | V | S | F | V | R | E | K | Y | V | P | L | G | G | P | D | D | G | G | N | G | G | D | K |   |   |   |
| UniRef90_C5C3W7        | F | V  | D  | D  | R  | V | E | R | L | H | L | A | V | G | G   | D | G | G | N | G | G | N | G | C | C | V | S | F | V | R | E | K | Y | V | P | L | G | G | P | D | D | G | G | N | G | G | D | K |   |
| UniRef90_UPI00046D0818 | F | V  | D  | D  | R  | V | E | R | L | H | L | A | V | G | G   | D | G | G | N | G | G | N | G | C | C | V | S | F | V | R | E | K | Y | V | P | L | G | G | P | D | D | G | G | N | G | G | D | K |   |
| UniRef90_R6P8R1        | M | F  | V  | D  | D  | K | V | R | I | T | H | L | A | V | G   | G | D | G | G | N | G | G | N | G | C | C | V | S | F | V | R | E | K | Y | V | P | L | G | G | P | D | D | G | G | N | G | G | D | K |
| UniRef90_Q5WHS8        | M | F  | V  | D  | D  | K | V | K | I | V | Y | A | K | G | G   | D | G | G | N | G | G | N | G | M | V | V | A | S | F | R | R | E | K | Y | V | P | D | G | G | P | D | D | G | G | N | G | G | D | K |
| UniRef90_S7TFA0        | F | I  | D  | D  | E  | A | T | V | A | V | A | K | G | G | D   | G | G | N | G | G | N | G | H | C | C | V | S | F | R | R | E | K | Y | V | P | R | G | G | P | D | D | G | G | N | G | G | D | K |   |
| UniRef90_D2Z3C5        | F | V  | D  | D  | I  | V | T | I | Q | V | A | A | G | R | K   | G | G | D | G | G | N | G | C | C | V | S | F | R | R | E | K | Y | V | P | R | K | G | P | D | D | G | G | N | G | G | D | K |   |   |
| UniRef90_UPI0003723543 | F | I  | D  | D  | E  | A | R | I | E | V | Q | A | A | G | N   | G | G | N | G | S | A | S | M | R | R | E | K | F | V | R | E | K | Y | V | P | R | G | G | P | D | D | G | G | N | G | G | D | K |   |
| UniRef90_X0UKD6        | M | F  | I  | D  | D  | E | L | K | I | K | V | A | G | K | G   | D | G | G | N | G | C | C | V | S | F | R | R | E | K | Y | V | P | K | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |
| UniRef90_G8LYX1        | M | F  | I  | D  | D  | S | A | R | I | V | K | A | G | K | G   | D | G | G | N | G | C | C | V | S | F | R | R | E | K | Y | V | P | A | K | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |
| UniRef90_Q043W1        | M | F  | V  | D  | D  | Q | T | K | I | D | V | Q | A | A | G   | K | G | D | G | G | N | G | C | C | V | S | F | R | H | E | K | Y | V | P | L | G | G | P | D | D | G | G | N | G | G | D | K |   |   |
| UniRef90_UPI00036D0568 | F | V  | D  | D  | E  | A | H | I | V | E | V | F | A | G | K   | G | D | G | G | N | G | C | C | V | S | F | R | R | E | K | Y | V | P | F | F | G | P | D | D | G | G | N | G | G | D | K |   |   |   |
| UniRef90_R6UJVL6       | M | F  | I  | D  | D  | R | V | K | V | H | V | K | A | G | K   | G | D | G | G | N | G | L | V | V | A | S | F | R | R | E | K | Y | V | P | A | Y | G | P | D | D | G | G | N | G | G | D | K |   |   |
| UniRef90_UPI00034AE5E0 | F | I  | D  | D  | R  | A | T | V | A | V | K | A | A | G | D   | G | D | G | M | V | A | S | F | R | R | E | K | Y | V | P | A | G | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |
| UniRef90_A9KMF5        | M | F  | A  | D  | D  | S | A | K | I | F | R | A | S | G | K   | G | D | G | H | V | S | F | R | R | E | K | F | V | R | E | K | Y | V | P | A | G | G | P | D | D | G | G | N | G | G | D | K |   |   |
| UniRef90_X1ED38        | M | F  | V  | D  | D  | R | V | K | I | E | V | R | A | A | G   | R | K | G | D | G | N | G | A | V | V | S | F | R | R | E | K | Y | V | P | K | G | P | D | D | G | G | N | G | G | D | K |   |   |   |
| UniRef90_L1NAU5        | F | V  | D  | D  | Y  | V | K | I | Y | C | R | S | G | K | G   | D | G | G | R | G | S | T | H | F | R | R | E | K | Y | V | P | K | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |
| UniRef90_R6VB13        | M | F  | V  | D  | D  | K | A | K | I | Y | I | K | A | G | D   | G | D | G | G | S | V | S | F | H | F | R | R | E | K | Y | V | P | A | S | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |
| UniRef90_A3YVT7        | F | I  | D  | D  | Q  | A | R | I | A | V | Y | A | G | D | G   | D | G | N | G | C | C | V | S | F | R | R | E | R | A | I | P | F | F | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |
| UniRef90_l8T6X6        | F | V  | D  | D  | E  | A | L | I | Q | V | I | S | A | G | D   | G | D | G | N | G | C | C | V | S | F | R | R | E | R | A | I | P | F | F | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |
| UniRef90_Q82V20        | F | I  | D  | D  | E  | V | K | I | Q | V | I | S | A | G | D   | G | D | G | N | G | C | C | V | S | F | R | R | E | R | A | I | P | R | R | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |
| UniRef90_C5ZWQ8        | M | F  | V  | D  | D  | R | V | E | I | Q | V | I | S | A | G   | D | G | D | G | N | G | C | C | V | S | F | R | R | E | R | A | I | P | R | R | G | P | D | D | G | G | N | G | G | D | K |   |   |   |
| UniRef90_R7EVJ5        | F | I  | D  | D  | Y  | V | K | I | L | C | R | S | G | N | G   | D | G | A | G | S | R | H | F | H | R | A | K | Y | V | P | K | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |   |
| UniRef90_K9EA15        | M | F  | V  | D  | D  | Y | T | K | V | N | L | R | A | S | G   | K | G | D | G | M | V | A | S | F | R | R | E | K | Y | V | P | N | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |
| UniRef90_UPI0004712835 | F | V  | D  | D  | Y  | V | K | I | Y | C | R | S | G | K | G   | D | G | R | G | S | H | F | R | R | E | K | Y | V | P | K | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |   |   |
| UniRef90_A0A010ZLNZ4   | F | V  | D  | D  | R  | V | V | L | H | V | T | A | G | D | G   | G | H | C | A | S | V | H | R | E | K | F | K | P | L | G | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |   |   |
| UniRef90_U5T7V3        | F | V  | D  | D  | E  | A | S | L | R | V | T | A | G | D | G   | G | C | C | A | S | F | R | R | E | K | Y | V | P | R | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |   |   |   |
| UniRef90_UPI00046419A2 | M | F  | I  | D  | D  | S | A | R | F | S | V | T | A | G | D   | G | G | Q | C | C | A | S | F | R | R | E | K | F | V | V | Q | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |   |   |
| UniRef90_E1QJMO        | F | I  | D  | D  | E  | A | T | T | E | V | T | A | G | N | G   | D | G | C | A | S | F | L | R | E | K | F | R | P | R | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |   |   |   |
| UniRef90_Q11Z03        | F | I  | D  | D  | Y  | V | K | I | C | C | R | S | G | K | G   | D | G | A | G | A | V | H | F | R | R | E | K | H | T | P | L | G | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |
| UniRef90_V2Y6E7        | M | F  | A  | D  | D  | S | A | K | I | Y | V | K | S | G | N   | G | D | G | H | V | S | F | R | R | E | K | Y | V | P | A | N | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |   |
| UniRef90_UPI0003B7882B | M | F  | A  | D  | D  | R | A | K | I | I | K | S | G | K | G   | D | G | N | G | H | V | S | F | R | R | E | K | Y | V | P | A | N | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |
| UniRef90_UPI00035DA315 | F | I  | D  | D  | Y  | V | K | I | F | R | S | G | N | G | D   | G | P | G | S | A | H | F | R | R | E | K | F | E | K | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |   |   |   |
| UniRef90_UPI000472A2F3 | F | I  | D  | D  | E  | A | T | I | K | V | Y | A | G | D | G   | G | N | G | V | A | T | F | R | R | E | K | Y | E | A | M | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |   |   |
| UniRef90_D9V954        | F | V  | D  | D  | R  | A | V | I | H | L | T | A | G | D | G   | D | N | G | C | A | S | V | H | R | E | K | F | K | P | L | G | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |   |
| UniRef90_C6XF68        | F | L  | D  | D  | E  | A | K | V | I | R | S | A | G | D | G   | D | G | A | G | G | I | S | F | R | R | E | K | F | E | F | F | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |   |
| UniRef90_UPI00024906CF | M | F  | V  | D  | D  | Q | V | T | I | N | V | A | A | G | N   | G | D | G | M | V | A | S | F | R | R | E | K | Y | V | P | A | N | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |
| UniRef90_Q1Q060        | M | F  | V  | D  | D  | E | A | V | I | Y | V | K | G | D | G   | D | N | G | C | C | V | S | F | R | R | E | K | Y | V | P | H | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |   |
| UniRef90_B8D9H2        | F | L  | D  | D  | Q  | A | L | I | H | V | T | A | G | D | G   | D | N | G | C | A | S | F | R | R | E | K | Y | V | P | S | K | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |   |
| UniRef90_R6SRR3        | M | F  | F  | D  | D  | H | L | K | I | Y | V | R | A | A | G   | D | G | N | G | A | V | S | F | R | R | E | K | Y | V | P | S | K | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |
| UniRef90_C5WCG0        | F | I  | D  | D  | E  | A | K | I | I | H | A | G | K | G | D   | G | C | I | S | F | R | R | E | R | C | L | P | K | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |   |   |   |   |
| UniRef90_G4D4E3        | M | F  | I  | D  | D  | R | A | E | K | L | Q | A | G | H | G   | D | G | A | V | A | W | R | R | E | K | Y | E | M | A | G | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |   |   |
| UniRef90_UPI00026CABC8 | F | L  | D  | D  | Q  | A | K | I | K | L | R | S | G | A | G   | G | D | G | A | V | S | F | R | R | E | K | F | E | M | E | Y | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |   |
| UniRef90_R6BEK2        | M | F  | I  | D  | D  | K | A | T | I | K | V | Q | A | G | S   | G | D | G | A | V | S | F | H | R | E | K | F | V | A | A | G | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |   |
| UniRef90_I5B5Q8        | F | V  | D  | D  | E  | A | I | V | T | T | V | K | S | G | D   | G | G | A | G | C | A | S | F | R | R | E | R | F | I | E | K | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |   |
| UniRef90_H2J3W9        | F | I  | D  | D  | E  | V | L | I | T | I | V | F | G | G | K   | G | D | G | A | V | S | F | R | R | E | K | F | E | K | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |   |   |   |
| UniRef90_U6B6N2        | F | L  | D  | D  | E  | A | K | I | Y | I | K | S | G | D | G   | D | G | A | G | C | V | S | F | R | R | E | K | F | E | F | G | P | D | D | G | G | S | G | G | N | G | G | D | K |   |   |   |   |   |
| UniRef90_W1TLJ8        | F | V  | D  | D  | R  | V | K | I | D | V | T | A | G | N | G   | D | N | G | C | V | S | F | L | R | E | K | Y | K | P | L | G | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |   |
| UniRef90_Q18B27        | M | F  | I  | D  | D  | K | A | R | I | F | V | K | A | G | N   | G | D | G | S | V | A | F | R | R | E | K | Y | V | P | A | A | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |   |
| UniRef90_U4TBR7        | F | V  | D  | D  | E  | A | L | I | T | V | H | A | G | K | G   | D | N | G | L | C | S | F | R | R | E | K | Y | V | E | Y | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |   |   |
| UniRef90_E3PRI7        | M | F  | V  | D  | D  | K | A | K | L | T | Y | I | K | A | G   | N | G | D | G | A | V | A | F | R | R | E | I | Y | V | P | A | G | G | P | D | D | G | G | N | G | G | D | K |   |   |   |   |   |   |
| UniRef90_UPI00035C9F99 | F | V  | D  | D  | E  | A | S | T | I | V | K | E | A | G | N</ |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

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G G S I Y A L A D H N L N T L L S D Y R F T P F R A K Q N G K P G L G R N C Y G K K  
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G G D V Y M K A D V N L N T L L V D Y R F K F Y Q A G R G E N G T A D C T G A R  
G G D I V L E V D P Q V H T L L D F R F S P H R A E R G N N S G A G D D R H G A R  
G G N I I F S T N P N L H T L L Q D F R Y R R Y K A E N G K S P G G A S N K R T G K S  
G A S L I L E A R D G V N S L L A A F N R R M Y R A T K G Q P G G G S M R N G R R  
G G S V F L R A S S R K K T L L Y D V L Q P L Y Q A P P G E P G Q G K K H G A K  
G G D I Y F K V I S P N I N T L L V D F Q K K V F N A Q N G G Q R G A G K K H G A A  
G G D V V F F V I R L N T L L V H L R R R V Y R A Q N G E P G R G K Q F H G K N  
G G S V I L Q T D T G L H T L L M D F R Y K E Y R A K N G E N G R N K K Q F G K D  
G G D V V L V G N E Q L N T L L D L D Y R K Y K A A H G E N G A K Q R S S G A D  
G G D V I F L V D E G M L N T L L A D Y H R K R K F A Q P G E D G K R N C H G K K  
G G H I I L R G N K N L W T L L H R Y Y K N V L A E D G Q G G N K N N M T G R D  
G A N I Y L V A S R E V S D L L S F F K N Q E F R G K N G S P G S S K K M H G K D  
G G H V I V K G N K N L W T L L Y H H K F R R H F K A E H G S S G S K Q T S T G A D  
G G S V F A V A D R N I N T L L I D Y R Y K K H L A K N G E S S G R G S D C Y G K G  
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G G D V I L R V S S Q E S T L L S L H S H S P H K A E N G K P G E G D L R H G K R  
G G N V V I Q A T S Q L S S L L V D Y R F K H H R A E R G T H G Q G S R R D G K C  
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UniRef90\_UPI0004712835 G G L G N T N F K T A T N Q A P R Y A Q P G E P Y E E L V V V L L E L K L  
UniRef90\_A0A010ZLNZ4 G G L G N A A L A T A K R K A P G F A L L G E P G G E S H D V V L L E L K L  
UniRef90\_U5T7V3 G G L G N V H F K S A T N R T P R R S L P G T D A G E E R R D L S L L E L K L  
UniRef90\_UPI00046419A2 G G L G N V H F K N S N R Q T P T Y F Q P G L P G V T K N I R L L E L K L  
UniRef90\_E1QJM0 G G Y G N L H F L S S T N R A P R R A D P G N E P G G E K R T L R L L E L K L  
UniRef90\_Q11Z03 G G L G N E Q F K T S T N Q A P H Y A Q P G E P G G I E A W V L L E L K L  
UniRef90\_V2Y6E7 G G K G N M N Y A T P T M Q A P T Y A Q P A P G K P G G I E L T L L E L K L  
UniRef90\_UPI0003B7882B G G K G N V H Y A T P T M Q A P K Y A Q Q P G G E A V I E L E V L L E L K L  
UniRef90\_UPI00035DA315 G G L G N D H F K S A T N Q A P H Y A Q P G G E E E K T I I M E L L E L K L  
UniRef90\_UPI000472A2F3 G G L G N L H F K S S T N R A P R Y A Q C T K G E E G E F E L Y L L E L K L  
UniRef90\_D9V954 G G L G N A A L A S K A R K A P G F A L L G E P G G E S R N L V L L E L K L  
UniRef90\_C6XF68 G G F G N A R F K S S T N Q A P Y F A N P G I L G Q E K I I W L K L L E L K L  
UniRef90\_UPI00024906CF G G R G N L R F A S P K N P A P E F A E N G E P G G V E R R V K L L E L K L  
UniRef90\_Q1Q060 G G R G N K H F A T A T N R V P R E A E D G Q P G G E A R W L L E L K L  
UniRef90\_B8D9H2 H G L G N A R F K S S T N R T P R F A S T L G S L G G E E R R D I Q L L E L K L  
UniRef90\_R6SRR3 G G W G N K H F A T P T R Q V P M F A K N G T K G E E R E V L L E L K L  
UniRef90\_C5WCG0 H G L G N S C F K S S T N R T P Y Q K T D G K L G G E I R E L Y L L E L K L  
UniRef90\_G4D4E3 G G K G N A K Y T T S T R A P S F A Q A G T R G Q E E R E V L L E L K L  
UniRef90\_UPI00026CABC8 G G R G N A T Y K T S T N R A P R Q H G T G W P Y E E M W I W L R L L E L K L  
UniRef90\_R6BEK2 G G W G N S H F A T P T R Q I P R Y A K P G I P G G E G F E L I L L E L K L  
UniRef90\_I5B5Q8 G G R G N K R F A T S T N R V P R F A Q P G I P G G V E M K L R L L E L K L  
UniRef90\_H2J3W9 G G K G N L H F T N S R V Q A P T L A E K G I E G G E S R V L R L L E L K L  
UniRef90\_U6B6N2 G G F G N T R F K S S T N Q A P K Y A N L G L P G G Q E K I I L L E L K L  
UniRef90\_W1TLJ8 G G K G N A A L A T R K R K A P G F A L L G E E G G E R V L L L E L K L  
UniRef90\_Q18B27 G G K G N Q H F A N A V R Q A P A F A K S G T D G G E E R W I T L L E L K L  
UniRef90\_U4TBR7 R G L G N L R F K S S V N R A P R Q C S N G S P G G E V R K L K L L E L K L  
UniRef90\_E3PRI7 G G K G N T H F K S S V R Q A P R F A K A G K D G G E E K N I L L E L K L  
UniRef90\_UPI00035C9F99 R G M G N V H F K S S T N R A P R Q S V P A G E D G G R R Q L R L L E L K L  
UniRef90\_UPI000471145B G G L G N Q H F A T S T M Q V P K Y A Q P G Q P A M E L E V N L L E L K L  
UniRef90\_G2KWG6 G G R G N T H F A T A K N S A P E L A E N G E P G G E R L Q V N L L E L K L  
UniRef90\_R5EYD2 H G F G N T H F K S A T N Q A P R Q K T N G T P G E E R R Q L K L L E L K L  
UniRef90\_B1VGL9 G G L G N A S L A S K T R K A P G F A L L G E P G G E Q K D V T L L E L K L  
UniRef90\_UPI00039A1A5D G G R G N A N F K S S V I Q R T P R F A Q E G I S G E E L H V L L E L K L  
UniRef90\_M5RFD7 G G R G N A S F K S S T N R A P Y E K T M G E L G G E S R D V I L L E L K L  
UniRef90\_UPI000368BD07 G G R G N A S F A T A T N Q A P R L A L R G E E G E K R K L R L L E L K L  
UniRef90\_Q6Q8V2 G G L G N A K H F K S S T N Q A P R K C T P G F E G E R R S L R L L E L K L  
UniRef90\_EORS18 G G R G N V H F K S P T N Q A P R H A E P G R P G E T R R I L L E L K L  
UniRef90\_F9MW51 G G R G N A K F T T S T R Q A P S F A Q A G S M G E E R E I C L L E L K L  
UniRef90\_UPI00037EBF26 G G L G N W H F R S S T N Q T P Q H A Q E G K P G G E E R V V L L E L K L  
UniRef90\_N2B636 G G L G N Q H F A T S T M Q A P K Y A Q P G Q E A L E L E V K L L E L K L  
UniRef90\_G8TA51 G G L G N A Q F A T P T N Q A P E Y A Q P G E P G G E E A W K V L L E L K L  
UniRef90\_M1E859 G G L G N S N F A T P T N R V P H Y A Q D G G E E G L E K N V L L E L K L  
UniRef90\_I3YT92 G G L G N A H F K T A T N Q T P R Y S Q P G E E G L E L D V V L L E L K L  
UniRef90\_V5PNU8 G G L G N L H F K S S T N R A P R Q K T D G K P G G E R R M L Q L L E L K L  
UniRef90\_C8X4W7 G G K G N T H F K S S T N R T P R F A Q P G E E G G E E T K F V L L E L K L  
UniRef90\_X4QXF5 G G L G N A A L A S P K R R A P G F A L L G E P G G E E R S I V L L E L K L  
UniRef90\_R7D017 G G R G N T H F V T S T R A P A F A E K G E P A E E H W I E L L E L K L  
UniRef90\_R5CEB7 G G N G N Q H F A T S T M Q A P K Y A Q P G Q P S R S L L V T L L E L K L  
UniRef90\_UPI0003B6613E G G R G N A V F A S S S R R T P R F S E K G M P G G E E R T L R L L E L K L  
UniRef90\_UPI0003B332A8 H G L G N L H F K S S V N R T P R K A T P G T P G G E L Q W V W L R L L E L K L  
UniRef90\_A0A031JTP9 G G R G N A S Y K T S T N R A P R Q H Q P G M P L E Q W V W L R L L E L K L  
UniRef90\_R7HH31 G G R G N K A F A T H E N P A P K F S E N G E Q G E I K Y L R C L L E L K L  
UniRef90\_F2NRK0 G G W G N V H F K S S T N Q A P R L A N K G A P G G E E R V L R V L L E L K L  
UniRef90\_D5SZ54 G G Y G N T R F M S S T N R A P R E F G P G E P G G E K R E L L L E L K L  
UniRef90\_UPI0003FBD5D8 G G L G N W N F K S S T N Q T P R Y A Q P G I D G G E V D V T L L E L K L  
UniRef90\_A8ZRY1 G G K G N K H F A T S T H Q T P R F A Q P G E P A Q T A T V R L L E L K L  
UniRef90\_K4IAC1 G G K G N S Y F K S S T N Q T P R Y V Q P G I L G Q E L D I T L L E L K L  
UniRef90\_UPI000369B421 G G L G N L H F K S S I N R A P R Q H T L G E P G G E W E L A L L E L K L  
UniRef90\_UPI00035EAE6 G G Q G N A R F K S S T N Q A P R K F T L G F E G E I R F I R L L E L K L  
UniRef90\_UPI0003B45284 H G L G N L R Y K S S V N R A P R Q A K P G S L G E L R Q L R L L E L K L  
UniRef90\_R0ES80 G G R G N M H F A N P R N P A P E L A E N G E P G G E L R Q L R L L E L K L  
UniRef90\_U5Q417 G G L G N D F F K S A T N Q T P R F A Q P G E P G T E N W Y I L L E L K L  
UniRef90\_M2T8R9 G G R G N A S Y K T S T N R A P R Q H Q P G E P A Q E M W V W L R L L E L K L  
UniRef90\_Z5XJ17 G G L G N A A L A S R A R K A P G F A L L G E P G G E E R L T L L E L K L  
UniRef90\_C4LJU3 G G L G N A A L V S K A R R A P G F A L L G E P G G E E K D V L L E L K L  
UniRef90\_K2G0G4 G G L G N L H F K S S V N R S P R Q N T K G E L G G E E F D L K L L E L K L  
UniRef90\_S7J4P4 G G K G N T F F K T S T N R A P T K A T P G K P G G E I R Q V L L E L K L  
UniRef90\_L8JRX6 G G L G N E N F K T A T N Q A P R F A Q P G E A G K E E W I V L L E L K L

|                        | 1 | 10 | 20 | 30 | 40 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|----|----|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UniRef90_K7ZD59        | F | L  | D  | Q  | A  | K | I | F | R | S | G | N | G | G | N | G | C | L | S | F | K | R | E | A | Y | L | E | F | G | G | P | N | G | G | N | G | G | K |   |   |   |   |   |   |   |   |
| UniRef90_R6LW18        | M | F  | V  | D  | E  | V | V | M | K | R | V | E | A | G | G | T | D | G | G | N | G | G | N | G | C | L | S | F | K | R | E | A | Y | L | E | F | G | G | P | N | G | G | N | G | G | K |
| UniRef90_Q2S3C0        | F | L  | D  | S  | V  | D | L | R | F | V | I | A | S | G | K | G | G | A | G | A | G | V | A | F | R | R | E | K | F | V | P | M | G | G | P | F | S | G | G | D | G | G | D |   |   |   |
| UniRef90_I2FBV6        | M | F  | V  | D  | S  | V | D | I | R | F | V | I | A | S | G | K | G | G | A | G | A | G | V | A | F | R | R | E | K | F | V | P | M | G | G | P | F | S | G | G | D | G | G | D |   |   |
| UniRef90_C7N5Z4        | M | F  | T  | D  | K  | V | H | I | Y | L | K | G | G | D | G | G | A | G | A | G | C | M | S | F | R | R | E | A | H | V | P | K | G | G | P | D | G | G | D | G | G | H |   |   |   |   |
| UniRef90_S0EYW4        | M | F  | V  | D  | E  | V | E | I | R | V | L | A | G | D | G | G | N | G | C | M | V | S | F | F | R | R | E | K | Y | P | H | G | G | P | N | G | G | D | G | G | R |   |   |   |   |   |
| UniRef90_UPI0003723CAB | F | V  | D  | E  | V  | V | I | R | V | K | A | G | D | G | G | N | G | C | M | V | S | F | F | R | R | E | K | Y | P | D | R | G | G | P | N | G | G | D | G | G | N |   |   |   |   |   |
| UniRef90_W1S677        | F | L  | D  | Q  | A  | K | I | Y | I | K | S | G | W | G | G | P | G | A | V | S | F | F | R | R | E | K | Y | V | E | Y | G | G | P | D | G | G | N | G | G | K |   |   |   |   |   |   |
| UniRef90_D3EQ88        | F | I  | D  | R  | A  | E | I | E | V | E | G | G | K | G | D | G | I | V | A | S | F | F | R | R | E | K | Y | P | A | G | G | P | S | G | G | N | G | G | K |   |   |   |   |   |   |   |
| UniRef90_UPI00037F3E89 | F | V  | D  | S  | V  | K | F | H | L | S | S | A | G | K | G | G | A | G | S | A | S | F | F | R | R | E | K | Y | P | R | G | G | P | D | G | G | D | G | G | R |   |   |   |   |   |   |
| UniRef90_C9LWD1        | F | I  | D  | R  | A  | K | I | S | V | K | A | G | D | G | G | K | G | K | S | A | S | F | F | R | R | E | K | F | I | P | K | G | G | P | D | G | G | D | G | G | R |   |   |   |   |   |
| UniRef90_UPI000248E5F5 | F | V  | D  | S  | V  | K | L | H | L | S | S | A | G | K | G | G | A | G | S | A | S | F | F | R | R | E | K | Y | P | A | G | G | P | S | G | G | N | G | G | K |   |   |   |   |   |   |
| UniRef90_UPI000470A07B | M | F  | V  | D  | S  | V | K | F | H | L | S | S | A | G | K | G | G | A | G | S | S | F | F | R | R | E | K | Y | P | R | G | G | P | D | G | G | D | G | G | D |   |   |   |   |   |   |
| UniRef90_G0A679        | F | V  | D  | E  | A  | E | I | R | V | E | A | G | D | G | G | N | G | C | M | S | F | F | R | R | E | K | Y | P | L | G | G | P | D | G | G | D | G | G | D |   |   |   |   |   |   |   |
| UniRef90_Q7UVH6        | M | F  | F  | D  | R  | V | E | I | E | F | Q | A | G | K | G | D | G | C | M | S | F | F | R | R | E | K | Y | P | S | K | G | G | P | D | G | G | D | G | G | R |   |   |   |   |   |   |
| UniRef90_R6AIT3        | F | V  | D  | K  | A  | R | I | I | K | A | G | N | G | G | D | G | C | M | S | F | H | R | R | E | K | Y | V | P | S | K | G | G | P | D | G | G | D | G | G | R |   |   |   |   |   |   |
| UniRef90_H0UK98        | F | V  | D  | L  | V  | R | I | H | V | S | A | G | R | G | G | N | G | C | M | S | F | R | R | E | K | F | V | P | S | K | G | G | P | D | G | G | D | G | G | R |   |   |   |   |   |   |
| UniRef90_T1ATB4        | F | V  | D  | E  | A  | L | I | H | V | H | A | G | N | G | G | N | G | C | M | S | F | R | R | E | K | F | I | P | F | G | G | P | D | G | G | D | G | G | D |   |   |   |   |   |   |   |
| UniRef90_UPI00047B8BF9 | F | V  | D  | E  | A  | E | I | T | V | V | A | G | N | G | G | N | G | C | M | S | F | R | R | E | K | F | I | P | L | G | G | P | D | G | G | D | G | G | D |   |   |   |   |   |   |   |
| UniRef90_W0ESC5        | F | V  | D  | Y  | V  | K | I | L | C | R | S | G | K | G | G | A | G | A | M | H | L | Y | R | A | K | Y | V | P | K | G | G | P | D | G | G | D | G | G | R |   |   |   |   |   |   |   |
| UniRef90_V1DBD7        | M | F  | V  | D  | R  | A | K | I | N | L | R | S | G | K | G | D | G | A | V | T | F | F | R | R | E | P | Y | V | P | E | G | G | P | D | G | G | D | G | G | K |   |   |   |   |   |   |
| UniRef90_F2IKB2        | F | V  | D  | Y  | V  | K | I | H | C | T | S | G | N | G | G | G | G | S | A | H | H | R | R | E | K | Y | I | P | Q | G | G | P | D | G | G | D | G | G | R |   |   |   |   |   |   |   |
| UniRef90_Q12K23        | F | I  | D  | E  | A  | S | I | R | V | E | A | G | D | G | G | S | G | C | V | S | F | F | R | R | E | K | Y | V | P | D | G | G | P | D | G | G | D | G | G | D |   |   |   |   |   |   |
| UniRef90_Q6MEQ6        | M | F  | V  | D  | R  | V | I | E | L | I | A | G | K | G | G | N | G | C | M | S | F | F | R | R | E | K | Y | P | K | G | G | P | A | G | G | N | G | G | R |   |   |   |   |   |   |   |
| UniRef90_UPI00036A0471 | F | L  | D  | L  | A  | K | V | L | C | R | S | G | K | G | G | A | G | A | S | H | F | H | R | A | K | Y | V | P | K | G | G | P | D | G | G | N | G | G | R |   |   |   |   |   |   |   |
| UniRef90_R7HLP9        | F | I  | D  | Y  | V  | K | I | L | C | R | S | G | K | G | G | A | G | S | C | H | F | H | R | A | K | Y | V | P | K | G | G | P | D | G | G | D | G | G | R |   |   |   |   |   |   |   |
| UniRef90_UPI00046FCCD5 | F | V  | D  | E  | A  | T | I | D | V | V | A | G | D | G | G | K | C | M | S | F | F | R | R | E | K | F | L | A | F | G | G | P | N | G | G | D | G | G | R |   |   |   |   |   |   |   |
| UniRef90_R5UUU9        | F | I  | D  | Y  | V  | K | I | F | C | R | S | G | A | G | G | K | G | S | A | H | H | R | R | D | K | F | V | P | A | K | G | G | P | D | G | G | D | G | G | R |   |   |   |   |   |   |
| UniRef90_Q8RHS8        | M | F  | I  | D  | E  | V | I | T | V | K | A | G | N | G | G | D | G | S | A | A | F | R | R | E | K | F | V | Q | F | G | G | P | D | G | G | D | G | G | K |   |   |   |   |   |   |   |
| UniRef90_UPI00036C3F49 | F | V  | D  | R  | V  | T | K | I | Y | A | S | A | G | K | G | D | G | C | V | S | V | K | R | E | K | F | K | P | K | G | G | P | D | G | G | N | G | G | R |   |   |   |   |   |   |   |
| UniRef90_C6X461        | F | V  | D  | Y  | V  | K | I | H | C | K | S | G | H | G | G | A | G | S | A | H | L | R | R | E | K | Y | I | P | K | G | G | P | D | G | G | D | G | G | R |   |   |   |   |   |   |   |
| UniRef90_K0P213        | F | I  | D  | H  | V  | K | L | Y | L | R | A | G | K | G | G | A | G | L | I | H | F | I | R | A | K | F | V | P | K | G | G | P | D | G | G | D | G | G | R |   |   |   |   |   |   |   |
| UniRef90_K9SHS1        | F | L  | D  | R  | V  | E | I | N | V | V | A | G | K | G | D | G | L | V | A | F | R | R | E | K | F | V | P | A | G | G | P | A | G | G | N | G | G | D |   |   |   |   |   |   |   |   |
| UniRef90_C1MIW3        | F | I  | D  | T  | A  | K | I | Y | V | V | K | A | G | D | G | G | R | G | M | V | A | F | R | R | E | A | F | V | A | G | G | P | A | G | G | N | G | G | N |   |   |   |   |   |   |   |
| UniRef90_Q9KUS8        | F | V  | D  | E  | A  | V | I | K | V | Q | A | G | D | G | G | N | G | V | V | S | F | F | R | E | K | F | V | T | N | G | G | P | D | G | G | D | G | G | D |   |   |   |   |   |   |   |
| UniRef90_I4AQB0        | F | I  | D  | Y  | V  | K | L | T | L | R | S | G | K | G | D | G | S | R | H | F | R | K | H | V | P | L | G | G | P | D | G | G | D | G | G | R |   |   |   |   |   |   |   |   |   |   |
| UniRef90_I2K6J8        | M | F  | I  | D  | S  | V | E | L | T | V | S | G | K | G | G | A | G | A | I | S | F | W | T | E | K | F | V | S | K | G | G | P | D | G | G | D | G | G | R |   |   |   |   |   |   |   |
| UniRef90_R5WQZ6        | M | F  | I  | D  | K  | V | K | I | F | J | S | G | N | G | G | N | G | S | A | S | L | H | T | E | K | Y | V | P | N | G | G | P | D | G | G | D | G | G | K |   |   |   |   |   |   |   |
| UniRef90_T0RGP8        | F | I  | D  | E  | V  | K | I | V | V | S | E | A | G | D | G | G | N | G | C | M | S | F | F | R | R | E | K | Y | P | F | G | G | P | A | G | G | D | G | G | S |   |   |   |   |   |   |
| UniRef90_J1Q0Y4        | F | V  | D  | E  | A  | L | I | R | V | E | A | G | D | G | G | N | G | L | I | S | F | L | R | E | K | F | I | S | K | G | G | P | N | G | G | D | G | G | D |   |   |   |   |   |   |   |
| UniRef90_K2D3Y2        | F | I  | D  | V  | A  | K | I | K | V | K | A | G | N | G | G | D | G | R | V | S | F | F | R | R | E | K | F | L | P | N | G | G | P | D | G | G | D | G | G | N |   |   |   |   |   |   |
| UniRef90_F0JE65        | F | V  | D  | E  | A  | T | I | K | V | A | S | A | G | K | G | D | G | C | A | S | L | R | E | A | N | M | P | K | G | G | P | D | G | G | D | G | G | K |   |   |   |   |   |   |   |   |
| UniRef90_UPI0002E0967E | F | I  | D  | Q  | A  | Q | I | I | R | A | R | A | G | K | G | D | G | L | I | V | S | F | R | R | E | K | F | V | P | A | G | G | P | S | G | G | D | G | G | K |   |   |   |   |   |   |
| UniRef90_A1VXH9        | M | F  | I  | D  | S  | V | K | I | T | L | A | S | G | D | G | K | G | A | V | S | F | F | R | R | E | K | H | V | P | L | G | G | P | D | G | G | D | G | G | N |   |   |   |   |   |   |
| UniRef90_E7GDM2        | F | I  | D  | K  | V  | K | I | Y | W | L | A | G | K | G | D | G | V | A | F | R | R | E | A | H | V | P | K | G | G | P | S | G | G | D | G | G | K |   |   |   |   |   |   |   |   |   |
| UniRef90_D4KBV2        | F | L  | D  | I  | A  | T | I | W | L | H | A | G | K | G | D | G | A | V | S | F | H | R | E | K | F | V | A | A | G | G | P | D | G | G | D | G | G | R |   |   |   |   |   |   |   |   |
| UniRef90_Q73LW4        | F | A  | D  | E  | S  | K | I | R | V | S | S | G | K | G | G | N | G | C | I | A | F | R | R | E | K | Y | V | P | M | G | G | P | S | G | G | D | G | G | R |   |   |   |   |   |   |   |
| UniRef90_D2NSV7        | F | V  | D  | R  | V  | V | L | H | L | S | S | G | R | G | G | N | G | C | V | S | V | R | R | E | K | F | K | P | L | G | G | P | N | G | G | N | G | G | N |   |   |   |   |   |   |   |
| UniRef90_UPI0003489EE4 | F | V  | D  | R  | V  | T | L | H | L | S | A | G | D | G | G | N | G | C | V | S | V | R | R | E | K | F | K | P | L | A | G | P | D | G | G | N | G | G | D |   |   |   |   |   |   |   |
| UniRef90_A6WDM9        | F | V  | D  | R  | V  | V | V | H | A | S | G | D | G | G | N | G | C | A | S | V | H | R | E | K | F | K | P | L | G | G | P | D | G | G | N | G | G | K |   |   |   |   |   |   |   |   |
| UniRef90_I4COP8        | F | V  | D  | Q  | T  | R | I | T | V | L | A | G | D | G | G | R | G | C | L | G | S | F | F | R | E | A | Y | V | P | K | G | G | P | D | G | G | D | G | G | K |   |   |   |   |   |   |
| UniRef90_X2H140        | F | V  | D  | E  | A  | S | I | R | V | E | A | G | D | G | G | N | G | C | V | G | F | R | R | E | K | Y | I | P | K | G | G | P | D | G | G | D | G | G | D |   |   |   |   |   |   |   |
| UniRef90_UPI00047C407B | F | V  | D  | R  | V  | N | L | Q | V | I | A | G | K | G | G | N | G | C | V | S | V | H | R | E | K | F | K | P | L | G | G | P | D | G | G | N | G | G | H |   |   |   |   |   |   |   |
| UniRef90_W5IH68        | F | V  | D  | R  | V  | T | V | H | V | R | G | G | N | G | D | G | A | A | S | I | R | R | E | K | Y | K | P | L | A | G | P | N | G | G | D | G | G | D |   |   |   |   |   |   |   |   |
| UniRef90_D0YQK3        | F | V  | D  | Y  | V  | K | I | F | A | T | A | G | A | G | G | N | G | C | A | S | L | R | R | E | K | Y | K | P | L | A | G | P | D | G | G | D | G | G | H |   |   |   |   |   |   |   |
| UniRef90_A8Z6G0        | M | F  | I  | D  | S  | V | K | L | T | L | S | S | G | H | G | A | G | A | V | S | F | F | R | R | E | K | H | V | I | L | G | G | P | D | G | G | D | G | G | D |   |   |   |   |   |   |
| UniRef90_UPI0003715117 | F | L  | D  | Q  | A  | K | I | Y | L | A | S |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

UniRef90\_K7ZD59 G G D V I L L E C V G S L N T L I S F R Y Q H F K A M N G H H G K G R N M T G E S  
UniRef90\_R6LW18 G G S D I I F K A D E G S L K Y T L I D S R Y K K I F K A N D N G G E N G G R R R K N E K F G S N  
UniRef90\_Q2S3C0 G G S V Y V E A D E N N T L M S K F H R A T Q V F A K N D G G Q P G G R R R R Q C S G A S R  
UniRef90\_I2FBV6 G G D V Y V E V D N L T Y D T L S K F F R A R H Y K A K N G G Q P G G G R R R R C S G K R  
UniRef90\_C7N5Z4 G G N V I L K A D G S V S S T L I S E Y F R Y K H H K A E R G T H G G K G S R R M F H G A R D  
UniRef90\_S0EYW4 G G S V I L K A D P S N L S T L L D F F R F R Y H Y E A Q R G G G H G R G R K N M T G K D  
UniRef90\_UPI0003723CAB G G D V Y L I A D K S L N T L L V D F R D R Y F E A Q R G G N G R G R G R K N M T G Q R  
UniRef90\_W1S677 G G D I I F E A V A G L N T L L I D F F R Y Q H F K A Q R G G Q P G M G K N R Y G A G  
UniRef90\_D3EQ88 G G S V I F L Q A A Q N L Q T L L I D F F R Y S H Y F K A D N G G R R R G K N D C Y G A A  
UniRef90\_UPI00037F3E89 G G S I F A V A D R N L N T L L I D F F R Y R M H R A R A N D G G E N G R G R G A D Q Y G A G  
UniRef90\_C9LWD1 G A D I V F V V D R N M N T L L D F R H R K F K G K D G G N G D I K N M T G A N  
UniRef90\_UPI000248E5F5 G G D H V I L R A N S N S M W T L L D F R H K Y K R H V K A G H G G H G K N R S T G A D  
UniRef90\_UPI000470A07B G G D V Y F K V D N N S H T L R F Y K K T K F Q A Q N G E P G M G K N M T G K N  
UniRef90\_G0A679 G G S V Y L V A T E N V N T L V D F F R Y H V H R A Q R G G E N G M G S R D C T G K K  
UniRef90\_Q7UVH6 G A S I V L E A R L G V N S T L A Q Q T R K F F F R A E K N G G E F G G S G A L R H G R K  
UniRef90\_R6AIT3 G G N V V F L A D E N M N T L L D F F R F F R A Q N G E N G R G M G N M Q Y G K S  
UniRef90\_H0UK98 G G D V Y V Q A D Q R L V T L A D Y Y K R R F S A S C G L P G E G S L K T G A N  
UniRef90\_T1ATB4 G G S V W L L A D E N L N T L V D F F R H K V F R A Q R G G Q N G M G R Q M Y G R G  
UniRef90\_UPI00047B8BF9 G G S V W L V A D E N L N T L V D F R H K V F R A Q R G G E N G M G R Q M Y G K G  
UniRef90\_W0ESC5 G G N I Y L R A N R N L W T L L H L K Y R H V F A G N G S P G G A N R S F G K D  
UniRef90\_V1DBD7 G G D V V F K A D N S L R T L M D F R Y R K Y Q A G N G Q N G M K K R F G K K  
UniRef90\_F2IKB2 G G H I Y L R G N K Q L W T L L H L K F R Q K H K A G H G H S G S G Q K Q F G S Q  
UniRef90\_Q12K23 G G S V F L Q A D E N Y N T L I D Y R F R F H M A E R G S N G R G R D C T G H G  
UniRef90\_Q6MEQ6 G G S V I L E A D T Q T S L L D W F R Y R R I K A Q S G D G M G K Q R S G K N S  
UniRef90\_UPI00036A0471 G G S V W A Q A A D G L N T L L D F F R Y Q H F F A E N G K S G M G M G K Q R S G A S  
UniRef90\_R7HLP9 G G H I I L R G N R N L W T L L H K Y Q R H I F A T D G Q P G G E C R S F G K D  
UniRef90\_UPI00046FCCD5 G G S V Y A V G D R N L N T L I D Y R Y R R H F A K R D G G E N G S R S D Q F G A A  
UniRef90\_R5UUU9 G G H V I L K G N R N Y W T L I H K Y Q R H V F A G D G E G G S E A R C S G A D  
UniRef90\_Q8RHS8 G G D V I F V A D S N I N T L I D F K F K K F K A Q N G E N G G Q K Q M Y G K K  
UniRef90\_UPI00036C3F49 G G D V I L V D P S V T T L L D F F H S P H K A T S G H H N G Q K N D R K D G H Q  
UniRef90\_C6X461 G G H V I M K G N A H E W T L L P L R F S H I K A E R G H H N G Q K N Q T G A Y  
UniRef90\_K0P213 G G H I I L R G A K Q Y G T L L H L K Y R K H I A A N G E V G G D S C K T G A S  
UniRef90\_K9SHS1 G G S V I L E A T D D L Q T L L D G L K F E H F K A D N G K R G G R K N M T G A R  
UniRef90\_C1MIW3 G G A I Y F E A D S I N S L V G F R K K H H R A D P G N G G G K K M Q S I  
UniRef90\_Q9KUS8 G G D V Y M V A D E N L N T L I D Y R F R F Y E A E R G K N G G G G N C T G K S  
UniRef90\_I4AQB0 G G H I I T R A N S Q L W T L H L R Y K H I F A E D G G R P G E G R K S T G K Q  
UniRef90\_I2K6J8 G G S V F F K V D N N T L S A F L R G R N H K A E N G R P G E G R K C Y G R K  
UniRef90\_R5WQZ6 G G D I V F V A T S A E N T L N A F H F K H F R A E N G E N G A K K N C Y G K C  
UniRef90\_T0RGP8 G G N V Y F Q A D E G V N T L V N F R Q K H H H A E N D G E N G M N R Q M T H G R Y  
UniRef90\_J1Q0Y4 G G D V Y L Q A D E N L N T L V D Y Q F K Y H S A E R G E N G S V N C T G K R  
UniRef90\_K2D3Y2 G G S V Y F L A D H N V A T L L D F F H K P I F E A T N G Q Y G G P K N M T G F S  
UniRef90\_F0JE65 G G D L I L R G S E R N L M S L Y D F R K R H Y T A K N D G V K G G P N K R S G A T  
UniRef90\_UPI0002E0967E G G S V I F E A D S N L Q T L L D F F K F R E I F A K D G V K G G P N K R S G A T  
UniRef90\_A1VXH9 G G D I I F V C D N N T H T L V N F K K R E I R A Q N G A G G M G R N K N G K K  
UniRef90\_E7GDM2 G G S I I F E A T T S L S T L L D F F R Y R E Y K A R N G G M A K K M H G A D  
UniRef90\_D4KBV2 G G D I I F V A D H L S T L L M D F R Y R K Y V A P E N G G K G G A S L C H G K N  
UniRef90\_Q73LW4 G G D L I F E I R R N M R T L V H R H K R V Y K A K N G G G G G S Q R F G K K  
UniRef90\_D2NSV7 G G A V I L R V D N Q T T L L E Y H H S P H Q A P N G D P G R G D M H H G F N  
UniRef90\_UPI0003489EE4 G G D I V L V A D P Q V T T L L D G Y H H S P H R S S N G Q S P H R S G M G D M R S G I S  
UniRef90\_A6WDM9 G G D V I L E V D P Q V T T L L D Q R R P H R A P D G R F G M G S H R N G A D  
UniRef90\_I4COP8 G G D V L L V A D E S L N T L L D C Y Q Q L Y R A R N G T H G K G S D H G R A  
UniRef90\_X2H140 G G D V F F I A D E N L N T L L D F Q F K N Y R A E R G Q N G G S D C T G K R  
UniRef90\_UPI00047C407B G G D V V F V V D P N V H T L L D F F F Q R L Q A G N G K H G K G S N R D G A A  
UniRef90\_W5IH68 G G S V I V L A D P N T T S L L N Y R F A P H R A Q N G T M G A G D Y R D G A S  
UniRef90\_D0YQK3 G G S I L L R V D P Q V T T L L E F H H R P H V A E N G L A G A G D Y R D G K R  
UniRef90\_A8Z6G0 G G D V Y F V C D N N T H T L A N Y K K R A M R A S D G E A G M G R R M T G K K  
UniRef90\_UPI0003715117 G G D V I A L C S D G L N T L T D F F R Y Q H F K A K P N G E G S G K G R D R S G I G  
UniRef90\_K6H139 G G D V I F R V D P N L N T L V N F R N Q K Y I A K N G Q S G S G N K R T G O D  
UniRef90\_UPI00036DF175 G G S V V L V A A N L N T L I D F F R F Q H F K A E K G H Y G M G K K S G R A  
UniRef90\_K1XV74 G G A V I F I L G D N R V S T L A E F R Y S P L F A Q N G Q P G K G S N K S G K K  
UniRef90\_D8PCA0 G G S V V V E A T T R L N T L L D L R Y K H Y E A E K G E T P G G G S N C H G R R  
UniRef90\_R6TXF3 G G N I Y L K V D S N T S T L L D F Y K K E F R A E D G K N G D G A R K T G K S  
UniRef90\_S2VU83 G G N V I L E V S D Q T T S L L D Y H H L P H K A E N G T P G L G S D G G E G R N  
UniRef90\_UPI000360AB90 G G D V I F K V D E G L N T L L M D F R Y R H F K A H N G E S G M G K G H G K  
UniRef90\_Q04EZ8 G G D I Y F I V D E G L R T L M D F R Y R H F R A K H G E K G G T K G M T G A S  
UniRef90\_R7I5D5 G G N V C F Y A D L N M H T L L D F F R K K Y T A E N G V D G G A G N C T G K R  
UniRef90\_D9T9M4 G G S V S L V V D P Q V T T L L D F F H R P H K A E N G K G G A G S N R D G A N  
UniRef90\_K8F142 G G D V S F T A D E N M H S L Q M F R K K H H R A K N G K H G G G S K C N G A N  
UniRef90\_X0WRR8 G G S V V F V V D K N L N T L T K F K Y R H F K A D S G K N G Q S K K H G H N  
UniRef90\_B1C9T0 G G N V I F K V S N A L N T L A F R Y R K F A A E A G E N G S R S N M S G K D  
UniRef90\_C5CI97 G G N V F I R A T T S K N T L L E F Q K K K F E A E D G E N G S S G K K Y G K K  
UniRef90\_E6PGI0 G G G L Y L L A D P E L N T L V E F T K R K F A A E S G K A G G T S N K S G R A  
UniRef90\_D3PB02 G G D V Y L V G D E G K S T L L D V T F K I Y K A K R G E H G R G K D Q H G K K  
UniRef90\_UPI000379A78D G G H I I L K G N R H Q W T L L G F K Y R K H K A P H G G N G S E N H R H G A D  
UniRef90\_S3JZG4 G G D V L F F E T K R N M R T L V H R H K R V F R A K N G L N D G Q G A R K Y G A K  
UniRef90\_R5N8L9 G G D V Y F K V D P D A N T L I E F R K K F R A E N G E N G Q G G A R K Y G K S  
UniRef90\_E3I7U8 G G S I Y V E C V T N L N T L I D F R Y Q H F K A G N G R P G E G A N R H G A S  
UniRef90\_UPI0003655BD2 G G N V V L E V D S N A A S L L E Y H R P H R R G G N G P G G G H R G A D  
UniRef90\_V5RWE1 G G D V I F E A T K N L N T L L D F F R Y K P L K A K P G K N G A K R R R G R S  
UniRef90\_F8NA38 G G S I I L R G N H N Y W T L L H L K Y Q K H F A E H G G N G G A D K C H G T D  
UniRef90\_F8KSD7 G G D V F V Q V D S N N T Q T L G A F R K K H Y R A K N G A P G G P K L C S G K K  
UniRef90\_E3D0R3 G G S V W L V A D S N N L Q T L A D F F E Y R Y S A E P G R A G S G S N R N G R G  
UniRef90\_I4EUV1 G G D V V L E V D P N V H T L L D F H H S P H K A A N G K Q A A G D Y K N G G R  
UniRef90\_S3A4X2 G G S V I L E V S E Q E T T L L N Y H H S P H R A D N G T P G M G D F Y R G K T  
UniRef90\_UPI0004257DE3 G G D I T I V A N P D V T L L S Y H H S P H R S E S G E F P G M G D F R H G G K  
UniRef90\_UPI00040FA235 G G H V I L K G N S Q L W T L L H L K Y R K H I A E N G F P G S S G K S S G R M  
UniRef90\_UPI0003B37C91 G G D I Y F Q G D S G M N T L L P L H R K H I R G Y D D G G M T K N R N G A K  
UniRef90\_W9GE69 G G S V V L R V D P Q S T T L L E Y H H R P H K A D N G K P G A G D E R N G A D  
UniRef90\_C6HY03 G G S I I L C G T P D R S T L L D F K H R P V V A T A G E N G G A G K K Q H G K N  
UniRef90\_R7M5E7 G A N I I F K T D T E L N T L L D L R Y K I I T G D A G K N G E G K N Q T G K D  
UniRef90\_R4PW37 G G N V V F V A T E Q L N T L L I N F R Y K P L K A E N G V N G S K K M A G R W  
UniRef90\_L8D5G5 G G S V F L Q A D E N L N T L I D Y Q F R F H Q A E R G T N G A S R N C T G S K

UniRef90\_K7ZD59 G K D V T L C V P L V G T T Q V W D E K N K F L L A D M T R I G Q Q V L A R G G D  
UniRef90\_R6LW18 S E D V I I K V P L V G T T V V K D A D T G V V L A D L T K Q G G M A T I A Y G G R  
UniRef90\_Q2S3C0 G E D K V I R V P P G T V V V K D A D T G E V L A G E V V E C P Q M R I C V A E G G Q  
UniRef90\_I2FBV6 G E D I T I K V P L V G T V I V L D F T D T K E I I D M D K C P M H S R L L K G G Q  
UniRef90\_C7N5Z4 G E D L V L K V P L V G T V V V R T K E T G E L I A D L T H E G E Q V V V A E G G M  
UniRef90\_S0EYW4 G A D L V L R A P V V G T V V V T D L E E T G E V V A D L V Y P H Q R T A V L A R G G R  
UniRef90\_UPI0003723CAB G E D K E I P V P V G T V V H D E E T G E F I A D L T A V G Q R L M V A K G G F  
UniRef90\_W1S677 G D D L I V K V P V G T Q I C D Y E E Q E E L A D F T E V G Q R M V F L R G G D  
UniRef90\_D3EQ88 G K D N I K V P C G S T V I V Y D L E E T G E E L G D L T H D K Q I C I A R G G A  
UniRef90\_UPI000373E89 A D D I T L K V P V G T L V Y D A E T G A V L A D L T E V G Q E A V I A K A G R  
UniRef90\_C9LWD1 A E P C I I K V P V G T L V K D A E T G A V L A D L T E V G Q E A V I A K A G R  
UniRef90\_UPI000248E5F5 G E D V Y I D V P P M G T L V V R A T E T Q E E L H E L V D A G G E L I L E G G M  
UniRef90\_UPI000470A07B G E R L T L V V P P M G T L V V I D S D T N E L F D L V E D A G K E V L F L K G G K  
UniRef90\_G0A679 G E D C L V A V P P G T L V Y E A S T G E K I G D L T K P V G Q R L L V A K G G F  
UniRef90\_Q7UVH6 G R E M R L F V P C G S T S I I D A K D S G F V I K D L T Q V G E E F V I C A G G K  
UniRef90\_R6AIT3 G E N L V I K V P V G T R V R D V E S G K I A D M N S P G R E R T V L R G G R  
UniRef90\_H0UK98 G D D L I V K V P C G T V V T D A V T G E P L A D L V E D G D R V R V A A G G K  
UniRef90\_T1ATB4 G E D C V I R V P V G T E V V G T E T A E S L G D L T A H H G R R L R V A A G G  
UniRef90\_UPI00047B8BF9 G D D V E I P V P T G T V V H N L D E T D E V I G D L T H H G E R L L V A R G G K  
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M F I D E V T I L I Q A G D G G D G C R S F R R E K Y V P L G G P D G G D G G D  
F V D F V K V F V K G G D G G D G A V A F L R E K F Q P K G G P A G G D G G K  
F R D T L E I E V A A G N G G D G A M S F H R E K Y L E K G G P D G G H G G R  
F V D R V V L H T T G G N G G H G C V S V H R E K F K P L G G P D G G N G G D  
F V D Y V K I Y V S S G K G G C S S H L H R E K F I E K G G P D G G D G G R  
F I D W K R L K V T G G S G G T G C I C F R K E A H V I E F G G P S G G N G G D  
M F V D N V R V Y C K A G D G G N G V V H F R R E K Y L P K G G P D G G D G G D  
F V D H I R V H C R A G N G G H G A V S F R K E K F V P R G G P D G G D G G N  
P D G A M E G W  
M L V D S I T L Q I K A G N G G N G A V S F L R N G Q K A R G G P D G G N G G N  
M H R E K F K P L G G P D G G N G G N  
F V D E A F N E V F A G N G G H G I V A F R R E K Y V A F G G P A G G S G G Y  
F V D R V V L H V S G G H G H G V A S V K R E K F K P L G G P D G G N G G D  
F I D W R R I R I M G G S G G A G C V S F F R A A N L P K G G P D G G D G G D  
F L D H V I V T V R A G K G G D G C A A F H R E K F K P Y G P S G G N G G R  
C F V D H R P V K L V A G S G G G A S S F H S E P R K E W G G P D G G N G G D  
F I D H V I I Q A R G G K G G D G C V A F H R E K F K P F G P P S G G N G A R  
I D F R S I K V R G G K G G D G C L S L R R L C K N P L G G P D G G D G G S  
F C D K R R V R L K A G N G G Q G C A S F H R E K Y V P Y G P D G G N G G R  
Y I R L E L K A G R G G D G I T S W A K T R Y N S R L G P A G G N G G D  
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G D  
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C C F H S E P R K E Y G G P D G G D G G N  
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