```
                        1         10        20        30        40
QUERY                   M M K K I D V K I L D P R V G K E F P L P T Y A T S G S A G L D L R A C L N D A
UniRef90_UPI00035E65B2  M K K I D V K I L D Q R I G K E F P L P T Y A T E G S A G L D L R A L I D E S
UniRef90_UPI00037822B5  M K K I Q L K I L D D P R I G Q E I A L P A Y A T H G S A G L D L R A C L D Q A
UniRef90_A9NB28         M T H S V Q L K I L D K R L G S E F P L P A Y A T G S A G L D L R A C L D E P
UniRef90_R4YSG2         M K K Q L Q V K V L D P R I G D T I A M P E Y A T A G S A G L D L R A C L D A P
UniRef90_K2K3D4         M K T P I Q L K V L D P R V G T E F P L P A Y A T D G S A G L D L R A V I D G P
UniRef90_Q2NQU0         M K K I D V K I L D R R I C D R F P L P A Y A T T G S A G L D L R A C I D E P
UniRef90_UPI00037E3645  M K Q I E I K I L D D K V G T Q I P L P T Y A T E G S A G M D L R A C L D E A
UniRef90_Q5QZB6         M T Q V E V K I L D D R I G Q S I P L P E Y A T Q G S A G M D L R A C L D Q P
UniRef90_G4E4H2         M H T V E L K L L D P R L G T E I P H P A Y A T P G S A G L D L H A C L Q V P
UniRef90_Q6FDR0         K V Q V E V K I L D Q R L G Q E W P L P S Y A T T G S A G L D L R A C L D E A
UniRef90_M4U4G5         M K Q I Q L K I L D P R I G H E F P F P K H A T S G S A G V D L C A C I D E P
UniRef90_A6VSX7         M K Q A I Q L K I L S D K I G K E I P L P T Y A T E G S A G L D L R A C L D Q A
UniRef90_UPI00039FBE01  M H K L Q A K V M D P R L G Q Q W P L P H Y A T A G S A G L D L R A M L Q E P
UniRef90_K2D6A3         M I K V Q L K I L D P R I G T D Y P L P H Y S T D G S A G L D L R A C L E L D
UniRef90_A8FQ73         M K T P I E V K I L D S R I G S Q F P L P A Y A T P G S A G M D L R A M L E T S
UniRef90_UPI0003B3BAF5  M I P S I E Y K I L D P R V G D T I P L P S Y A T D G S A G M D L R A C L D D A
UniRef90_F6A9G7         M H A L Q A K I L D P R L G S E F P M P A Y A T P G S A G L D L R A M L K Q D
UniRef90_I3YCB7         M L H R L E V K I L D P R L G R E F P L P H Y A T E G S A G L D L R A M L E T P
UniRef90_W6LZY9         M T S Q I E L K I L D P R L G R D L P L P D Y A T A G S A G L D L R A C L A E P
UniRef90_UPI00046F0001  M K N I R I K V L D P R L G K E F P L P R Y E T A G A A G L D I R A C V D A P
UniRef90_J3TXJ6         M M K I D V K L L D H R F G D R F P L P A Y A T I G S A G L D L R A C I H E P
UniRef90_W0DUG8         T L E Y K I L D P R I G D T I P F P A Y A T E G S A G L D L R A A I A E P
UniRef90_R4I0C4         M I K K I K I L D P R I G Q D F P L P T Y A T P G S A G L D L R A C I D D T
UniRef90_B1XW28         M Q S L Q V K I L D E R M R D Q L P T Y G T P G S A G L D L R A C I D E A
UniRef90_C4K8Y6         M K K I D I K L L D K R I G D V F P L P T Y T T S G S A G L D L R V C T Q A P
UniRef90_D2U313         L D P R V G N E F P L P T Y A T E G S A G L D L R A C L D Q A
UniRef90_C3X6T2         M K T I D I K I L D P R M K E Y L P S Y A T G G S A G L D L R A C L T E P
UniRef90_UPI00025564ED  M S Q I E L K I L D D R I G N D L P L P S Y K T T G S A G I D L Y A M P E E D
UniRef90_UPI0003485E09  M T T I D V K V L D P R M A D Q L P A Y A T P G S A G M D L R A C L D Q P
UniRef90_UPI00046640B9  L Q V R R L D A R Y G A E W P L P A Y A T A G S A G L D L R A A L D A D
UniRef90_E7C3X9         M R K I Q L R I L D A R L T G E F G T P D Y A T E G S A G I D L K A C I D N K
UniRef90_UPI000347993E  K L D I K I L D A R M R D Q L P Q Y A T P G S A G L D L R A C L D K P
UniRef90_L1NYU5         M Q T E V E L K I L N P K M A D A L P A Y A T P G S A G L D L R A S I D A A
UniRef90_Q1H4K3         M S L T I D V K I L D N R L H H M L P S Y A T P G S A G L D L R A C T E H T
UniRef90_A0A023Y8E5     Q P L Q V K I L D P R F G D T W P L P A Y A T E H S A G L D L R A A L E T E
UniRef90_L0DSY7         I A V K I L D P R I G R E F P L P A P A T P G S A G V D L R A C L D A D
UniRef90_D3SDF1         P E I D L K I L D P R M G T D F P V P A P A T D G S A G V D L R A M I D A P
UniRef90_UPI000344DCEB  M I D V E L K I L D P R L G H S I P L P E P A T M G S A G M D L R A A L E T P
UniRef90_UPI0003B545F6  M T L E D V K I L D P R L H D T P P A Y A T A G A A G L D L R A A L E Q P
UniRef90_A0A011PIH1     Q V D I K L L D A R L R E Q P P H Y A T P G S A G L D L R A C I D Q P
UniRef90_B6IVT5         M T D L S I A V T R L P H G A D L P L P A Y A T E H A A G M D L L A A V A E P
UniRef90_D5CP48         M K K V D V K V L D P R L H E H P P A Y A T P G S A G I D L R A C I D G S
UniRef90_UPI0003736A84  M K D I E I K I I N P L M G E S I P I P K Y E T K G S A G I D L R A C I E E K
UniRef90_R5ERX6         M L N I K I K I L D K R L G G D F P L P Q Y E T A L S A G M D L R A M V D S D
UniRef90_UPI000395BEC9  V D L K I L D P R M Q E Q L P Q Y A T P G S A G L D L R A C L D E P
UniRef90_A5D2T0         V R V K K L S G R I G D A I S L P R Y A T D G S A G L D L P A C L D E P
UniRef90_W0NZD2         M M N N I K V K I L N L H G K K N F S L P T Y S T S G S S G L D L R A C L E K K
UniRef90_UPI0003804547  R I Q I Q K L P H G E G I D L P F Y A T S H A A G A D L R A A I D K D
UniRef90_J3TH26         M M K K I D V K I L D T R I G D L F P L P A Y S T S G S A A L D I R A C I D K P
UniRef90_A5GF93         M H T I N V K I K R I R H D G T N P L P Q Y M T L H A A G M D L S A C L S E D
UniRef90_C1D8V4         M P T V D L K L L D A R L A D Q Q P A Y A T P G S A G L D L R A A I D A E
UniRef90_J0N4N4         M E P I R F Q K L H P N A V I P Q R A T P G S A G M D L V A C I E E P
UniRef90_B3QML1         I K V K I V R L K E K A S L P A Y A T H A A G M D V S A C L D A P
UniRef90_UPI00047879D5  M N P A V V E L K I I R P E A A A Y L P A Y A T E G S A G L D L H A C I D A P
UniRef90_UPI000469F1BE  M T R Q L E L K I L D E R V R D Y P L P H H A T P G S A G M D L R A L L D T P
UniRef90_R6PCK3         M Q K I N L K I Q K L D E K V T V P C Y Q T E G A A G M D L C A F L N E P
UniRef90_R6QRK1         M S Y T V K V K K L K E N A V P K R A T I G S A G A D I Y A C I D E P
UniRef90_W3R508         M V P V E V K I L D D R L L S E F G A P V Y A T Q G S A G L D L R A C L D A E
UniRef90_UPI000476D238  M T L P L K V E V K R L P H G E D L P L P A Y A T A G A A G M D V V S A E D
UniRef90_V9H898         L P T Y A T T G S A G L D L R A C V D S K
UniRef90_UPI0002D56F62  M S R A T I Q V T R L S H A E G L P L P A Y A T G A A G M D L L A A V T A P
UniRef90_D5XF29         M K E I K L A I K R L E H A R D L P L P R Y M T E G S A G M D L Y A A V E E T
UniRef90_R5PX79         N I E L K I L D P R V S E N L P K I A T P G S A G A D L R A L L D T P
UniRef90_B6JCQ3         M T E P L R I A V T Q L P H G Q G L P L P A Y Q T E H A A G L D L L A A E D K P
UniRef90_L2F8V3         Q L Q V K I L N P K I G Q D F P L P T R A T N G S A G I D L R A C I D S N
UniRef90_Q9F7S4         M G S K I P L P Q Y E T K G S A G L D L R A C L D S N
UniRef90_UPI0004712DC8  M S P I P V E L V R L P H A E G L D L P H Y A S S G A A G M D L L A A V D A D
UniRef90_C7JHD0         L S V Q V Q R L P H A Q G L P L P T Y A T A G A A G M D L L A A V A E P
UniRef90_W1N3K9         P R L A V K I L D E R L K D R M P R Y A T E G S A G M D L H A L L D Q P
UniRef90_W6I6E6         M M N I L I Q V L P H A E G L S L P A Y A T P G A A G M D L L A A V T E S
UniRef90_UPI00035D1B54  V T V E L L R L E H G T D L P L P A Y Q S A D A A G F D L M A A V S E D
UniRef90_D9QJ16         L R I L R L P H A E G L A L P A Y E T A G S A G M D L R A A E D A P
UniRef90_UPI0004095412  Q L D F K I L D E R L R A S M P D Y A T A G S A G L D L R A C L Q A P
UniRef90_I4D9E1         T N S I P V K V K K V S S Q A V P A Y A T P A S A G V D L C A C L E E K
UniRef90_H0A6I0         M S T P V I S V R R L P H A G D L P L P S Y A T E G A A G L D L L A A V E A P
UniRef90_R6QE30         M N M M K V Q I I N R G H Q P L P A Y A T P Q S A G M D L R A N I D E S
UniRef90_T0RHT1         M T S K V K L N I V K L P N Y D E A A L P S Y E T T G A A G A D L R A S I G E S
UniRef90_UPI00031EDB70  V E V V R L P H A G D L P L P R Y E S A H A A G L D L M A A V D G P
UniRef90_E0TF71         M S E T I E I A L R H L P H A E G L P L P R Y E T E E A A G A D L R A A V D A P
UniRef90_UPI0003680F3B  M I E N I K V K I Y R E P D T E D I P L P E Y Q T E E S A G M D L H A A V K K E
UniRef90_R7KLM8         K V D V K I L D P R V K D K M P T Y A T T G S A G L D L R A I L D E P
UniRef90_R6CG55         M K I Q I I N K S K H A L P Q Y A T A L S A G M D L R A N I D T P
UniRef90_UPI00047A70F9  M S M S L T V E I K Q L A H F G D L E L P K Y E T V L A A G A D I R A A V P E P
UniRef90_C9R8W6         M Q E V I I P I R R L P H A A D L P L P A Y A T P F S A G L D L Y A A C A A S
UniRef90_UPI0004796318  M K V K I V N K G E F P L P K Y E T T G S S G V D I Y A N I D D S
UniRef90_R5H340         L K I E R L A H N R F V P E Y K T E G A A G M D L C A A I S E P
UniRef90_Q0BX53         M T D V T V Q V L P L P H F A L D L P A Y E T E G A A G M D V Y A A V P E P
UniRef90_K2IMX9         M S I A L P V R I L L P H G E G L A L P A Y Q T A D S A G L D L V A A V E A E
UniRef90_H0UKC2         M T L K I F V R R L C P E I P L P A Y A T K D S A G M D L R A A S D
UniRef90_F0P2L6         M K V K I I N L S N H P A Y A T A L S A G M D L T A N L T E A
UniRef90_UPI00035E409F  M K K I L I K K L E H A K D L P L P N Y E S V A A A G M D L R A A N V E P
```

```
                                          50            60            70            80
QUERY                    V E L A P G D T T L V P T G L A I H I A D P S L A A M M L P R S G L G H K H G I
UniRef90_UPI00035E65B2   F E I Q P N E T K L I P T G L S I Y I A D S N L A A V I L P R S G L G H K H G I
UniRef90_UPI00037822B5   L T L Q P G E T A L I P T G L A I H I D D P H L A A V L L P R S G L G H K H G I
UniRef90_A9NB28          L K I E P D E T C L I S T G L A I Y L G H S N V A A T I L P R S G L G H K H G I
UniRef90_R4YSG2          L T L H P G E T Q L I P T G L S I Y L E D P S I A A M I L P R S G L G H K H G I
UniRef90_K2K3D4          I E L A P G Q T T L V P T G L A I Y I Q D P N L C A T I L P R S G L G H K H G I
UniRef90_Q2NQU0          M V L A P G E T Q L I P T G I A I H I A D A N L A A V I L P R S G L G H K H G I
UniRef90_UPI00037E3645   V N I A P G E T Q L I P T G I A M Y I R D P Q L C A T I L P R S G L G H K H G I
UniRef90_Q5QZB6          L T I E P G Q T Q L I G T G I A M Y I G D P N Y A A T I L P R S G L G H K H G L
UniRef90_G4E4H2          L T L H P G E T T L I P T G F A L H L H D P N L A A L I L P R S G L G H K H G I
UniRef90_Q6FDR0          I Q I E P G Q T V L I K T G M A I Y I H D T N F A G L I L P R S G L G H K H G I
UniRef90_M4U4G5          L I L A P G E T K L I A T G L A I H I A D P T L A A T I L P R S G L G H K H G I
UniRef90_A6VSX7          I D L A P G E T T L L P T G L S I Y I Q D P N L A A T I L P R S G L G H K H G I
UniRef90_UPI00039FBE01   L V L P G Q T Q L L P T G L A I H I A D P G L A A M I L P R S G M G H K H G I
UniRef90_K2D6A3          L V L K P G S T E L I P S G I A I H I A D P G Y A A M I L P R S G L G H K H G I
UniRef90_A8FQ73          I Q V A P G E T I L I P T G I S I H V A D S S L A A V I L P R S G L G H K H G I
UniRef90_UPI0003B3BAF5   L V L E A G Q T E L I P T G I A I H I A D P G I A A T I L P R S G L G H K H G L
UniRef90_F6A9G7          L T L E P G Q T V L I P T G L A I H V A D P G L A A L I L P R S G L G H K H G I
UniRef90_I3YCB7          L D L P P G G C E L L P T G M A V H I A E P G V A G M I L P R S G L G H R H G I
UniRef90_W6LZY9          L T V Q P G E T H L I S T G L A I H L S D P E L A A M V L P R S G L G H K H G I
UniRef90_UPI00046F0001   S T L D P G A C E L I P G G I A I H I A D P N L A A V L L P R S G L G H R N G I
UniRef90_J3TXJ6          L V L D P G K T R L I S T G L A I H I A D A N L A A I I L P R S G L G H Q C G I
UniRef90_W0DUG8          L T I V P G Q T L L I P T G L A V H L A H P G L A A M I L P R S G L G H K H G L
UniRef90_R4I0C4          V T L M P G E L K L L S T G L A I Y I A D A N V A A M I L P R S G L G H H H G I
UniRef90_B1XW28          I T I A P G Q T V L V P T G L A I Y Y V E D P R Y A A F I L P R S G L G H K H S I
UniRef90_C4K8Y6          Q H L S P G E T R L L P T G L A V H I A D P H L A A M I L P R S G L G H K N G I
UniRef90_D2U313          I Q L G P G Q T E L L P T G L A V H I A D Q Q L A A V I L P R S G L G H K H G V
UniRef90_C3X6T2          V T F A P G T T Q L V P T G L A I H I A D P G Y A A L I L P R S G L G H K H G I
UniRef90_UPI00025564ED   F V L Q P G E C K L I P T G I S I F I K N P Q I C A T I L P R S G L G H K N G I
UniRef90_UPI0003485E09   L E L A P G Q A A L I P T G L A V H I G D P G L A A M L L P R S G L G H K H G I
UniRef90_UPI00046640B9   L T L H P G D A A L I P T G L A I H I A D P G L C A M I L P R S G L G H R H G I
UniRef90_E7C3X9          K L L S P G E S V L I P S G V A I H I A D P Q L A G V L L P R S G L G H K H G I
UniRef90_UPI000347993E   L S L E P G Q T A L V P T G I A I H L A D P G Y A A L I L P R S G L G H K H G I
UniRef90_L1NYU5          I T V A P G E T V L I P T G I A V H L A N P V Y A A M I L P R S G L G H K H G I
UniRef90_Q1H4K3          Q T L A P G E T I M I P T G M A I H L A D P H Y A A L I L P R S G L G H K H G I
UniRef90_A0A023Y8E5      L T L Q P G D T A L I P S G I A I H I A D P N L A A V V L P R S G L G H R H G I
UniRef90_L0DSY7          H D L A P G E T L L I P T G I A I H I E D P G F T A L I L P R S G L G H R H G I
UniRef90_D3SDF1          L T L E P G A A E L I P T G L S I H I E D P G Y A G M I L P R S G L G H K H G L
UniRef90_UPI000344DCEB   A T L A P G E T L L V P S G F A I H I G D P G W C A L I V P R S G L G H K Q G L
UniRef90_UPI0003B545F6   L E L A A G A T A L I P T G M A I H I A D P G Y A A M I L P R S G L G H K H G I
UniRef90_A0A011PIH1      L V I A P G E T R L I P T G I A I H L A D P G L A A M I L P R S G L G H R H G I
UniRef90_B6IVT5          V I L A P G E R R L I P T G L A I A L P D G   Y E A Q V R P R S G L A L K H G I
UniRef90_D5CP48          M T I Q P G Q C E L I P S G I A L H L N D P H Y A A M I L P R S G L G H K H G I
UniRef90_UPI0003736A84   V L L K A G T T F M V P I G F A M Y L E D P N L A A L V V P R S G L G S K K G I
UniRef90_R5ERX6          F V L N P G E V K M V N T G F A M H I A D P N V T A L I V P R S G L G Y K H G I
UniRef90_UPI000395BEC9   L T L E P N A W Q L V P T G I A I H L R D P G Y A A M I L P R S G L G H K H G I
UniRef90_A5D2T0          L A V P P G A R V K V P T G I A I E I P H R N I A G L V F P R S G L A S K H G I
UniRef90_W0NZD2          I K L K A N E T I L I P T G I A I Y I E N P Y I T A L I L P R S G L G H K K G I
UniRef90_UPI0003804547   V V L E A G K R V L I P T G F A M A L P D C   F E A Q I R P R S G L A L K H G I
UniRef90_J3TH26          V V L K G G G Q A L I S S G L A I H I D D V N L A G I I L P R S G L G Y R H G I
UniRef90_A5GF93          L V L K P G A R T L V P T G I A I E L P E G   Y E A Q I R P R S G L A L K H G V
UniRef90_C1D8V4          T E I P G E T R L I P T G I A L H L E D P R Y A A M I L P R S G L G H K H G I
UniRef90_J0N4N4          V H L P A G G R A M I P T G L A M A I P T A E W V G L V Y A R S G L A V R H G I
UniRef90_B3QML1          V T L E P S S S A L I P T G L A I E L P E G   Y E A Q I R P R S G L A L R H L I
UniRef90_UPI00047879D5   L T L A P Q Q T E L I P T G L A V H L R D A G L A A M L P R S G L G H K H G I
UniRef90_UPI000469F1BE   L T L A P G A C E L V R T G L A I H I A D P A L A G M I L P R S G L G H K H G I
UniRef90_R6PCK3          V T L K S L E R K L I P T G L K M E L P H G   Y E A Q I L P R S G M S I K H G I
UniRef90_R6QRK1          V T I E P G S L A M I P T G I A I E L E S S D C A A F L F A R S G L G V K H G I
UniRef90_W3R508          V T L N P G E Q L L V S T G I A I H L K N K N L V G M L Y P R S G L G V K H G I
UniRef90_UPI000476D238   V T L A P G A R H A V A T G L S M A I P Q G   Y E I Q V R P R S G L A L K H G I
UniRef90_V9H898          I T L K A G Q S T L I P T G I A I Y L D N P N L A A M L P R S G L G H K H G I
UniRef90_UPI0002D56F62   L T I P P G R V L V P T G L C V A L P A G H   E L Q V R P R S G L A L K H G I
UniRef90_D5XF29          L V L E P G E I K L I P T G V A I E L P   P G Y E A Q I R P R S G L A L K Y G I
UniRef90_R5PX79          L V L A P G E T K L I H T G I A I H I G D P H Y A A V I L P R S G L G H K K G I
UniRef90_B6JCQ3          L A I A P G E R A L V P T G L A I A L P   A G Y E A Q V R P R S G L A V K H G V
UniRef90_L2F8V3          L T I K A G T T V L V N T G L A I Y I G N P N Y V G L I M P R S G L G H K H G I
UniRef90_Q9F7S4          L S L Q A G T S Q L I P I G F A M Y L E D P G L A A M V I P R S G L G S K H G I
UniRef90_UPI0004712DC8   L I V K A G E R A L V P T G I R I G L P S G   Y E L Q I R P R S G L A L K H G I
UniRef90_C7JHD0          V V L P G A R V L V P T G L R I A L P   R G Y E L Q V R P R S G L A L K H G I
UniRef90_W1N3K9          L T I E P G Q C E L V R T G L S I H I A D P G L A G M I L P R S G L G H K H G I
UniRef90_W6I6E6          V T I P P G R A L V P T G L R M A L P P G H   E L Q I R P R S G L A L K H G I
UniRef90_UPI00035D1B54   L V L Q P G K R A M V P T G L A M A I P   R G F E G Q V R P R S G L A A K N G I
UniRef90_D9QJ16          I T L E P G A R A L V P T G L K I A L   D Q G W E A Q I R P R S G L A L K H G I
UniRef90_UPI0004095412   L T L A P G R W E L V P T G M A I L I Q D P G Y A A L I L P R S G L A L K H G I
UniRef90_I4D9E1          F V I N P G D Q V K I P T G I A I E L P S Q Y M V A L V F A R S G L A S R S G I
UniRef90_H0A6I0          M D I P P G G R A L V P T G L C I A L P   A G Y E L Q I R P R S G L A L K H G I
UniRef90_R6QE30          I V L H P M E R R L V P T G L F M A L P   A G F E A Q I R P R S G L A L K H G I
UniRef90_T0RHT1          L V L H P G Q R L L V P T G L A F E I P H G   Y E V Q I R P R S G M S L K T D I
UniRef90_UPI00031EDB70   V T L P P G G R A L V P T G F A M A L P   P G Y E A Q V R P R S G L A L K H G V
UniRef90_E0TF71          I E L A P G A R A L I P T G L S M A L P N G   Y E A Q V R P R S G L A A K F G V
UniRef90_UPI0003680F3B   I I L M P G E R K L V P T G I R I A L P Q G   Y E A Q I R P R S G L A I K Y G I
UniRef90_R7KLM8          I T L N P G E R K L I K T G L A I H L A D P G Y A A L I L P R S G L G H K H G I
UniRef90_R6CG55          I L L K P M Q R K L V P T G L Y I A L P E G   F E A Q V R P R S G L A L K K G I
UniRef90_UPI00047A70F9   V V L Q P G A R A L V P T G M A M A L P   A G Y E A Q I R P R S G L A Y K H G I
UniRef90_C9R8W6          I T L L P G K W E L I P T G I S L A L P E G   L A E V R P R S G L A L Q H G V
UniRef90_UPI0004796318   M V I A P M E R V L I P T G I Y I S M P K N C   E A Q I R A R S G L A L K Y G I
UniRef90_R5H340          I T L K P L E R A L V P T G L K I E L   H G Y E A Q I R P R S G L S I K H G I
UniRef90_Q0BX53          V I L A P G Q R A M V P T G L S V A I P E G   Y E I Q V R P R S G L A A K H G I
UniRef90_K2IMX9          M V L Q P G E R A L V P T G L A I A L P S G   Y E A Q I R P R S G L A F K H G L
UniRef90_H0UKC2          V Q I L P G R T A L V P T G L A V A L P   P G Y E A Q V R P R S G L A A R Y G I
UniRef90_F0P2L6          V E L A P G E R A L V P T G L S I E L P   A G Y E A Q V R P R S G L A K D G I
UniRef90_UPI00035E409F   V V I K P G E R T M I P T G L Q M S L P E G   Y E A Q I R P R S G L A I K N G I
```

```
                            90          100         110         120
QUERY                V L G N L V G L I D S D Y Q G Q L M I S V W N R G Q D S F T I Q P G E R I A Q M
UniRef90_UPI00035E65B2   V L G N L V G L I D S D Y Q G P L M V S M W N R G S E P F K I E V G D R I A Q L
UniRef90_UPI00037822B5   V L G N L V G L I D S D Y Q G Q I F I S C W N R G N S A F T V E L G D R I A Q L
UniRef90_A9NB28          V L G N L V G L I D S D Y Q G L M V S C W N R G K E P Y T I N P G D R I A Q L
UniRef90_R4YSG2          V L G N L V G L I D S D Y Q G L M V S C W N R G Q Q A F T I E I G E R L A Q L
UniRef90_K2K3D4          V L G N L V G L I D S D Y Q G L M V S V W N R G N D S F T I A P G E R I A Q L
UniRef90_Q2NQU0          V L G N L V G L I D S D Y Q P L M V S V W N R G G D I F T I E P G E R M A Q M
UniRef90_UPI00037E3645   V L G N L V G L I D S D Y Q G M V S V W N R G D K T F E I Q P G D R I A Q M
UniRef90_Q5QZB6          V L G N L V G L I D S D Y Q G E L K V S C W N R S N Q A Y T I E P G D R I A Q L
UniRef90_G4E4H2          V L G N L V G L I D S D Y Q G Q I M V S C W N R G Q T P F T I P V G E R I A Q L
UniRef90_Q6FDR0          V L G N L V G L I D S D Y Q G L M I S V W N R G Q N T F T L E P G E R L A Q Y
UniRef90_M4U4G5          V L G N L V G L I D S D Y H G P L M V S C W N R S Q T S F T L V P G E R L A Q L
UniRef90_A6VSX7          V L G N L V G L I D S D Y Q G L M V S C W N R G N T T F T I E P G E R V A Q L
UniRef90_UPI00039FBE01   V L G N L V G L I D S D Y Q G E L M V S C W N R S Q S P F T I E P G E R I A Q L
UniRef90_K2D6A3          V L G N L V G L I D S D Y Q G Q L L V S C W N R G T E A F T I T P G E R I A Q L
UniRef90_A8FQ73          V L G N L V G L I D S D Y Q G P L M V S C W N R G S E P F T L E I G D R L A Q L
UniRef90_UPI0003B3BAF5   V L G N L V G L I D S D Y Q G Q L F I S C W N R S Q T A Y T I E P G D R I A Q L
UniRef90_F6A9G7          V L G N L V G L I D S D Y Q G E L M V S C W N R G D T S F K M S I G E R I A Q L
UniRef90_I3YCB7          V L G N L V G L I D S D Y Q G P L L V S C W N R S D T P F R I E I G E R I A Q L
UniRef90_W6LZY9          V L G N L V G L I D S D Y Q G E L L V S C W N R G Q T P F T L A V G E R I A Q L
UniRef90_UPI00046F0001   V L G N L V G L V D S D Y Q G Q I F I S L W N R S E R A F T I S P G D R V A Q L
UniRef90_J3TXJ6          V L G N L V G L I D S D Y Q G A L M V S V W N R G E Y A F T L K P G E R M A Q M
UniRef90_W0DUG8          V L G N L V G L I D S D Y Q G E L K V S C W N R G N Q P Y E I A V G E R I A Q M
UniRef90_R4I0C4          V L G N M V G L I D P D Y Q G Q L M I S V W N R G T T N F I I E P G I R I A Q M
UniRef90_B1XW28          V L G N L V G L I D S D Y Q G E L M V S T W N R G S T T F K L E P M E R L A Q L
UniRef90_C4K8Y6          V L G N L V G L I D S D Y Q G E L M L S V W N R S Q I D F L I N P G D R L A Q M
UniRef90_D2U313          V L G N L V G L I D S D Y Q G E L M V S V W N R G D R S F T I E P G E R I A Q M
UniRef90_C3X6T2          V L G N L V G L I D S D Y Q G Q L M V S T W N R G I E P F T L N P L E R L A Q M
UniRef90_UPI00025564ED   V L G N L V G L I D S D Y Q G P L M V S A W N R S N T P F K V E V G T R I A Q L
UniRef90_UPI0003485E09   V L G N L V G L I D S D Y Q G P L M V S C W N R G S A A F T V Q P M E R I A Q M
UniRef90_UPI00046640B9   V M G N G T G L I D A D Y Q G P L M I S A W N R G R A P Y A I A P G D R I A Q L
UniRef90_E7C3X9          V L G N L V G L I D S D Y Q G E I Q I S L W N R G N D G F T I A P G E R I A Q L
UniRef90_UPI000347993E   V L G N L V G L I D S D Y Q G E L M I S T W N R G H T T F T L N P M E R L A Q L
UniRef90_L1NYU5          V L G N L V G L I D S D Y Q G E L K V S L W N R S G V A F V I E P M E R I A Q M
UniRef90_Q1H4K3          V L G N L V G L I D S D Y Q G Q L L V S C W N R G K E S F I L N P L E R I A Q L
UniRef90_A0A023Y8E5      V L G N G T G L I D A D Y Q G P L L I S A W N R G R E P F T L Q P G D R I A Q L
UniRef90_L0DSY7          V L G N L V G L I D S D Y Q G P L M V S C W N R G A E P F R I A A G E R I A Q L
UniRef90_D3SDF1          V L G N L V G L I D A D Y Q G P L M V S C W N R G A N A Y T L E V G E R L A Q L
UniRef90_UPI000344DCEB   V M G N L V G V I D A D Y Q G P L M I S C W N R G A Q P V T I G V G D R I A Q L
UniRef90_UPI0003B545F6   V L G N L V G L I D S D Y Q G E L M V S V W N R G S A P Y T I Q V L E R I A Q L
UniRef90_A0A011PIH1      V L G N L V G L I D S D Y Q G E I M V S T W N R G H E P F T L R P L D R L A Q L
UniRef90_B6IVT5          T L L N S P G T I D A D Y R G E V G V I L A N L G A D P F T V E R G M R I A Q M
UniRef90_D5CP48          V L G N L V G L I D S D Y Q G Q I F I S I W N R G H H P F A L M P M E R I A Q L
UniRef90_UPI0003736A84   V L G N L V G L I D S D Y Q G P L M V P A W N R S N K D F E I N P G D R I A Q M
UniRef90_R5ERX6          V L S N L T G V I D A D Y Q G P L M M P L W N H S N E P F K I C V G D R V A Q M
UniRef90_UPI000395BEC9   V L G N L V G L I D S D Y Q G Q L M V S A W N R S S Q P F V L Q P M E R I A Q M
UniRef90_A5D2T0          S L A N A V G V I D S D Y K G E I V I A V F N Q S D Q E Y L I K P G E R V A Q L
UniRef90_W0NZD2          V L G N L V G L I D S D Y Q G Q L M V S L W N R S Q K D F Y V N P S D R V A Q I
UniRef90_UPI0003804547   T V L N S P G T I D A D Y R G E I G V I L N R H G D E S F T I Q R G D R I A Q M
UniRef90_J3TH26          V L G N L I G L I D S D Y Q G P L I V P I W N R S Q D I F T I Q P G E R I A Q I
UniRef90_A5GF93          T L V N S P G T I D A D Y R G E I G V I I I N H G E E P F I I K N Q E R I A Q M
UniRef90_C1D8V4          V L G N L V G L I D S D Y Q G Q V F V S V W N R G H E T F R L A P L D R I A Q M
UniRef90_J0N4N4          T L S N S V G V I D S D Y R G E I R V G L C N L G E P Y T I Q P G E R I A Q L
UniRef90_B3QML1          S L P N S P A T I D A D Y R G E I I N H G R E P F T V N H G D R I A Q M
UniRef90_UPI00047879D5   V L G N L V G L I D S D Y Q G E V M V S L W N R S L Q P F T V Q P F D R I A Q M
UniRef90_UPI000469F1BE   V L G N L V G L I D S D Y Q G E L M I S V W N R G T S E F V L E P G E R L A Q Y
UniRef90_R6PCK3          T L V N C V G V I D E D Y R G E L C V P V I N L S T E E F T I Q N G D R I A Q M
UniRef90_R6QRK1          T L S N G V G V V D S D Y R G E I C V G L C N V S E S Y T I S A G E R I A Q M
UniRef90_W3R508          V L A N G T G V I D S D Y Q G E I K A C L R N N G D K P F V L K P G E R I A Q Y
UniRef90_UPI000476D238   S V P N T P G T I D S D Y R G E I K V I L I N L G S E P F A V Q R G D R V A Q L
UniRef90_V9H898          V L G N L V G L I D S D Y Q G E L M V S L W N R S D A D F E I Q P F D R I A Q M
UniRef90_UPI0002D56F62   T M P N T P G T V D E D Y R G E L S V I L M N A G Q E S F T V E R G M R I A Q A
UniRef90_D5XF29          S F V N T P G T I D A D Y R G E I G L I M I N F G N R P F T I N R G D R V A Q M
UniRef90_R5PX79          V L G N L V G L I D S D Y Q G E I M V S L W N R S G T P C T I E P M E R I A Q L
UniRef90_B6JCQ3          T V L N A P G T I D A D Y R G E I G V P L I N H G R E T F L I R R G E R L A Q M
UniRef90_L2F8V3          V L G N L T G V I D S D Y Q G E I M S I W N R S Q T D Y T L Q P A E R M A Q Y
UniRef90_Q9F7S4          V L G N L V G L I D S D Y Q G E I M V P A W N R S D T D F E I N P G D R I A Q L
UniRef90_UPI0004712DC8   T L P N S P G T I D E D Y R G E I G I I L L N T G K E D F V I S R G M R V A Q A
UniRef90_C7JHD0          I L P N S P G T V D E D Y R G E L G V I V L N A G Q V P F T I E R G M R I A Q A
UniRef90_W1N3K9          V L G N L V G L I D S D Y Q G E L M V S V W N R G Q K T F T L E P F E R M A Q Y
UniRef90_W6I6E6          T L P N T P G T I D E D Y R G E I G I I V L N T G T E P F I V E R G M R I A Q G
UniRef90_UPI00035D1B54   T V L N S P G T V D A D Y R G E V K V I L I N H G D E P F T I T R G L R I A Q M
UniRef90_D9QJ16          S A P N T P G T I D S D Y R G E V I L L N L G Q E P F V I R R G E R I A Q M
UniRef90_UPI0004095412   V L G N L V G L I D S D Y Q G Q L M V S A W N R S G V E Y T L Q P M E R L A Q L
UniRef90_I4D9E1          G L T N G V G V I D S D Y R G E I Q V L Q N L G S V P V T I N P G D R I A Q M
UniRef90_H0A6I0          V L P N S P G T I D E D Y R G E V G V I V L N T G D A P F T V E R G M R I A Q G
UniRef90_R6QE30          T V L N T P G T I D A D Y R G E I M V L L N F S Q T D F V I N D G E R I A Q M
UniRef90_T0RHT1          L V V N S P G T I D C D Y R G E V K I I L G N F G S S D Y T I N H G D R I A Q M
UniRef90_UPI00031EDB70   T V L N A P G T I D A D Y R G E I G V I L N T G A A D F T V S R G M R I A Q M
UniRef90_E0TF71          T C L N A P G T I D S D Y R G E I K V L L I N H G D A P F T V Q R G E R I A Q L
UniRef90_UPI0003680F3B   G M P N S P G T I D S D Y R G E I C V I L L I N W G Q E P F H I K R G D R I A Q M
UniRef90_R7KLM8          V L G N L V G L I D S D Y Q G E L M V S T W N R G Q E A F T I E P M E R I A Q L
UniRef90_R6CG55          T L L N T P G T I D A D Y R G E I V L V V N L S E E D F I I E D G E R I A Q M
UniRef90_UPI00047A70F9   T C L N T P G T I D A D Y R G E V K V L L I N H G D T A F T I N R G E R I A Q M
UniRef90_C9R8W6          T L L N S P G T I D A D Y R G E I K V I L I N L G D K P W T C H R G D R I A Q L
UniRef90_UPI0004796318   T M A N G I G T I D A D Y R G E I L N G E K A F K I K K G D R I A Q M
UniRef90_R5H340          T L I N C V G T I D E D Y R G E V C I P V V N L S N E T Y T I Q P D E R I A Q L
UniRef90_Q0BX53          T C L N T P G T I D A D Y R G E V V L N L G A E F T I Q R G E R I A Q L
UniRef90_K2IMX9          T V L N S P G T V D A D Y R G E V K V L M I N L G Q E P F A V K R G E R I A Q M
UniRef90_H0UKC2          S I P N A P G T I D S D Y R G E I S V I L I N L G S Q P F D V H R G D R I A Q M
UniRef90_F0P2L6          S V L N T P G T V D A D Y R G E I G V I M L S R K K I T I Q P D E R I A Q M
UniRef90_UPI00035E409F   T M L N T P G T I D A D Y R G E V K V I A L N H S K E S F T V H H G D R I A Q M
```

```
                                1                   10                  20                  30                  40
UniRef90_K7TBR0                        I  D V R  I  T R L P H A E G L S F P S Y A T S G A A G F D F V A A I T D P
UniRef90_UPI0004699B25       M T K I Q I  I N R G R Q        Q L P A Y A T S Q S A G M D L R A N L E T P
UniRef90_J9G7N9              M K I Q I  I I N      H S H H    Q L P Q Y A T P Q S A G L D L R A N L D A P
UniRef90_J0B285            M H R R I E A R I  V N D L L G T T I E A P S Y A T D G S A A M D L R A C L S E A
UniRef90_D5BU62               S S L P V D L C R L P H A A D I P L P A Y A S D G A A G L D L C A A N D T A
UniRef90_UPI0003498B0F      M T K T L S V Q I Q Q L P H A D G L P L P A Y Q T A H A A G L D L V A A I D A P
UniRef90_A0A015L755           M Y H V Q F K K L      P G N E D V P L P A K M S K W A A G F D L H A A V S E P
UniRef90_S2Z7R6               M E K I A I K      R L D P G L P L P Q R A H S D D A G I D L H S A E D
UniRef90_R6T3T2                      M R L L I K K L K E N A V I P A R Q T E F S A G Y D L C A C T D A P
UniRef90_R6G9D2               M K I K I F S        T S K H Q L P A Y A T A Q S A G L D L R A N I E S T
UniRef90_UPI0003F77B16     M T E A V S I A V T R L P H G L G L P L P A A A T A D S A G L D L L A A V A E P
UniRef90_Q2GCH5                    K I L L L P H G K D L E I P R Y A S K G S S G L D L R A A I E G S
UniRef90_G8R8C0           M A D N V K V K I  I N K      S G L P L P E Y K T V E S A G M D L S Y C G E E D
UniRef90_UPI0003B3428B       E P I D I A I K R L P H G E G L D L P R Y E T A G A A G M D V S A A E D A
UniRef90_UPI0003B69147        T I T L H V R P L A H F E G L S L P K Y E T A G S A G M D V R A A E D E P
UniRef90_B3EPL0               V K V P V V R V N E K A L L P H Y A T F Q A A G M D L A A C L D E P
UniRef90_U2K136                     I  S V Q K L R P H A Q I P K R A T A Q S A G Y D L Y A L P E E P
UniRef90_D7JE71              M Q I Q I V N K      S H H K L P Q Y A T A L S A G L D I R A N L D S P
UniRef90_L0LGJ7                L K L I R L P H G E G L E L P A Y E T K G A A G M D L R A A V E E T
UniRef90_A3UI47              M K L N V K T L E H F E G L E L P A Y Q T A G S A G L D L P A A V D E P
UniRef90_Q3AQ75               L N I K I V      R L H P L A T L P A Y A T A H A A G M D V A A C L E A P
UniRef90_UPI000472E508     S N V Q V Q V Q C L A H S A G L P L P S Y A T S G A A G M D F L A A V E Q P
UniRef90_R6ZK15                    K K V R P G A Q L P Q R Q T A G S A G F D L C A C I Q E P
UniRef90_Q39V99                    G G D Q N L P C Y M T V H A A G M D L C A D L V D D
UniRef90_Q11Z53              V K I V N K      S N N A L P A Y Q T A Q A A G M D L S A Y I T E A
UniRef90_B4U6R8              M K L L V K K L R E D A A L P F Y A T S G A S G L D L F C V D D V
UniRef90_H5XYA3           M S D S I R V K I K K V R   D Q S L A L P A Y A T A A S A G V D L C A D L V D S
UniRef90_Q64CD2            T Q T A K I K V K V K Q I V K N F P L P A Y Q T E D S A G L D L Y A A I G G P
UniRef90_UPI000423D101       M K V R I  I N K      S R H T L P E Y A T E Y S A G L D L K A N I E S D
UniRef90_W9G6Q7              Q V D I A I L R L D P D L P V P G Y A H D G D A G A D L L A R I D
UniRef90_W9GXW0           M A S V T V A I T R L P S G A D L D P P A Y A T E H S A G M D L A A A I D R P
UniRef90_F4KMW8               L S I R I  I N      R S S Y P L P Q Y A T A L S A G L D L R A N L E Q S
UniRef90_I5C9J1              M K I P V I N      T S G H P L P A Y Q T A K A A G M D L Y A A L E E P
UniRef90_UPI0003B57CFB         I P L R R L P H A E G L A L P R H A T E H S A G L D L R A A V D D P
UniRef90_UPI00035E8BF0         A V P I V R L D P D L P V P T R A H P G D A G V D L Q S T I D
UniRef90_UPI00030A7290       Q V Q I K R L P G N E D I S L P Q K M S D L A A G F D L Y A A V Q E P
UniRef90_W0SD83           M A S I D L K I L D A R L R E K P Y A P Q Y A T P G S A G I D L R A C I E M A
UniRef90_I0AHK6           M S E S I E I K V    K R L S E E F Q L P A Y T T E G S A G M D I R A A V K S E
UniRef90_X5MFJ8           M S S I D V K V M Q L P H G Q G L D L P A Y E T D Q A A G M D L R A A E G E E
UniRef90_R5SLI9               L K V Q I  I N      R S K H P L P A Y A T P L S A G M D L R A N L S E P
UniRef90_R7HKK7          M I D K V T V K I  I N K S N N D      P Q Y S T P S A A G M D L R A N L S E A
UniRef90_UPI0003640000       M D K L V V N I  I N R S V N      P L P S Y A T E G S S G M D L R A D I E A S
UniRef90_R5YYW1          M T A N I N I K      K L K D S A V I P T Y G S E W A A G A D L Y A C L D T P
UniRef90_A0YYY1               M K I K I L R L N Q A A I V P K Y A H P N D A G M D L Y S I E E Q
UniRef90_UPI00026CD0C3     M T T P I T I A L K R L P H G Q D L P L P A Y A T D G A A G L D V V A A   E A
UniRef90_A3TTV1           M N T V A I E L A V E G A R D I A L P A Y A T E G A A G M D L R A N F P D A
UniRef90_Q8RA46               I V L K I  K R T E D A K D L P L P A Y M S E G A A G M D L Y A N V K G E
UniRef90_UPI0002FAEE46     M T Q Q R R P R I R V Q A L R P D A T T P S Y A H P G D A G A D L C A A D D
UniRef90_A9GNJ4               M R I Q V P F L R V G P E V P P P A Y Q S E G A V G L D L C A A I E A P
UniRef90_B9MS62               L R V K R A E D A K D L P L P T Y I S S G A A G M D L F A C V E K E
UniRef90_Q7VJU0          M M K H M H I K I    K K L H S H A V I P S Y Q T P Q A A G F D L H A V E D S
UniRef90_E1X0D8          M V Q K I E L K V K K L E H D S E L P L P S Y E T A G A A G A D L R A S M P E T
UniRef90_F7XU53           M S S V L V P I K E L E H Y K E L P L P S Y A T I D S A G M D L V A A I N E S
UniRef90_D0RQH9              M K I K A L I K K L N P K V N I P E Y K T T G S S G L D L E A F I E Q D
UniRef90_A8SMT2              M E V K I  I N R S K N E N      P T Y A T E G A S G F D L R A N L D E D
UniRef90_M1LU24          L S P K I E I K I T N D F L K K N G E L P K Y Q S E L A A G I D L Y A C V E E T
UniRef90_Q2LWT5           M T G I R I S V Q T L P H F E G L S L P R Y M S E H A A G M D I C A A V A D E
UniRef90_R6E7N6              M Q V K I V N K      S S N P S P A Y A T P L S A G M D I R A N L K E P
UniRef90_UPI00046473AA       M S V Q V L I T R L D K S I P M P S Y A K P G D A G A D L S A R V D
UniRef90_UPI0004713BBB       M E V K I V N      H S G H P L P H Y S T E H S A G M D L R A S L K Q D
UniRef90_F5YM25          M D K L N P V V K V L K K D S G A R L P E Y E T P G A A G A D L R A R I T E A
UniRef90_UPI00035E7E17       M K V K V I N      I S K H A L P E Y K T A L S A G M D L T A N I D A P
UniRef90_W8I3Q9                 I R L P H A E A L D L P A Y E T E G A A G M D L R A A V A E P
UniRef90_A1SKS5          M T S D L E I P V      Q R L D P G L P L P A Y A H P G D A G A D L L T T V D
UniRef90_I2FJ12           M K Q A R I K I    K K L H K D A E I P K Y Q S V E A A G F D L H S   I D E
UniRef90_F9Z4N2               M E I K I V N      R S K H P L P E Y K T A S A G M D I R A N L E E I
UniRef90_R7CE49          M E N H L V H S I P T K K L V E N A L I P Q N A Y Q G D A G Y D L C S T   E T
UniRef90_A6H2C9               M Q I K I  I N K S Q H E      L P N Y E T I G S A G M D L R A N I Q A P
UniRef90_D8KN30              Q I G P V S V    K R L D K N L P L P Q R A H R G D A G V D L Y S T   E T
UniRef90_Q1GN88              I E I A I Q R L P N G G G L P L P A Y A S A G A A G M D V V A A   E T
UniRef90_D3NY72          M S P T    V A F L R L P G N D D L P L P A Y A T E G A A G F D L R A A V D A P
UniRef90_Q8K921           N N I K I R I L D I K K N S S F F L P Q Y A T P G S S G L D L R A S I K K K
UniRef90_E9SAH8                  M K L L F K K L R E N A V I P A Y Q T E F S A G M D L T A C L D A P
UniRef90_I3VWE6          M N D K L I L K I K K T D D A K D L P L P K Y M S K G A A G I D L Y A K V N E D
UniRef90_A9CWX7                 I L R L P H G E G L E L P A Y E T P G A A G M D L R A A V S E P
UniRef90_J9YYN5              V K V L I K K L H P S V Q L P S Y K T S G A S G M D L M A F I E K S
UniRef90_UPI0003B7A069     M T R L T V N L K Q L P H G A D L P L P D Y A T A Q S A A V D L Q A A I D G V
UniRef90_R7H629           M N T I      V K L K K L T P N A I I P T Y G T A Q S A G A D L Y S G M E Q P
UniRef90_T0GS80               I E I R L K R L P H G E G L P T P A Y A T E H A A G M D V V S A E D
UniRef90_B6B6D6          M V T I R V  I H E E A A D R D V P L P S Y E T A G A A G A D V R A N L P D R
UniRef90_C6XRV5               I E V K P L P H F E G L A L P A Y E T T S A A G M D L R A A E G E D
UniRef90_UPI0003FF0A08        M K L N I V K L N E T A L L P Q Y A H I G D A G L D L F A I A N T
UniRef90_R5A844          M E E S M V L R M    K R V R P E A Q L P Q R Q T A G A G Y D L C A C V E A P
UniRef90_B8FCZ2          M Q A Q E Q P E I R I K R L N P D L P L P R C M T P G S A G M D I C A A L D E D
UniRef90_J9H5T8          M M Q      V L I K R L D P T V P L P S Y A K G G D A G A D L A T R I D
UniRef90_UPI0003B2F22A     M S E P T I S I A I K M L D S D L P V P S Y A H P S D A G A D L H A   R E G
UniRef90_UPI000364B74A        R V R I R V V L A L P A Y Q S D E A A A G L D L V A A V P E P
UniRef90_W0EK99          M E E T V K V R F K R I S A G D T Q K I P L Y A T A A A G A D L Y A C L D Q K
UniRef90_A3XCY6          M V E I K M  I H D A G A D P S L P L P A Y E T A G A A G L D L R A N L P D S
UniRef90_UPI000363471D        L D P D L P L P V Y A K P G D A G A D L R S   R E D
UniRef90_UPI000288D42C         M N L K I K I N E E A L L P E Y A H E G A G L D L F I E D K
UniRef90_C9LGX1           K N M E I K I I N K      S P Y E L P A Y E T P L S A G L D L R A N L S A P
```

```
                                        50            60            70            80
UniRef90_K7TBR0          M T I A P G G R A L V P T G L C I A L P S A   Y E L Q V R P R S G L A L K H G I
UniRef90_UPI0004699B25   V V L R P M E R R L I P T G L H I A L P E G   F E A Q I R P R S G L A L K H G I
UniRef90_J9G7N9          V T L Q P L E R R L I P T G L Y L A L P   V G Y E A Q I R P R S G L A L K Q G I
UniRef90_J0B285          V T L P A G G R T L V K T G L A I N M M D P G L V A I V A S R S G L S L K H G V
UniRef90_D5BU62          I Q L A P G E R A L V P T G F A I R L P S Q   Y E A Q I R P R S G L A A K Y G V
UniRef90_UPI0003498B0F   L V L A P G H Y A H V P T G I A I A L P E N T   E A Q V R P R S G L A A R H G V
UniRef90_A0A015L755      I T L Q P G R A L V P T G F A M A M P   P E L E A Q I R P R S G L A Y K N G I
UniRef90_S2Z7R6          V V L Q P G E R K L V S T G I A M A L   D T G Y V G L I H P R S G L A A K R G L
UniRef90_R6T3T2          V T I K A G Q T E K I H T G I S A E V Q E K N C V L L I Y A R S S L A S K F G I
UniRef90_R6G9D2          V I L N P G Q R I L I P T G L H I Q L P E G   Y E A R I Q P R S G L A L K K G I
UniRef90_UPI0003F77B16   V T V A P G R R V L I P T G I A I A L P   R G W E A Q V R P R S G L A L K H G I
UniRef90_Q2GCH5          M T L K P G M F E L V P T G I C I E L P E G   L E A Q I R P R S G L A A K F G I
UniRef90_G8R8C0          I T L Q P L E R K L A K T G I F I E L P   M G Y E A Q I R P R S G M A L K H G I
UniRef90_UPI0003B3428B   T L A P G A R A L I A T G F A A A I P   P G Y E I Q V R P R S G L A F K R G I
UniRef90_UPI0003B69147   I I L K P G E R K L V P T G L S M A I P D G   Y E M Q V R P R S G L A F K H G I
UniRef90_B3EPL0          V T L A P F S T A L I P T G L A I E L P   P G Y E A Q L R P R S G L A L K H M I
UniRef90_U2K136          L T I Q P Q E I C K V P T G I A V A P S R P D V A L C I F P R S G L S T K H G I
UniRef90_D7JE71          I T L K P L G R A L V P T G L F I A L P Q G   Y E A Q I R P R S G L A I K K G I
UniRef90_L0LGJ7          L T I A P G K R A L V P T G F I F E V P D G   F E A Q I R P R S G L A F K N G I
UniRef90_A3UI47          V V I A P G E W K L I P T G I C I A L P E G   Y E A Q I R P R S G L A A K K G I
UniRef90_Q3AQ75          V S V A P F S T A L I P T G F A L E L P   I G Y E A Q L R P R S G L A L R S M I
UniRef90_UPI000472E508   M V I A P G A R G L V P T G L K I A L P   P G Y E L Q I R P R S G L A L K H G I
UniRef90_R6ZK15          V V L E P G D S A L F P T G L A A E I P Q G H V   G L I F T R S G L G V K H G V
UniRef90_Q39V99          L V L N P G E R K L V P T G L A I A L P D G   F E A Q I R P R S G L A L K H G I
UniRef90_Q11Z53          I V L Q P L Q R Q L V P T G L F I E L P E H T   E A Q I R P R S G L A F K H G I
UniRef90_B4U6R8          V V I R P F E R V L V S T G I A I E L P E G   Y E A Q I R P R S G L A L K K G V
UniRef90_H5XYA3          L T V N P G E N V K I P T G L A I E L P G P H V V A L V F A R S G L A S R Y G I
UniRef90_Q64CD2          I L I Q P G E I K L I P S G I M L S I P S G   Y E G Q I R P R S G I A L K Y G I
UniRef90_UPI000423D101   V T L Q P L E R A L I P T G L Y I E L P Q G   Y E A Q I R P R S G L A L K H G L
UniRef90_W9G6Q7          V T L A P G E R V L V P T G V A L A L P P G H   A G F V H P R S G L A A R H G I
UniRef90_W9GXW0          V V L E P G A R A L I P T G F A F A L P   A G Y E A Q V R P R S G L A L R H G I
UniRef90_F4KMW8          V S L A P L E R R L V P T G L Y M E I P   A G Y E G Q V R P R S G L A L K Q G G L
UniRef90_I5C9J1          I I L K P M E R R L I S T G L F V E I P E G   F E G Q V R P R S G L A F K H G L
UniRef90_UPI0003B57CFB   V T L A P G A R A L V P T G L A L A L P   T G Y E G Q I R P R S G W A H R H G I
UniRef90_UPI00035E8BF0   V T I P P G E R V L V G T G I S M A L P F G T V   G L I H P R S G L A A R S G L
UniRef90_UPI00030A7290   I T L A P G H R A L I P T G F S M A M P   A H L E A Q I R P R S G L A Y K Q G I
UniRef90_W0SD83          I K I H P G E T I L V P T G I A I H L S D P G L A A M I L P R S G L A H K H G I
UniRef90_I0AHK6          L I I E P G K V A L V P T N I S V E I P Q G   Y E I Q V R P R S G L A A N N S I
UniRef90_X5MFJ8          V T L A P G A R A M V P T G L A I A L P S G   F E A Q V R P R S G L A A K Q G V
UniRef90_R5SLI9          L T L A P M Q R C L V P T G L Y I A L P   P G F E A Q V R P R S G L A L K K G V
UniRef90_R7HKK7          V T L S P L E R K L I P T G I F I E L P E G   C Q I R P R S G L A L K H G I
UniRef90_UPI0003640000   L T L Q P L E R R L V P T G I F I E L P   T N Y E A Q I R P R S G L A I K H G I
UniRef90_R5YYW1          A T I L P G N T V F I P T G I A L E I P   V G Y A G L I Y A R S G L S C K Q G L
UniRef90_A0YYY1          E I L P G E S K L I H T G I S I E L S P G T   E A Q V R P R S G L A L K H Q I
UniRef90_UPI00026CD0C3   V T L A P G A R A A V A T G F A I A I P H G   F E V Q V R P R S G L A L K H G L
UniRef90_A3TTV1          V T L E P G A R A V P T G L R M A I P E G   Y E V Q V R P R S G L A L K H G L
UniRef90_Q8RA46          V T I N P G E V E L I P T G I Q I E L P   P N Y E A Q I R P R S G L A L N Y G I
UniRef90_UPI0002FAEE46   L E L A P F E R A L V P T G L A I A L P E G H V   G L I H P R S G L S S K H G I
UniRef90_A9GNJ4          V T L A P G E R R L V P T G Y A V A L P D G H   E G Q V R P R S G L A L H H G V
UniRef90_B9MS62          E I I N P G E I K L I R T G L Y I E L P E G   Y E A Q V R P R S G L A L K H G I
UniRef90_Q7VJU0          L I K A R D R G L V G T G L A F E I   E S G F E V Q V R P R S G L A L H N G V
UniRef90_E1X0D8          L V I P A G K R V L V P T G L S Y E I P E G   Y E V Q V R P R S G M S L K T N L
UniRef90_F7XU53          V E L L P R Q R K L I P T G I A I A L P K G   F E A J I R P R S G L A I K S G I
UniRef90_D0RQH9          I I I R S K E T A L I P T G I S V A I P E N   L E I Q I R P R S G L A F K N K I
UniRef90_A8SMT2          L V I K P M E R F A V P T G L F I E I P   L G Y E G Q I R A R S G M S L K H G I
UniRef90_M1LU24          I E I K P G A I A L I S T G I A I H M N K S N M M A I I L P R S G L G H K K G L
UniRef90_Q2LWT5          V V I L P G E R A L I P T G I A I A L P E G   F E A Q V R P R S G L A L K H G V
UniRef90_R6E7N6          L T L N P L Q R M L I P T G L Y I A L P E G   Y E C Q A R P R S G L A V K H G I
UniRef90_UPI00046473AA   V T L Q P G E R A L V P T G I S I A L P N G   Y V A L V H P R S G L A I K H G I
UniRef90_UPI0004713BBB   I V L K P L E R T L V P T G L F I E L P   V G Y E A Q V R P R S G L A L K K G I
UniRef90_F5YM25          R V I P P L G R A R I P T G L A L E I P   P G F E A Q V R P R S G L A A R S G I
UniRef90_UPI00035E7E17   I E L K P L E R R L I P T G L S I E I P   A G Y E A Q I R P R S G M A L K Y G L
UniRef90_W8I3Q9          M T L A P G K R A L V P T G F I F E I P   A G Y E A Q I R P R S G L A F K H G I
UniRef90_A1SKS5          V T L A P G E R A M V P T G I A L A L P E G   Y A A F V H P R S G L A A R H G L
UniRef90_I2FJ12          I V L K A G D R A V V S T G L A F E I   E S G F E V Q V R P R S G L A L K N G I
UniRef90_F9Z4N2          V T L K P L E R K L I P T G L F I E L P E G   Y E A Q I R P R S G L A L N E G I
UniRef90_R7CE49          V T L K P F E R K L I P T G L A I E I P   F G Y A G F V V P R S G L A I K Q G L
UniRef90_A6H2C9          I T L Q P L E R T L V K T G L F I E L P   I S Y E A Q V R P R S G L A F K K G I
UniRef90_D8KN30          L E I K P G Q R A L V G T G I A L A L P L G T V   G L I H P R S G R A L K E G L
UniRef90_Q1GN88          L T I R P G T R H A V A T G F A M A I P   L G Y E V Q V R P R S G L A L K H G I
UniRef90_D3NY72          V T L A P G R R V L V P T G F A V G L P   P G W E M Q I R P R S G L A V K N G V
UniRef90_Q8K921          I S L P S K E V I L V P T G I A I H I D N P Y I T A L V L P R S G L G H K N G I
UniRef90_E9SAH8          L T I A A G A T E K V P T G L A A E L D E K N A V L L I Y A R S S L A T K L G L
UniRef90_I3VWE6          V V I K P G E I K L I G T G I M I Q L P E G   Y E A Q I R P R S G L A L N N G I
UniRef90_A9CWX7          F E L A P G A R A A I P T G I V M E I P H G   F E G Q V R P R S G L A L K S G I
UniRef90_J9YYN5          I I L E P G K S S L V P T G L S V A F P K E   Y E I Q I R P R S G L A A K N N I
UniRef90_UPI0003B7A069   Q V I A P G K R A M I E T G I A I A L P   A G F E A Q V R P R S G L A A K N G V
UniRef90_R7H629          V T I E P G K T E F I H T G I A I A I P E G L V   G L V Y A R S G M A C K K G I
UniRef90_T0GS80          V T I A P G G R Y A V A T G F A M A I P E   G Y E V Q V R P R S G L A L K H G I
UniRef90_B6B6D6          L V L Q P G E R A L V P T G L R I E I P   A G Y E V Q I R P R S G L A L K H G I
UniRef90_C6XRV5          I V L A P M A R D M I P T G L S M A I P H   G Y E V Q I R P R S G L A A K H G I
UniRef90_UPI0003FF0A08   T I S P G E S Q L I P T G I A I E L P P G T   E A Q I R P R S G L A L K H Q I
UniRef90_R5A844          V T L E P G V G F S F P T G F A A E I P   G G L V G L V F C R S G L G V K H G I
UniRef90_B8FCZ2          L A M A P G D I A L V P T G L A M A I P Q G   F E V Q V R P R S G L A I K Q G V
UniRef90_J9H5T8          F T I K P G E R M L I P T G I S I A L P N G   Y V A L V H P R S G L A I K H G I
UniRef90_UPI0003B2F22A   L M L E P G E R A L V R T G I A I A I P H G   Y V G L V H P R S G L A T K H G I
UniRef90_UPI000364B74A   L V L K P R K R V L I P T G L T L E L P   H G Y V G L V H F A R S G L A D K K G V
UniRef90_W0EK99          M V V R P G E R V R V P T G L A I E I P G P Q I A A F V F A R S G L A D K K G I
UniRef90_A3XCY6          L T L V P G A R A L V P T G L R L D I P Q G   Y E V Q I R P R S G L A L K H G I
UniRef90_UPI000363471D   V V L G P G Q R A L V P T G V A I A L P E G   Y A G F V H P R S G L A R K H G I
UniRef90_UPI000288D42C   I I K P G E T T L I H T G I Q M E L P K N T   E A Q V R P R S G L A L K H G V
UniRef90_C9LGX1          L T L Q P M E R K L I P T G L F I A L P   A G F E A Q V R P R S G L A L K K G V
```

```
                              90            100           110           120
UniRef90_K7TBR0          T L P N S P G T I D E D Y R G E I G I I V M N A G T E A F T I E R G T R I I A Q G
UniRef90_UPI0004699B25   T V L N T P G T V D A D Y R G E I M V L L I N F S T E D F T I N A G E R I I A Q M
UniRef90_J9G7N9          T V L N S P G T I D A D Y R G E I G I V L I N L S H T A V T L N D G E R I I A Q L
UniRef90_J0B285          R V A Q G I G V I D A D Y H G E I G V I L A N D S D Q D Y V I Q P G E R I I A Q L
UniRef90_D5BU62          T V A N A P G T I D S D Y R G E I K I I L I N L G A D A F I I E R G M R I I A Q M
UniRef90_UPI0003498B0F   T V L N S P G T V D A D Y R G E I G V V L I N H G A E P F T V R R G E R I I A Q L
UniRef90_A0A015L755      T C L N T P G T I D A D Y R G E I K V V L L A N L G Q E P F M I A Q M
UniRef90_S2Z7R6          S I V N T P G T I D S G Y R G E I K V C L V N T D T E P I E I H R G D R I I A Q L
UniRef90_R6T3T2          A P A N C V G V V D W D Y R G E I I C A L H N S S D K D Y T I N S G D R I I A Q L
UniRef90_R6G9D2          T C L N T P G C D A D Y R G D I G V I L I N H G T E P F K I E D G D R I I A Q M
UniRef90_UPI0003F77B16   T I V N A P G T I D S D Y R G E I G V V L I N H G D E P V A I T R G M R I I A Q M
UniRef90_Q2GCH5          T V L N S P G T V D Q D Y R G E I K V C L V N L S K N E F T I A Q G D R I I A Q M
UniRef90_G8R8C0          G V L N S P G T I D S D Y R G E I G V I V V N L S N E T Y T I K K G E R I I A Q M
UniRef90_UPI0003B3428B   S V L N T P G T I D S D F R G E M K V L L A N H G D A D F V I A R G D R I I A Q F
UniRef90_UPI0003B69147   T C L N T P G T I D S D Y R G E L K V L L I N L G D Q A F T I E R G E R I I A Q L
UniRef90_B3EPL0          S L P N A P A T I D A D Y R G E V M V L L V N Y G K T P F I V C H G D R I I A Q M
UniRef90_U2K136          T L I N S V G L V D S D Y R G E L L I P L I N H G S E P F T V E A G M R I I A Q L
UniRef90_D7JE71          T V L N S P G T I D A D Y R G E I C I I L V N L S S D D F V I E D G E R I I C Q M
UniRef90_L0LGJ7          T C L N S P G T V D S D Y R G E V K V I L A N L G D E P F E I T R G M R I I A Q M
UniRef90_A3UI47          S C V N T P G T V R V N L I N H G R E P F V V Q R G E R I I A Q M
UniRef90_Q3AQ75          S L P N T P A T I D A D Y R G E L K V I L I N Y G K E P F M V Q H G D R I I A Q M
UniRef90_UPI000472E508   V L P N A P G T I D E D Y R G E I G I I V M N A G A E P F I V E R G M R I I A Q G
UniRef90_R6ZK15          A V S N G V G V I D S D Y R G E L H V G L R N H S R E A Y A I Q P G E R V I A Q L
UniRef90_Q39V99          A L V N S P G T I D P D Y R G E I G V I L I N H G S E P F V V R R G E R I I A Q L
UniRef90_Q11Z53          T V L N S P G T I D A D Y R G E I K V L L V N L S N E A F T I Q S G E R I I A Q I
UniRef90_B4U6R8          T V L N S P G T I D H D Y R G E I K V I L I N L S D K E V I I E K G E R I I A Q M
UniRef90_H5XYA3          G L T N G V G V I D S D Y R G E I Q V L L Q N L G P K A I I V N P G D R I I A Q L
UniRef90_Q64CD2          T V L N T P G T I D A D Y R G E V N I I L I N M G K Q S F Q I N S G D R I I A Q L
UniRef90_UPI000423D101   T V L N S P G T I D A D Y R G E I R V I L V N L S N D P F V I K D G E R I I C Q M
UniRef90_W9G6Q7          S V V N A P G T V D A G Y R G E I L V N L V N D P R E A F T V H R G D R I I A Q L
UniRef90_W9GXW0          G V L N S P G T I D A D Y R G E V G V I L I N H G D Q P F T V E R G M R V I A Q L
UniRef90_F4KMW8          T V L N A P G T I D A D Y R G E L Q V I L I N L S Q E T V E I A P G D R I I A Q L
UniRef90_I5C9J1          T V L N S P G T I D A D Y R G E I R V L L I N L S Q E F T I M D G E R I I A Q L
UniRef90_UPI0003B57CFB   T V L N S P G T I D A D Y R G E V Q V L L I N H G A E A F T I E R G A R I I A Q L
UniRef90_UPI00035E8BF0   S V V N T P G T V D A G Y R G E I K V C L I N H D R E P I H I K R G D R V I A Q L
UniRef90_UPI00030A7290   T C L N S P G T I D A D Y R G E V K V L L V V G G Q Q H F T I L N P G E R I I A Q M
UniRef90_W0SD83          V L G N L V G L I D S D Y Q G E V F V S T W N R G H D T F T I N P L D R L I A Q L
UniRef90_I0AHK6          G I L N S P G T I D S D Y R G E I K I I M M N F G D E P F I I H R G D R I I A Q L
UniRef90_X5MFJ8          T V L N S P G T V D A D Y R G E V K V I L I N H G D E P V V I D R G M R I I A Q M
UniRef90_R5SLI9          T I L N S P G T I D A D Y R G E I C I I L I N L S D E P F V I G D G E R I I A Q M
UniRef90_R7HKK7          S V L N S P G T I D A D Y R G E I G V I L A N L S N E P F V V N P G E R I I C Q M
UniRef90_UPI0003640000   T C L N S P G T V D A D Y R G E I K V V L I N L S N E P N I I H P G D R I I A Q M
UniRef90_R5YYW1          A P A N K V G V I D A D Y R G E I I V A L H N H G D S A K T V E P G D R I I A Q M
UniRef90_A0YYY1          T V L N T P G T I D A D Y R G E I G V I L I N H G K T T F N I N K G M K I I A Q L
UniRef90_UPI00026CD0C3   T C L N T P G T I D S D Y R G E V K V I L A N L G Q E P F E I A R G D R I I A Q L
UniRef90_A3TTV1          T L P N S P G T I D S D Y R G E V G V I L A N L G D A P F V V A H G D R I I A Q M
UniRef90_Q8RA46          T L L N T P G T V D S D Y R G E I K L I V I N L G K Q P V T I K R G Q R I I A Q M
UniRef90_UPI0002FAEE46   T V V N A P G T I D A G Y R G E I R V P L I N D P R T P Y A I R R G D R I I A Q L
UniRef90_A9GNJ4          T V L N S P G T I D P D Y R G E I K V V L I N L G A A P F T V H R G D R I I A Q L
UniRef90_B9MS62          T V L N A P G T I D A D Y R G E I G V I L I N G N E P F V V K R G D R I I A Q M
UniRef90_Q7VJU0          S V L N T P G T I D S D Y R G E I K V I L I N H S N E D F H I H R G D R I I A Q A
UniRef90_E1X0D8          L I V N S P G T I C D Y R G E I K I I I G N F G D D E A H I E H G D R I I A Q M
UniRef90_F7XU53          T V T N A P G T I D A D Y R G E I F V S L I N L S E E A F R I T R G M R I I A Q M
UniRef90_D0RQH9          T V L N T P G T I D A D Y R G E I K I I L I N L G D K D F V I K N G D R I I A Q M
UniRef90_A8SMT2          T M A N G V G T I D S D Y R G E I K V L I V N I S D K E Y V I K N N D R I I A Q M
UniRef90_M1LU24          I L G N T A G V I D A D Y S G T I F I S A W N R N H K D I F I N P G E R I I A Q M
UniRef90_Q2LWT5          T L V N A P G T I D A D Y R G E I G V L L I N H G N D P F V V A R G S R V I A Q M
UniRef90_R6E7N6          T V L N S P G T I D A D Y R G E I K I I L I N L S D T P F V I E P G E R I I A Q L
UniRef90_UPI00046473AA   T M V N S P G T V D S G F R G E L Q I I L I N H P K E A I T F K K G D R I I A Q L
UniRef90_UPI0004713BBB   T V L N S P G T I D A D Y R G E I R V I L I N L S S E E F V I S D G E R I I A Q M
UniRef90_F5YM25          T V L N A P G T I D S D Y R G E L E V I L I N L G Q E P F T I Q N G D R I I A Q L
UniRef90_UPI00035E7E17   T C L N S P G T I D A D Y R G E I G V I L A N V S N E V C V I N D G E R I I A Q L
UniRef90_W8I3Q9          T C L N T P G T I D S D Y R G E V K V L L V N L G D E D F V I E R G M R I I A Q M
UniRef90_A1SKS5          S I V N T P G T I D A G Y R G E I K V M L V N H P R E P I E L R R G D R I I A Q L
UniRef90_I2FJ12          S V L N T P G T I D S D Y R G E I K V I L V N H S Q E D F L I R K G D R I I A Q G
UniRef90_F9Z4N2          G L L N S P G T L D A D Y R G E L G V I V V N L S N N M I T I E D G E R I I C Q M
UniRef90_R7CE49          S I V N A P G L I D S N Y R G E L K V I A I N D P K E P I T I Q V G D R I I A Q L
UniRef90_A6H2C9          T V L N S P G T I D A D Y R G E I G I I L V N L S H E A F V I E N G E R I I A Q L
UniRef90_D8KN30          S I V N A P G T I D A D Y R G E I K V C L I N D P Q T A I S I E R G Q R I I A Q L
UniRef90_Q1GN88          T C L N T P G T I D S D Y R G E V K V I L A N L G D E N F E V K R G D R I I A Q M
UniRef90_D3NY72          T V L N T P G T V D C D Y R G P V G V C L I N L G E E F T I A R G D R I I A Q A
UniRef90_Q8K921          I L G N L I G L I D S D Y Q G E L M I S L W N R S K N I F F I N P Y D R I I A Q M
UniRef90_E9SAH8          A P A N C V G V V D W D Y R G E L I V A L H N H S D K P Q T I N A G E R I I A Q L
UniRef90_I3VWE6          T M L N S P G T I D S D Y R G E L K L I L I N F G E S D F I V K R G L R I I A Q M
UniRef90_A9CWX7          T C L N T P G T I D S D Y R G E V K V I L I N L G A E P F L V T R G M R I I A Q M
UniRef90_J9YYN5          S V L N T P G T I D S D Y R G E K I I L F N H G N E N F T I N N N D R I I A Q I
UniRef90_UPI0003B7A069   T V L N S P G T I D A D Y R G E I K V L L I N H G D A A F E I E R G M R V I A Q L
UniRef90_R7H629          A P A N K V G V I D A D Y R G E I M V A L Y N H G N E A V T V E P G D R I I A Q L
UniRef90_T0GS80          S L P N T P G T I D A D Y R G E L M V L L N D A P F I I A R G D R I I A Q L
UniRef90_B6B6D6          T L P N T P G T I D S D Y R G P L G V I L L N A G Q E P F Q I A H G D R I I A Q M
UniRef90_C6XRV5          T C L N T P G T I D A D Y R G E V K V I L I N L G S E P F T I K R G E R I I A Q M
UniRef90_UPI0003FF0A08   T V L N A P G T I D A G Y R G E L G V I L I N H G K T S F N I T K G M K I I A Q L
UniRef90_R5A844          S L P N C V G V I D S D Y R G E I V P L R N F G D K T Y T I Q P G E R I I A Q L
UniRef90_B8FCZ2          S L V N T P G T I D S D Y R G E V K I G L I N L S R E T R T I S R G D R I I A Q L
UniRef90_J9H5T8          S M V N T P G T V D A G Y R G E L Q V I L I N H D T E S V S F K K G D R I I A Q L
UniRef90_UPI0003B2F22A   T V V N A P G T I D A G Y R G E M V T L L N T D K E A F S I N R G D R I I A Q L
UniRef90_UPI000364B74A   T V L N A P G T I D S D Y R G E V K I I L N L G Q E P F S I H R G E R I I A Q L
UniRef90_W0EK99          T L S N G V G V I D S D F R G E K V L M N L G Q E D V T I S N G D R I I A Q I
UniRef90_A3XCY6          T L P N S P G T I D S D Y R G P L G V I V M N A G E A D F T I K H G D R I I A Q M
UniRef90_UPI000363471D   T V V N A P G T I D S G Y R G E M V T L A N D G A E P F T V R R G D R I I A Q L
UniRef90_UPI000288D42C   T V L N A P G T I D E D Y R G E I G V I L I N L S G E A F K V N G G Q M K I I A Q L
UniRef90_C9LGX1          T V L N A P G T I D A D Y R G E I G V I L I N L S Q E A F V V N K G G R I I A Q L
```

```
                                              130
UniRef90_K7TBR0            V L A P V S R L R W Q E V A S L
UniRef90_UPI0004699B25     V I A R Y E Q A E L I E V E A L
UniRef90_J9G7N9            V I A R H E Q A E W V T V E T L
UniRef90_J0B285            M F Q P V V Q V A L Q L V S E F
UniRef90_D5BU62            V I A P V I Q T V I R E V D S L
UniRef90_UPI0003498B0F     V L A P V A R A E L S V V A E L
UniRef90_A0A015L755        V F Q I V P Q I E I A E V E E L
UniRef90_S2Z7R6            L V Q R V E L P Q V V E V T E L
UniRef90_R6T3T2            V I T P V F T P E V E E V T E L
UniRef90_R6G9D2            I I S K Y E Q A E W E P V L S L
UniRef90_UPI0003F77B16     V V A R H A T V A W D E Q P S L
UniRef90_Q2GCH5            V I A K V E Q I L L V E A E E
UniRef90_G8R8C0            V I A A H A R A N F I Q V E E L
UniRef90_UPI0003B3428B     V V A P V Q R G T L V E V D E L
UniRef90_UPI0003B69147     V M A P V T Q G L W E K V D V L
UniRef90_B3EPL0            V V A R Y E H V R L E E V K A L
UniRef90_U2K136            V V L P I L T P E L K E V T R L
UniRef90_D7JE71            V I A R H E Q A V W E E V E V L
UniRef90_L0LGJ7            V I A P V T Q V R V A E I S E
UniRef90_A3UI47            V I G Q F T Q I S W N P V D A L
UniRef90_Q3AQ75            V I A R V E Q V Q F E E V A E L
UniRef90_UPI000472E508     V V A P V V R A V W S E S T S L
UniRef90_R6ZK15            V I L P V C L P E L A E V E E L
UniRef90_Q39V99            V F A P F A R A E L V E V D E L
UniRef90_Q11Z53            V I A K V E H A H F V E E E L
UniRef90_B4U6R8            V I V P V L K V E V V E A K E L
UniRef90_H5XYA3            V F M P I F K A V F E E V A E L
UniRef90_Q64CD2            V F N R V I K A E F E L A E A L
UniRef90_UPI000423D101     V V A H A R V E W V E T D N L
UniRef90_W9G6Q7            V V Q R V E R A R F V E V D S L
UniRef90_W9GXW0            V V A S Y T R V S W N V T E L L
UniRef90_F4KMW8            V F A R H E Q C D W I E V E S L
UniRef90_I5C9J1            V V A R H E Q I D W Q P V E K L
UniRef90_UPI0003B57CFB     V V A Q H R R V E W R P T D E L
UniRef90_UPI00035E8BF0     L V Q R V E L V D F V E V D E L
UniRef90_UPI00030A7290     V F Q F V P Q I R L I E V D E L
UniRef90_W0SD83            V V V P V V Q V S F N V V D E F
UniRef90_I0AHK6            V V S K V Y Q A K I I E T E N L
UniRef90_X5MFJ8            L F A P V T R G V F A A V Q S L
UniRef90_R5SLI9            I V A R H E Q A A W E E V E V L
UniRef90_R7HKK7            V V A R H S T V V W Q T A D T L
UniRef90_UPI0003640000     V I Q K V E K V V L T Q V N E L
UniRef90_R5YYW1            V I T P F L T A N F I E T D E L
UniRef90_A0YYY1            V I A P V I H A K I E E V E Q L
UniRef90_UPI00026CD0C3     V P A P V Q R A I L D E T A T L
UniRef90_A3TTV1            V V A P V T Q A A F A V E D L
UniRef90_Q8RA46            V I N Q V V R P K I I E V E E L
UniRef90_UPI0002FAEE46     V V Q R V E H A R F V T V D A L
UniRef90_A9GNJ4            V I C P V A L A D V V V V S A L
UniRef90_B9MS62            V I S K F E R A K I E E A E E L
UniRef90_Q7VJU0            V V S E V T Q A V F T E V Q E L
UniRef90_E1X0D8            V I A P V T Q A T I V E T T S L
UniRef90_F7XU53            V I A R Y E R I N W N L T E S L
UniRef90_D0RQH9            I L C P I V K A E F E V K D N L
UniRef90_A8SMT2            I I T K Y E R A D F K L V E E L
UniRef90_M1LU24            I F L P I I K P I F D L V E N F
UniRef90_Q2LWT5            V I A P V C R V A W S E S G S L
UniRef90_R6E7N6            V V A K H E H V E W S E V E V L
UniRef90_UPI00046473AA     V I Q Q V E R A N F V E V E A L
UniRef90_UPI0004713BBB     V V A Q H E K V E W V K V T E L
UniRef90_F5YM25            V F A P V T R A E M T Q A L S L
UniRef90_UPI00035E7E17     V I A K H E T I E W E E T E M L
UniRef90_W8I3Q9            V I A P V T Q V S V R E A D S
UniRef90_A1SKS5            V V Q R V E R A R F T E V G E L
UniRef90_I2FJ12            V I N E I T Q A V F A E V E K L
UniRef90_F9Z4N2            V I N K V E Q A E W I E V N E L
UniRef90_R7CE49            V I M K V E S L E F K E V E E L
UniRef90_A6H2C9            I I A K H E R A E W I Q V Q D L
UniRef90_D8KN30            V I Q K V E L V D F V E V E E L
UniRef90_Q1GN88            V P A P V Q R A T F A E V D R L
UniRef90_D3NY72            V I A Q A P Q A L L V E V A T L
UniRef90_Q8K921            I F V P I I R P T F S I V D D F
UniRef90_E9SAH8            V V T P I F R P E V C E V T E L
UniRef90_I3VWE6            I I N K V E I P E I I E V D E L
UniRef90_A9CWX7            V I A P V V Q A R I E A V D E
UniRef90_J9YYN5            V L T P I I K M D L D E T N E L
UniRef90_UPI0003B7A069     V V A P V T Q V V W Q A V D D L
UniRef90_R7H629            V L T P F I T A A F D E A D S L
UniRef90_T0GS80            V A A P V Q M A R F A E V K E L
UniRef90_B6B6D6            V V A P V L Q A R F E P A E A L
UniRef90_C6XRV5            V V A P V T Q G V W K E V D E L
UniRef90_UPI0003FF0A08     V I A P V L R V E I Q E V Q Q L
UniRef90_R5A844            V L V P V C L P A V V E V E E L
UniRef90_B8FCZ2            I V G R V F Q A R L T E T D S L
UniRef90_J9H5T8            V I Q K V E R A E F I E V Q D L
UniRef90_UPI0003B2F22A     V I Q K V E Q A A F T Q V D S L
UniRef90_UPI000364B74A     V V A P V T R V A L K R V E
UniRef90_W0EK99            A F I P V C R T A F Y E V E D L
UniRef90_A3XCY6            V V A P V L Q A Q F T L V G A L
UniRef90_UPI000363471D     V V Q R V E Q A V F E L V D V L
UniRef90_UPI000288D42C     V I K P V F R V Q I E V S D L
UniRef90_C9LGX1            I V A R H E Q I V W R P V E S L
```

```
                              1              10             20             30          40
UniRef90_U3U728                                    M P T Y I T S G S A G L D L C A C L D N T
UniRef90_C7N5D3     M S Q K L R V P I     K K L A E D A V V P S Y A Y D G D A G V D L R A T   E N
UniRef90_W5TS99                   L R L D P G V P V P T R A H P G D A G V D L   C T T E D
UniRef90_T0RNN8     M T A Y V D L K I K K L E H D N D L P L P A Y E T T G A A G A D L R A Q L G E S
UniRef90_UPI00035E2082         K V D V L I K R L D A G L P V P E Y A H P G D A G A D L Y A A E D
UniRef90_UPI000467BC6A     M T L K L K R L E H A D G I A P P A Y E T T G S A G M D I R A A V P E P
UniRef90_I7IAD1     Q K I E V E I R K L L H G E G L P L P C Y T T A Q S A G M D L Y A A L G N F
UniRef90_UPI000347E858       L R V A V R R L D P D L P L P S Y A H P A D A G A D L V S A E D
UniRef90_UPI000366AF37     N K V E I K I E K V E G C E D L P L P I S A S K F S S G V D L L C A E A A D
UniRef90_Q3SWM9     M S D P I K V D V R Q L P H A E G L P L P S Y Q S T Q A A G L D L I A A I G E P
UniRef90_M7N895     M S E S S V D I A L K M L D P E L P V P S Y A H E G D A G A D L C A   R E D
UniRef90_UPI0002558CA3     M Q T L A I R I M D E G A D T S L G L P R Y E T E G A A G A D L R A N L P D E
UniRef90_UPI00037825F4       V S V P V Q R L D P D L P L P G Y A H P G D A G A D L Y A A E D A
UniRef90_Z4WSC5       L S V K I I N T S P H E         L P A Y A T L G A A G M D L R A C L P S P
UniRef90_UPI00037D3F20       L Q F K K I N S A A I L P A Y M T E L A A G M D L C A L P T E T
UniRef90_H3NPH6         M K L K M V T E K F T     P T Y A T E G S A G F D L Y C N N E E P
UniRef90_H1PR67     M E K V I V K V V R E     E N V S L P K Y E T S G S A G M D L V R A N I E E P
UniRef90_Q11AZ6     M P V I G P A I V R L P H A K D L P L P S Y E S A G A A G M D L R A A V A E D
UniRef90_UPI0003666F5A     M P T I K I K   L H P D A V I P E Y A K E G D S G F D L V A V E D A
UniRef90_UPI00035D3562         L N L I R L A N G E G I D L P A Y E S K G A A G L D L R A A V D E P
UniRef90_UPI000289704B       M K L K I I N K     S K H P L P E Y E T S G S A G M D L R A N L D N E
UniRef90_UPI0003C7F3CA         V D I A L T R L D P G V P V P S Y A R P G D A G A D L V S T I D T
UniRef90_D2PP02           E V L I R R L D P E L P V P A Y A H P G D A G V D L V A S H D
UniRef90_F5RC80     M S V L D Y K I L D E R L R T     L Q P A Y A T P G A A G L D L R A C V D A S
UniRef90_X0Z5M3       M K I K I V N K     S N N K L P E Y S T E K S A G V D L R A N I L K K
UniRef90_W5WRT5     M T D N A E Q P V K I V R L D K D L P L P S R A H P T D A G I D L Y T S E D
UniRef90_B1QXF1     M E Y T L K I K     K I N E K A V I P N Y A H E G D A G L D L Y A V   E K
UniRef90_B3R6F1       P T V E I K V L D A R L N E   W G L P A Y Q S E M A A A I D L H A C V D A P
UniRef90_UPI000374E748       M K I K I I N K     S D H A I P G Y E T P A S A G M D L R A N I S E S
UniRef90_UPI00036E7B07     M S Y N V Q I N     R L A G N E D I E L P Q K M S E L A S G F D L Y A A I T E E
UniRef90_Q2S160         I D V S I T R L P H A E G L A L P S Y E T S A S A G M D L R A A V D A P
UniRef90_UPI000479C1B9     N I G Y A V V S P L Y K P E Y   L P R Y A T S G A A G M D L H A C V E A P
UniRef90_C7M8D8       M T V K I K N L     S N N E L P S Y Q T E G A A G V D L R A N L P N S
UniRef90_V4J7P8       P K I F I T R I G S D F P L P A Y K T D G S A G L D V A A A L P H E
UniRef90_UPI0002EF9F7F     I Q L K V L D       L L R L D P G L P V P A Y E H S G D A G C D L T A A E D
UniRef90_Q8FPH9           I R L L R L D P G L P M P R R A H R G D A G V D L H S T T D
UniRef90_V9TVN7         I R V V R L A H G A D L P L P S Y K T S G S A G M D L H A A I C A S
UniRef90_B0C9N7         M K I K I I K L T E S A Q V P R Y S H A D D A G L D L F A I E A Q K
UniRef90_UPI0003B5C782     T P N A D V E V L V Q R L D P D L P L P S Y A H P G D A G L D L C A   R T T
UniRef90_U2TGI9     M T S E H I S L P I K R L D P S V E L P T Y A Y Q G D A G L D L R A S   E S
UniRef90_C4ZLW0     M H R I D V K L L D E R L K T H   P P A Y A T E G A A G L D L R A S C L P G P
UniRef90_P61909         M K I F V Q K L R P N A E L P L L Q T K Q A A G Y D I H A C L D S K
UniRef90_UPI00037A5C59     P T I E L K V L D P R L   E A W G L P A Y Q S D M A A A I D L R A A I D A A
UniRef90_G8RJT6     M S S T L A V     V R L D P D L P M P S R A H D G D A G V D L F S A L D
UniRef90_UPI00031449B1     S R P M T L S I Q Y L E H G Q G L E V P C Y A T A G S A G L D L R A A E E E T
UniRef90_V5PEY8           P R T C E G L D L P A Y E T A G S A G M D L R A A V A E D
UniRef90_UPI00037C6BEE     K I R I K Q V Q K L I G   L P L P A Y A T Q G S A G V D L Y A A I S T P
UniRef90_V8C7T9         P T L K V Q R L S Q E A I I P R Y H S L E A A G F D L H S   I D E
UniRef90_R0D2H2             N P D L P V P A Y A T S S A G A D L R A A E G E T
UniRef90_U7D8D3     Q I E I K V Q K S G L S E     L P R Y M T E E A A G A D I H A A N T T P
UniRef90_R7RRS4       M K L Q I K R L E N A K D L P L P K F M T E G S C G M D L Y A N V E G E
UniRef90_D4CXK1     M N K V K I R V L K K     D G L N L P K Y G T E L S A G A D L Y S Y N K E P
UniRef90_D3PEP2         V R I K K I H P D A Q I P Q Y A T N G S S G F D F Y T V   E E
UniRef90_UPI00036C093F       I E I A L K R L P H G E G L P A P A Y A T T G A A G L D I V S A E D
UniRef90_K9EVM1     M T H P V T I K     F K K L N P E A V I P G Y A H P G D A G A D L V A I   G A
UniRef90_UPI00037865E6     M K R L I E A R I V N P L L   E K Y G V P A Y K T E G S A G L D L I A C L D A P
UniRef90_F8NB95       V K I K V N A G R Q   P L P Q Y A T S Q S A G M D L R A D I E I P
UniRef90_V9R7M2     M E R S I D I S I K V I Q L N N H L P L P S Y S T D N S S A G M D L Y S A I V S D
UniRef90_R9JMY3         M R I N I K R L T D T A K I P T R Q H M G D A G Y D L Y A D V Q E P
UniRef90_F0RZ07     M D T D S I M V H V V K L R P E A L L P V Y G T A N S A G A D I S A C L D E D
UniRef90_E1R1L5         K I I V H G T F D A Q L M P Q Y A S A H A S G A D L H A D I A K P
UniRef90_W2BZD4       M K L K I I S K     S G V L P K Y E T E G A A G F D I R A Y L K N D
UniRef90_C2CFL9     M N N K K L K M I V     E S K I P S Y G T A H A A G L D I R S Y T D K D
UniRef90_C7NI87         L R V A R L S P R A T L P S R A H A G D A G A D L H A A   E E
UniRef90_T0GK78       M K I A V K K L H T N A K L P E I K T S G S A G Y D L Y S C L E S P
UniRef90_U2VFQ4     N H I T L A I   K K L D P T V E L P A Y A Y E G D A G L D L R A N   E T
UniRef90_UPI00041D4B08       V E V L L T R L D P G V P V P A Y A R P G D A G A D L V T T S D
UniRef90_A0A022L975     M T D S V D I P I I     A A V P G Y A H P G D A G A D L I A A   E A
UniRef90_V7EG28           D R S L G L P A Y E T P G S A G A D I R A N L E T G
UniRef90_V5VWW1     N I E L K I L N R E I V K E     I P M Y G T E G S A A V D L C I S Q V
UniRef90_J1F7Y1         K V K K L N E L A K V P E Y K T A G S S G F D F S S V   V
UniRef90_R4LP05       V Q V R L L D       P D L P V P A Y A H P G D A G D L H A A   E S
UniRef90_UPI00042512CD       M K V N I K K L S D T A T N P T R G S A A A A G Y D L Y A D V R E N
UniRef90_UPI00035CB172       M Q I P I I N     R S R H L P A R Q T A H A A G L D V R A N L D A P
UniRef90_W2BT29     R V Q L K L L D P K L     P V P T Y A H P G D A G A D L Y A R V D
UniRef90_Q0A4Q1                 M D L R A C L D A P
UniRef90_UPI0004771F1B     S Q V Q V R       R L D P E I P L P V R A H P G D A G A D L C A T E D
UniRef90_K0PJF8         L N I I R L A N G Q A G L D L P S Y E S R G A A G M D L R A A V E A T
UniRef90_Q895R1     M T E T L K I K L     K E D A K L P Q Y A H D N D A G M D L F S T E D K
UniRef90_U4V050     M V N I K V S W S D A   V D R D L G L P T Y E T A G A A G A D L R A N L D A G
UniRef90_D5WPL3       M Q L K V K R L E K S G V P P M P A Y Q T E G S A G L D L A A A I S E P
UniRef90_M0QKD4       P A I R V R R I D P E V P L P T R A H E G D A G V D L V S T I D
UniRef90_G0IWN4       M K I N V I N K     S N H P L P A Y Q T E Q S A G L D L T A N I P A P
UniRef90_R5VIS1     M E T I   V R F V K L K E E A H I P V Y G S D Q A A G A D L Y A C L E E P
UniRef90_A4EY50     M T D T V K F M R V E     G N D L P L P G Y A T A G A A G M D L R A F L D G S
UniRef90_E3IZ22       V E V L V R R L D P G L P L P A Y A Q P L D A G A D L R A A A D
UniRef90_UPI0003B4CAAF     M M N D I R L K A L   P D A D P L P A R Y E S A A A G A D L R A A N I L D A G
UniRef90_S7J2Y2           L E P G V D L P E Y A T S G A S G A D L R A N I V E P
UniRef90_R9GT40       M N V K V I N K     S N N Q L P A Y E T A F S A G M D L R A F I T E E
UniRef90_X8IRE2           I S R S G V L P G Y A T P G A A G L D L R A Y L D E S
UniRef90_F0GZG7     M T K K I       L K I K T N N N L P A Y K T K Y S A G M D L Y S S N K N D
UniRef90_A0JVG0         K M L D A G L E A P S Y A H P G D A G A D L R A   R E D
```

```
                                50              60              70            80
UniRef90_U3U728       L E I A S G M T T L V P T G F A I H I E D P N L M A V I I P R S G L G H Q H G I
UniRef90_C7N5D3       L V L K P F E R A L V A T S L A V A I P E G   Y A G L V M P R S G L A I K H G I
UniRef90_W5TS99       V I L D P G E R V L V G T G I A V A L P M G T V   G L V H P R S G L A A K T G L
UniRef90_T0RNN8       L V I A P G K R V L V P T G L S F E I P E G   Y E V Q I R P R S G L S F K T Q L
UniRef90_UPI00035E2082 V E L P P G E R A S V P T G V S I A L P D   G Y A A F V H P R S G L G A R L G V
UniRef90_UPI000467BC6A L V L R P G A R A L V P T G F I F E I P D G H   E A Q V R P R S G L A F K H G I
UniRef90_I7IAD1       V I L N P L E R L L I P T G I V I A I P N G   F E A Q I R P R S G L A A K H G I
UniRef90_UPI000347E858 V R L E P G E R A T V P T G I A L A L P E G   Y A A F V H P R S G L A A R C G V
UniRef90_UPI000366AF37 T V L K T G K R K L I S T G I K I M I P E G   Y E G Q I R P R S G L S L K H G I
UniRef90_Q3SWM9       L V L A A G R R A M V P T G L V I A L P D G   Y E A Q V R P R S G L A A R H G V
UniRef90_M7N895       V T L A P G G A L V P T G V A L G L P   L G F V G L I H P R S G L A T K H G L
UniRef90_UPI0002558CA3 I T L E P G D R A L V P T G L R L A I P   A G Y E V Q L R P R S G L A L K H G I
UniRef90_UPI00037825F4 E L G P G E R K L V R T G I A I A L P E G F V   G L V H P R S G L A V K L G V
UniRef90_Z4WSC5       I V L E P L A R A L I P T G L Y M E L P   L G Y E A Q I R P R S G L S M K H G I
UniRef90_UPI00037D3F20 I N L L P G A R C L V   I E P G Y E I Q V R P R S G L A L K H G I
UniRef90_H3NPH6       I V V K P N E V V K I P T G I K V S I P E G   Y F G A V Y P R S S A G I K H R I
UniRef90_H1PR67       I V M G S L E R V L V P T G L K I A I P E G   Y E V Q V R P R S G L A I K H G I
UniRef90_Q11AZ6       I I L L P G R R A L V P T G F I L E I P E G   F E G Q V R P R S G L A L R N G I
UniRef90_UPI0003666F5A T L Y P G E T Q L V K T G I A V E L P P G T   E L Q I V R P R S G L S L K T P L
UniRef90_UPI00035D3562 L T L L P G K R A L V P T G F V F E I P E G   F E G Q V R P R S G L A F K N G I
UniRef90_UPI000289704B L I I E P F D R V L V P T G I F L E   F E K G Y E A Q V R A R S G L A L K K G L
UniRef90_UPI0003C7F3CA T I A P G Q R T L V P T G I A I A L P D G   Y A A F V H P R S G L A L R H G L
UniRef90_D2PP02       V T L K P G E R A L V G T G I A I A L Q D G   Y A A F V H P R S G L A A K H G V
UniRef90_F5RC80       V V L R P G D T L L V P S G I A I H L E D P G L A A L V L P R S G L G H K H G I
UniRef90_X0Z5M3       I N L K P L E R T L V P T G L F I E L P D G   Y E A Q I R P R S G L A I K K G I
UniRef90_W5WRT5       V E L Q P G R R A L V P T G I A M A L P A G T V   G L I H P R S G L A L R H G L
UniRef90_B1QXF1       L V L N P G E R G L V H T G I Q I E L P K N T   E A Q I R P R S G L A L K N G I
UniRef90_B3R6F1       V A I A P G T P A L V P A G I A V H M G N P Y M A A T I V P R S G L G H K K G L
UniRef90_UPI000374E748 I T L Q P L E R A V V K T G L F V E I P   V G Y E A Q V R P R S G L A A K K G I
UniRef90_UPI00036E7B07 V V L L P G Q R T L I P T G F A L A M P   A G L E A Q I R P R S G L A F K H G I
UniRef90_Q2S160       V V L D P G A R A L V D T G L Q L A L P E G H   E G Q V R P R S G L A H D H G V
UniRef90_UPI000479C1B9 V R I E P L Q R V R I P T G I A L S F P G P S V V G L V Y A R S G L A W R H G I
UniRef90_C7M8D8       I T L Q P L E R T L V P T G L F L E I P E G   Y E A Q I R P R S G M A I K H G I
UniRef90_V4J7P8       F L L R P L Q R Y L V P T G F A V A I   E P G F E I Q V R P R S G L A V K H G I
UniRef90_UPI0002EF9F7F V V L Q P G E R R R V P T G I A L S I P E   G F A G F I H P R S G L S S K A G V
UniRef90_Q8FPH9       V V I A P G H R E L V G T G V A I A L P L G T V   G L I H P R S G L A A R E G L
UniRef90_V9TVN7       L N L V P M E R A V I A T G L S I A L P K G   Y E G Q I R G R S G L A L R Y G I
UniRef90_B0C9N7       I L P G A S A L I P T G I A I E L P Q G T   E A Q V R P R S G L A L K H S I
UniRef90_UPI0003B5C782 L T L G P G E R S A V P T G V A I A L P   A G Y A A F V H P R S G L A A R D G V
UniRef90_U2TGI9       L T L A P L E R R L I S T G L A I A I P E G   Y A G F V Q P R S G R S L R E G L
UniRef90_C4ZLW0       I T L H P G E T T L V P S G L A I H L S D P G L A A M V L P R S G L G H K H G I
UniRef90_P61909       L V L E P G N V G L V P T G L S F A I P Q E   F H F E I R P R S G F S T K N R I
UniRef90_UPI00037A5C59 L E I E A G S A V L V P S G L A L F I R D P F V A A M I L P R S G L G H K Q G L
UniRef90_G8RJT6       V E L A P G Q R A L V P T G I A V A I P H G M V   G L V H P R S G L A A R V G L
UniRef90_UPI00031449B1 V I L S P R Q R A L I P T G L I F H L L   P G F E A Q I R P R S G L A L K H G I
UniRef90_V5PEY8       I V L L P G R R T L V P T G L I L E I P Q G   Y E V Q I R P R S G L A F K N G I
UniRef90_UPI00037C6BEE F I I K P L D R V L V P S G I A I A L P   F G Y E A Q I R S R S G L A K N F G I
UniRef90_V8C7T9       V C L K A G E R I A V R T G L A F E I   E S G Y E I Q V R P R S G L A I K N A I
UniRef90_R0D2H2       L V L K P G A R A M V P T G F S V A I P D G   Y E M Q V R P R S G L A F K N G V
UniRef90_U7D8D3       I T L S P G E R A L I P T G L V F E I P   R G Y E V Q I R P R S G L A I R H G V
UniRef90_R7RRS4       V V V N P M E I K L I P T G I S I S L P   I G Y E A Q I R P R S G L A L K N G I
UniRef90_D4CXK1       I E L K V G E T K L I P T G L Q L D I P D G   Y E I Q L R P R S G L A L K N Q L
UniRef90_D3PEP2       I Q P K E T K L L I K T G L Q I A L P   I G Y E L Q I R P R S G L S L K T P L
UniRef90_UPI00036C093F I L L G P G D R H A V A T G F A V A I P   A G Y E I Q V R P R S G L A L K Y G V
UniRef90_K9EVM1       H T L L P L Q R L A I P T G L A A E I P Q G   Y E M Q V R P K S S L A L K H G I
UniRef90_UPI00037865E6 Q V I G A G K N K L I G T G L S I N I Q D P G L V A V V A S R S G L C L N H Q I
UniRef90_F8NB95       V T L R P M E R R L I P T G L H I A L P   V G F E A Q V R P R S G L A L K H G I
UniRef90_V9R7M2       V I L E P G C R T C I N T G I A I S I P N G   Y E A Q I R P R S G L A L K F G I
UniRef90_R9JMY3       V I I E P H T T E F I H T G I A I E V P D G   Y F G A V F A R S G L A S N E G L
UniRef90_F0RZ07       L V L A G G S Y G K V P T G L S I Q L P   V G Y E A Q V R P R S G L A A K F G L
UniRef90_E1R1L5       V I L P P G E R A M I P T G V R I Q I P E G   F E A Q V R P R S G L A A R N G L
UniRef90_W2BZD4       F I L K S G E R A L V P T G L F F Q I P K G   Y E A Q V R A R S G L A I R N G V
UniRef90_C2CFL9       I I V K A G E T V K V H T G V R V E I P E G Y F G G   V Y P R S S T G V K K Q L
UniRef90_C7NI87       I T L A P G E R A L V G T G I A L A L   E P G T V G L V H P R S G L A A R H G I
UniRef90_T0GK78       L E L P V G E V K L V R T G L A F A I P D G   F H F E I R P R S G F S T K F T I
UniRef90_U2VFQ4       V T L A P F E R R L I A T G L A I A I P D G   Y A G F V Q P R S G L A L R E G L
UniRef90_UPI00041D4B08 V V I A P G E R V V V G T G I A I A L P E G   Y A G F V H P R S G L A A R V G L
UniRef90_A0A022L975   V H L E P G E R A L V P T G V R I A L P E G   Y A A F V V P R S G L A A K H G L
UniRef90_V7EG28       F T L D P M H R S V V P T G L R V E I P   A G F E M Q I R P R S G L A L K H G I
UniRef90_V5VWW1       E F L N P G E C K L I G T G V A I N I A N P N Y A A M I L P R S G L G H K K G L
UniRef90_J1F7Y1       L V L K K G E A L V K T G L S F E I P E N   L E I Q V R P R S G L A A K H G I
UniRef90_R4LP05       V Q I P P G G W V P V R T G L A I A L P E G H V   G L V H P R S G L A A K L G V
UniRef90_UPI00042512CD T D I K P H T T A K I G T G L A M E I P D G Y F G G I Y A   R S G I A T K E G L
UniRef90_UPI00035CB172 V T L G P M Q R A L I P T G L F M A I P   V G Y E M Q V R P R S G L A Y K H G I
UniRef90_W2BT29       V Q I A P H E R K M V P T G I A I A L P D G   Y V G L V H P R S G L A A R E G L
UniRef90_Q0A4Q1       L T L A P G Q T E L L P S G M A V H M A D A G M A A T V L P R S G L G H K H G L
UniRef90_UPI0004771F1B I S L A P G Q R A L V G T G I A I A L P E G T V   G L V H P R S G L A A R H G L
UniRef90_K0PJF8       M I I E A G K R A L V P T G F T F E I P E G   Y E G Q V R P R S G L A F N H G I
UniRef90_Q895R1       I I N P G K H A L I L T G I S I E L P E N T   E A Q I R P R S G L A L K N G V
UniRef90_U4V050       I E I S P G G R A L I P T G I R L E I P   V G Y E A Q V R A R S G L A L K H G V
UniRef90_D5WPL3       L E I N P G E V I L I P T G I A V E L P G P E F V G L V F A R S G L S T R E Q L
UniRef90_M0QKD4       L E L P P G R Q V V G T G I A I A L P I G T V   G L V H P R S G L A A R A G L
UniRef90_G0IWN4       I T L A P L D R K L I G T G L Y I E I P K G   F E A Q I R P R S G L A Y K H G V
UniRef90_R5VIS1       V E V K Q G Q T V F I P T G L S M E I P   V G L A G F V Y A R S G M A C K K G L
UniRef90_A4EY50       L T L E P G E V V M I S T G L S V E L P E S T   E M Q I R P R S S M A L K Q Q I
UniRef90_E3IZ22       V T L G P G E R A V V G T G M S I A I P   A G Y A A F V H P R S G L A A R H G L
UniRef90_UPI0003B4CAAF I V L P P G K R V L V P T G F A I A I P   A G W E A Q V R A R S G L A L K H G L
UniRef90_S7J2Y2       L A I L P G K R V L V P T G I K M Q I P Q G   F E V Q V R P R S G L A L K H G I
UniRef90_R9GT40       L T L K P F Q R M L I P T G L F I E I P Q G   F E A Q I R P R S G L A L K Y G I
UniRef90_X8IRE2       I T L A P M E R R L I S T G I F I Q I P E G   Y E G Q V R A R S G L A I K H G I
UniRef90_F0GZG7       V V L E P G E I A K I E T G L H I A L P E G F F A A I Y P R S S T G V K H Q L
UniRef90_A0JVG0       V V L E P G E R R L V P T G V S I A L P N G F V   A L I H P R S G L A T K H G L
```

```
                                      90          100         110         120
UniRef90_U3U728         V L G N L V G L I D S D Y Q G Q L M I S V W N R S Q E N F H V H P G N R L A Q L
UniRef90_C7N5D3         S V V N A P G L I D S H Y R G E L K V L L I N D S K E D F E I N V G D R I A Q L
UniRef90_W5TS99         S I V N S P G T I D A G Y R G E I K V C L I N H P R T P I Q L R R G D R I A Q L
UniRef90_T0RNN8         L V V N S P G T I C D Y G E V K I I L G N F G T E D E I I E H G D R V C Q M
UniRef90_UPI00035E2082  T L V N A P G T V D A G Y R G E I R V T L L N T D L R D V R L R R G D R I A Q L
UniRef90_UPI000467BC6A  T C L N T P G T I D S D Y R G E V K V L L V N L G T E D F A I E R G M R I A Q V
UniRef90_I7IAD1         T V L N S P G T V D S D Y R G E V K V C L I N L S N Q P Y E I R R G D R I A Q I
UniRef90_UPI000347E858  T L V N A P G T V D A G Y R G E V K V V L I N D A R E P V K L N R G D R I A Q L
UniRef90_UPI000366AF37  T V L N T P G T I D S D Y R G I V K V I L I N L G E E D F K I Q R G D R I A Q L
UniRef90_Q3SWM9         T V L N S P G T V D A D Y R G E I N V L L V N L G S E A F T I R R G E R I A Q M
UniRef90_M7N895         T V V N A P G T V D A G Y R G E L K V T L L N D A S T P I V L K R G D R I A Q L
UniRef90_UPI0002558CA3  T L P N S P G T I D S D Y R G P L G V I L L N A G A E T F V I S H G E R I A Q M
UniRef90_UPI00037825F4  T V L N A P G T V D A G Y R G E I L V N L V N H D P K P A K I S R G D R I A Q L
UniRef90_Z4WSC5         T V I N S P G T I D A D Y R G E L R V P L I N L S N E P F T I Q D G E R I A Q M
UniRef90_UPI00037D3F20  T L V N S P G T I D A D Y R G E I G V I V I N H G D A P F D I S P G D R I A Q L
UniRef90_H3NPH6         T L A N T V G I I D S D Y R G D I Q I F F V N E S D K E Y T I N N G D R L A Q M
UniRef90_H1PR67         T L L N T P G T I D S D Y R G E L K V I M V N L S K D E Y V I N P Q E R I G Q L
UniRef90_Q11AZ6         T C L N T P G T I D S D Y R G E V Q V L L V N L G E E D F A V T R G M R I A Q L
UniRef90_UPI0003666F5A  H I R N A P G T V D N G Y R G E I C H C L I N S N S C P I V I E K G D R I A Q G
UniRef90_UPI00035D3562  T C L N S P G T V D S D Y R G E V K V L L I N L G E E P F V I S R G M R I A Q M
UniRef90_UPI000289704B  G L P N G I G T I D S D Y R G E V K I I L I N M S K E T V V I K D G E R I A Q L
UniRef90_UPI0003C7F3CA  S I V N T P G T I D A G Y R G E I K V V L V N H P T V P I E I K R G D R I A Q L
UniRef90_D2PP02         S I V N A P G T V D A G Y R G E I K V C L I N D P H A E V T L R R G D R I A Q L
UniRef90_F5RC80         V L G N L V G L I D S D Y Q G Q I F V S M W N R G Q H E F V L E P L E R I A Q L
UniRef90_X0Z5M3         T V L N T P G T I D A D Y R G E I M V I L I N L S N E N V E I N D G D R I C Q M
UniRef90_W5WRT5         S I V N T P G T I D A D Y R G E V K V C L I N D P D Q P I T L H R G D R I A Q L
UniRef90_B1QXF1         T T L N S P G T I D E G Y R G E I G V I L I N H G Q E T F V V E E G M K I A Q M
UniRef90_B3R6F1         V L G N S I G V I D A D Y Q G Q I M V S V W N P G T E P I V I Q P G E R I A Q M
UniRef90_UPI000374E748  T V L N A P G T V D A D Y R G E I G V I L V N L S N E E F T V V N G E R I A Q L
UniRef90_UPI00036E7B07  T C L N T P G T I D A D Y R G E V K V L L I N L G D E P F T F R R N E R I A Q M
UniRef90_Q2S160         T V L N S P G T V D A D Y R G E V K V L L V N H G A E P F T I E R G M R I A Q L
UniRef90_UPI000479C1B9  A L P N G V G V I D S D Y T G E I Q V L L T N F G D E P F T I Q P G D R I A Q L
UniRef90_C7M8D8         T V I N S P G T I C D Y R G E V K V P I V N L S N E P F T I A H S D R I A Q M
UniRef90_V4J7P8         T L V N A P G T I D A D Y R G E V K I A L I N L G D E P Y L I R P G D R I A Q L
UniRef90_UPI0002EF9F7F  T V I N A P G T I D A G Y R G E I Q V P L V N D P D A T A T I S R G D R I A Q L
UniRef90_Q8FPH9         S I V N A P G T V D A D Y R G E I K V C L I N D P S T P I T I T R G D R I A Q L
UniRef90_V9TVN7         A C Y N A P G T I D S D Y R G E I K V M L I N L G K K V V T F E H G D R I A Q L
UniRef90_B0C9N7         T V L N S P G T I D A G Y R G E I G V I L I N H G Q E T F Q V V E G M K I A Q M
UniRef90_UPI0003B5C782  T V L N A P G T V D A G Y R G E I K V I L V N T D T R T A T L T R G E R I A Q L
UniRef90_U2TGI9         S M A N T P G L V D S H Y R G E L K V V A I N D P D K P L V I E R G E R I A Q L
UniRef90_C4ZLW0         V L G N L I G L I D S D Y Q G Q I F V S V W N R G R A S F T I E P M E R I A Q L
UniRef90_P61909         L I P N S P G T I D S D Y R G E L M I P L L N L G D S S F I I E H G M R I A Q L
UniRef90_UPI00037A5C59  V L G N S T G L I D A D Y L G P I L V S V W N R G T P P I V I E P G D R I A Q M
UniRef90_G8RJT6         S I V N S P G T I D A G Y R G E V K V S L I N D P A E P I V V N R G D R I A Q L
UniRef90_UPI00031449B1  T C L N T P G T I D S D Y R G E V K V L L I N L G Q E D F S I Q R G M R I A Q T
UniRef90_V5PEY8         T C L N T P G T I D S D Y R G E V K V L L I N L G D D D F R I E R G M R I A Q A
UniRef90_UPI00037C6BEE  I V L N A P G T I D S D Y R G E L Q M P I V N L G K Q D F Q I E P A M R I A Q L
UniRef90_V8C7T9         S V L N T P G T I D S D Y R G E I M V I L I N L G K E D F T I H K G D R I A Q A
UniRef90_R0D2H2         T V V N A P G T V D S D Y R G Q V C V L L I N L G E E D F A I R R G D R I A Q G
UniRef90_U7D8D3         T V L N T P G T I D S D Y R G E I G V L L I N L G N T P F S I E Q G T R I A Q A
UniRef90_R7RRS4         A L V N S P G T I D S D Y R G E I G V I L I N L G K E P F I I R R G D R I A Q M
UniRef90_D4CXK1         T M L N T P A T I D A D Y K G E I G V I L T N L G K E T F T V E P G M R I A Q M
UniRef90_D3PEP2         R V A N T P G T V D A D Y R G E I C I L V W N T E D K P I T I E K G T R I A Q G
UniRef90_UPI00036C093F  T C L N T P G T I D A D Y R G E V K V I L A N L G R E P F E V K R G E R I A Q L
UniRef90_K9EVM1         T V L N T P G T V D A G Y R G E I K V I L I N L G Q S A F A I N P G Q R I A Q I
UniRef90_UPI00037865E6  R V G Q G L G I I D A D Y H G E I G V I L H N D G S E D Y T V Q P G E R I A Q L
UniRef90_F8NB95         T V L N T P G T I D S D Y R G E L M V L L V N L S N E D F I V N A G E R I A Q M
UniRef90_V9R7M2         T V L N T P G T I D A D Y R G E I K V I L I N L G S E A Y T I K Y G D R I A Q M
UniRef90_R9JMY3         R P A N C V G V C D S G Y R G E Y K V A L H N D S V S T K T V Q P G D K I A Q L
UniRef90_F0RZ07         T V L N S P G T I D A D Y R G E V C V L L I N H G R E E V R I H H G D R I A Q M
UniRef90_E1R1L5         T V L N T P G T I D C D Y R G E I K I I L I N L G R E S F S V E P G M R I A Q L
UniRef90_W2BZD4         G L V N G I G T V D S D Y R G E I K V P L I N W S N E D F T I H N G D R I A Q V
UniRef90_C2CFL9         M L S N T I G V I D S D Y R G E I M V F F Y N Y G K E T Q V I K N G D R L A Q L
UniRef90_C7NI87         T I V N A P G T I D A G Y R G E V R V C L L N S D R S P F T V R V G D R I A Q L
UniRef90_T0GK78         L V P N S P G T I D S D Y R G E L M V P L L G M T P Y L L E D G V R I A Q L
UniRef90_U2VFQ4         S M V N T P G L I D A H Y R G E L K V C A I N D S T N P I H I E R G E R I A Q L
UniRef90_UPI00041D4B08  S V V N T P G T I D A G Y R G E I R I C L I N H D P R T I A L H R G D R I A Q L
UniRef90_A0A022L975     S I V N S P G T V D A G Y R G E I K V S L I N T D T R A Y D V A V G D R I A Q L
UniRef90_V7EG28         T L P N T P G T I D S D Y R G P L G V A L V N L G A E P Y T I R H G D R I A Q M
UniRef90_V5VWW1         V L G N G T G L I D S D Y Q G E L I V S C F N R S Q E V V E I E P L M R F A Q L
UniRef90_J1F7Y1         T V L N S P G T I D S D Y R G P L Q V I L I N K E D F Q I S V G D R I A Q G
UniRef90_R4LP05         T V L N A P G T V D A G Y R G E I L V N L I N H D R N T V K I A R G D R I A Q L
UniRef90_UPI00042512CD  R P A N C V G V V D S D Y R G E I I V A V H N D S D E V R T I I P G E R V A Q I
UniRef90_UPI00035CB172  G L V N S P G T I D A D F R G E L Q V L L I N F S D Q D F V V Q D G E R I A Q L
UniRef90_W2BT29         S I V N S P G T I D S G Y R G E I K V C L I N T D P E T I S L R R G D K I A Q L
UniRef90_Q0A4Q1         V L G N L V G L I D S D Y Q G Q I L I S C W N R G I E P F V I N P G E R V A Q L
UniRef90_UPI0004771F1B  S V V N T P G T I D A Q Y R G E I K V C L I N H D P E S I D I T R G M R I A Q L
UniRef90_K0PJF8         T C L N T P G T I D S D Y R G E V K V L L I N L G E E P F E I T R G M R I A Q M
UniRef90_Q895R1         T V L N T P G T I D S D Y R G E I G I I L I N H G E K N F Q V E K G M K I A Q M
UniRef90_U4V050         T L A N A I G T I D S D Y R G D L G V I L W N G G A D V F R V T H G M R I A Q M
UniRef90_D5WPL3         G L A N G V G V I D S D Y R G E I H A P L Y N F G K Q P R R I E P G Q R V A Q L
UniRef90_M0QKD4         S I V N T P G T I D A G Y R G E I K V C L I N H P D E T I S I S R G D R I A Q L
UniRef90_G0IWN4         T V L N S P G T I D S D Y R G E I K V I L I N S D T V F T V Q D G E R I A Q M
UniRef90_R5VIS1         A P A N K V G V I D S D Y R G E I L V A L H N H S Q Q D L V V E P G E R V A Q M
UniRef90_A4EY50         I I P N S P A T I D E D Y R G I I Y V G L Y L L G G D P V V L N H G D R F A Q A
UniRef90_E3IZ22         S V V N A P G T V D A G Y R G E I K V I L L N T D T E P I R L S R G D R I A Q L
UniRef90_UPI0003B4CAAF  A L P N A P G T I D S D Y R G P L G V I I L N L G D A D F H V A H G D R I A Q L
UniRef90_S7J2Y2         V V V N S P G T V D A D Y R G E C I I L A N F G D Q T F I V E P K M R V A Q A
UniRef90_R9GT40         T V L N S P G T I D A D Y R G E I K V L L N L S D T D F Q I K S G D R I A Q M
UniRef90_X8IRE2         G L V N S I G T I D S D Y R G E I K I P M I N F G S E E F T V H N G D R V A Q L
UniRef90_F0GZG7         M L A N S T G I I D S D Y R G E I K L F F Y N F G N D C Q T I K N G E R I A Q M
UniRef90_A0JVG0         T V V N A P G T V D A G Y R G E I A V I L L N T D R E S I E L R R G D R I A Q M
```

```
                                130
UniRef90_U3U728          V F L P V V Q V E F N L V E H F
UniRef90_C7N5D3          V I A K V E N V D W Q P V D E L
UniRef90_W5TS99          L V Q R V E L A D F E E V D Q L
UniRef90_T0RNN8          V I A P V T Q A K F V V T D E L
UniRef90_UPI00035E2082   V V Q R V A H A V F H E V A D L
UniRef90_UPI000467BC6A   I I A P V T Q M P V T V V D D L
UniRef90_I7IAD1          L V T P I S W I V W N N T E E F
UniRef90_UPI000347E858   V I Q R V E R A V F T E A D E L
UniRef90_UPI000366AF37   V I Q K I F F P N F K I V E T L
UniRef90_Q3SWM9          I V A P V T R V E L V R A A A L
UniRef90_M7N895          V I Q K V E R A R F L Q V E A L
UniRef90_UPI0002558CA3   L V A P V I Q A R F D L V E A L
UniRef90_UPI00037825F4   V V Q R V E R A R F H S V D E L
UniRef90_Z4WSC5          V V A R H E V V E W Q L T T E L
UniRef90_UPI00037D3F20   V V A P V V Q S R I T E V V E L
UniRef90_H3NPH6          I I Q P Y V R A E I E I V D S L
UniRef90_H1PR67          V L N K V A Q M E F V E V D S L
UniRef90_Q11AZ6          V I A P I T R A T I E E
UniRef90_UPI0003666F5A   V V M P V I R C E I E E V E S L
UniRef90_UPI00035D3562   V I A P V T Q T R V A E I
UniRef90_UPI000289704B   V F M K I E I P E I Q E V E
UniRef90_UPI0003C7F3CA   V V Q R V E H A V F T E V D A L
UniRef90_D2PP02          V V Q Q V E K V R F V E V G T L
UniRef90_F5RC80          V V V P V V Q V R L N E V S D F
UniRef90_X0Z5M3          V I N R H E K A S F K E V K V L
UniRef90_W5WRT5          V I Q Q V S L C D V E E V T D
UniRef90_B1QXF1          I V K P V Y R V N I L E A D E L
UniRef90_B3R6F1          M F V P V L R P V F S T V E E F
UniRef90_UPI000374E748   V I C A H E R A E W I E T E S L
UniRef90_UPI00036E7B07   V F Q I V P E V K L I P V E E L
UniRef90_Q2S160          V V A R H A R V E W V H R E A L
UniRef90_UPI000479C1B9   V F A P V H Q A Q L V H T E
UniRef90_C7M8D8          V F A K Y E K A T F E T V T E L
UniRef90_V4J7P8          V V A P V A R A R L H L V D S L
UniRef90_UPI0002EF9F7F   V I Q E V C R A E F E I V D T L
UniRef90_Q8FPH9          I I Q R V E L V D F V E V D E L
UniRef90_V9TVN7          V I S P V I S V A W E E V Y A L
UniRef90_B0C9N7          V I A P I M R A E I E E V T E L
UniRef90_UPI0003B5C782   V I Q R V A Q A R L V E V E Q L
UniRef90_U2TGI9          V I Q K V P I V E L V E V D E L
UniRef90_C4ZLW0          V V V P V L Q V G F N F E G F
UniRef90_P61909          L I R K T W Y A D W E L V S E F
UniRef90_UPI00037A5C59   M F V P V V R P R F E V V A D F
UniRef90_G8RJT6          L V Q R V E L P D L V E V T S F
UniRef90_UPI00031449B1   V I A P I I Q V N V C V I D
UniRef90_V5PEY8          V F A P V I Q P K I E E
UniRef90_UPI00037C6BEE   V I S R Y E I V N W E L V D D L
UniRef90_V8C7T9          V V Q R V W Q V D F V E V S E L
UniRef90_R0D2H2          I I A A P Q W P L V E V D D L
UniRef90_U7D8D3          V V A P V V Q A R Y T E Q E T L
UniRef90_R7RRS4          V I N K V V I P E I I E A E N L
UniRef90_D4CXK1          V L N R V E Q I T W E I T D N
UniRef90_D3PEP2          V L C K I E Q V N F I E T D E L
UniRef90_UPI00036C093F   V P A E V T V A R F L E V E T L
UniRef90_K9EVM1          I I A P V L Q A E F I E A A Q L
UniRef90_UPI00037865E6   L F M P V V Q V A F K L V A D F
UniRef90_F8NB95          V I A R H E T A V W E P V G V L
UniRef90_V9R7M2          I I A P V T R A S W N L V K N F
UniRef90_R9JMY3          V V M P Y L N M E F N E V D E L
UniRef90_F0RZ07          V I A R C E Q A T F T E T I S L
UniRef90_E1R1L5          V F A P V V Q A E F I Q I E E L
UniRef90_W2BZD4          V I N K Y E Y V E F E I T D K L
UniRef90_C2CFL9          I I Q P Y Q R C D I E L V D N L
UniRef90_C7NI87          V V Q R V E L P P I E E V Q D
UniRef90_T0GK78          L I R R T W L T D W E I V E E L
UniRef90_U2VFQ4          V I Q Q I P V V T L S E V D E L
UniRef90_UPI00041D4B08   V V Q R V E H A V F R E V A E L
UniRef90_A0A022L975      I I M P V T R A T F I P V D E L
UniRef90_V7EG28          I V A P V I Q V Q F Q E V D A L
UniRef90_V5VWW1          V I V P V V Q A R F D V V E E F
UniRef90_J1F7Y1          V V A R V E K V N L Q I T D E
UniRef90_R4LP05          V V Q R V E R A V F H V V D E L
UniRef90_UPI00042512CD   I I Q P Y L S V E F E E A D E L
UniRef90_UPI00035CB172   I V A R H E V V D W E P V K K L
UniRef90_W2BT29          V I Q R F W Q A D F E I T D N L
UniRef90_Q0A4Q1          V F V P V L R P R F Q V V D E F
UniRef90_UPI0004771F1B   V I Q R V E L V D F V E T A E L
UniRef90_K0PJF8          V I A P A I Q A H I S E I S E
UniRef90_Q895R1          V I K P I V K V N I E E V K M L
UniRef90_U4V050          V V A P V V Q A T F A I V D A L
UniRef90_D5WPL3          V V M P I C R V E V A Y V T Q L
UniRef90_M0QKD4          L V Q R V E L P D F V E V D E L
UniRef90_G0IWN4          V I A K H E Q I E W N P Q A Q L
UniRef90_R5VIS1          V I A P Y I M A R Y E Q V D S L
UniRef90_A4EY50          V I A P V L K P E V I E V R E L
UniRef90_E3IZ22          V V Q R V E H A A F R E I D E L
UniRef90_UPI0003B4CAAF   V I A P A P Q A A F D L V E A L
UniRef90_S7J2Y2          V V V P V I Q A E F V R V T E L
UniRef90_R9GT40          I I A R H E Q V L W K
UniRef90_X8IRE2          V I A A Y E R V E P V L V E E L
UniRef90_F0GZG7          V I Q P Y E K V Q I E V A V E L
UniRef90_A0JVG0          V I Q R V E Y A Q F V A V A E L
```

Multiple sequence alignment (positions 1–40):

```
                         1         10        20        30        40
UniRef90_F7Z0I3          M D D V L K V K L   L H P D A Q L P Q R A N P G D A G L D L Y S I E E K
UniRef90_F4LU95          M C N K I K I I V C K V E G A E D I P L P Q Y M T S G A A G M D L A A N V S E I
UniRef90_W9WS65          L S S T F Q P P L L I K K L S A D A S T P T R G S A S A A G Y D L Y A A   K P
UniRef90_P61906          M Q K L A V K I K K L E   N F H G D L P Q Y Q S L G A S G F D V R A Q L A G P
UniRef90_R6CH03          M K L K F K K M R E G A V I P K R M T A H S A G C D L T A C P E S A
UniRef90_I0ER20          M K I K I Q K I H P N A I I P K Y Q T E G S S G F D L H A V E D
UniRef90_E8RDN4          L H P E R T A G L T L P A Y E S E L A A G M D V G A A L D Q P
UniRef90_K4ISY3          M K V K I I N   R S A F E L P K Y E T S Q S A G V D L K A N M K E P
UniRef90_Q98C10          V R L P H A E G L P L P A Y E S T G A A G M D L R A A V D R P
UniRef90_W8JEM5          L E S G V D L P E Y A T E G A S G A D L R A N I S E P
UniRef90_R7DAX0          I G R K L R A K K V N E G I E M P R Y A H E G D A G L D L R   I T E T
UniRef90_E4RKS6          M N I K V E K L N D Q V K L P E Y Q H F G D A G L D L H A A   E E
UniRef90_X1DPK6          M K T I K L K I K I   L D R S I P V P K Y A H P G D A G L D L Y S S I N
UniRef90_UPI0003AA354A   V S V R K L D H F G D L P L P A Y E T A E S A G M D L R A A V P E P
UniRef90_R7IS17          M T Q T V R V K   K R E N A V L P S Y G S D Y A A G A D L Y A C   N A
UniRef90_D5UN00          M V T Q I P L   L R L D E G L P L P K R A H P G D A G V D L Y S T V D
UniRef90_F5YBN6          R P L V K I R K K D P K V S L P R Y E T Q G A A G M D L R A F I E K E
UniRef90_G8QW30          M A K M T V E V P I T   L Q T G A K A P V Y A T E C S A G A D I C A C I P A D
UniRef90_UPI000368B356   E L R I L R L P H G E G L P T P A Y E T S A A A G L D L P A A V D A P
UniRef90_UPI00037BB3ED   M E I L F H R L D P G V P I P T Y A H A G D A G A D L V T T E D
UniRef90_I0IL92          S P E V E I C I L D K R L L E   W G I P R Y Q S E M A A A I D L F A C I S E P
UniRef90_UPI0002555220   V R I L K K D P G A F V P E Y E T K G A A G A D L R A R I D A P
UniRef90_R7FUU4          K V I L K K L N S L A K T P V Y S S D F A A G A D L Y A A T D S D
UniRef90_Q1DAL8          M S S P L T V V R R V R H A E P L P L P R Y E T A Q A A G L D L R A D I D G E
UniRef90_S9PIF1          M T S P I V V R V R R V R T H P E L P L P R Y E T A L A A G M D L R A D I E G E
UniRef90_U3NWA8          L P E Y T T E G A A G A D L K A N I E E P
UniRef90_R7K7W6          M N Y I N L K L   K K L R D N A I I P T A G S K G A A G I D L Y A C L D S E
UniRef90_B1HSG8          M N V E V K I K R M H E D A M L P M Q A N P G D A G M D L Y S I   E T
UniRef90_M9RG50          M V T I R F E W I   A G A D E T F G L P T Y A T S G A A G A D L R A N L D D I
UniRef90_UPI0003B4FA24   R L D P Q V P L P S Y A L S G D A G A D L V T T V D A
UniRef90_C7QP06          M L K I M I   I K V Q K I D I G A T I P R Y E H F N D S G M D L I S I E D
UniRef90_R6ST20          R V R V K L L P D A V L P T Y G S A S A A G A D L Y A C   G E A
UniRef90_B1LXS4          P E V G L R L L D P R L   P G W G F P R W G S A A A A G L D L H A C L D A P
UniRef90_E3B9S2          V L Q L D A G L E P P A Y A Y D G D A G A D L R A R I G
UniRef90_W6JXY8          R P V V L V R T L D P A A T L P A Y A R D G D A G A D L   A C I E E R
UniRef90_D6SS25          M H N H I T V K I K F L P H S E G E N G L E Y A T S G S A G V D L K A W I Q E E
UniRef90_UPI00047D7E02   M K L L I E K I N E K A I I P F Y A H S G D A G M D L F S V   E K
UniRef90_W4HIX3          M E Q V R V G F L D E G A D R T V G L P S Y A S D G A A G A D L R A N F P G R
UniRef90_K7RWV9          M R T V D V H L V   L D P G A T A P R Y A M P G D A G A D L A T T V D
UniRef90_D6YU11          M H Q E P I E I P I T   A N D D I Q L P S Y S S E L A S G A D V R A H L Q E E
UniRef90_V9W9A2          M E I K I K K I H P D A V I P E Y A T A G A G F D L V A L E D
UniRef90_A9HI24          S T A G A A G I D L L A A V T E P
UniRef90_W0B8V4          M E H A I Q L K I L D A R I G N S I P L P A Y T T P G S A G L D L R V C I D E P
UniRef90_UPI000366AD5F   P R Y A H S D D A G A D L F A A   E S
UniRef90_UPI00038239FB   M T S E L R F E L   L S P T A T A P S R A H A T D A G F D L H S   D E D
UniRef90_UPI0002192FC1   R L D R D L P L P R R A H P G D A G I D L H S T E D
UniRef90_B8HHR9          N V E L K I L D   D G I E A P S Y A Q P G D A G A D L R T T V D
UniRef90_V2X2I0          L L V K R H S E K A K I P T R G S A L S A G Y D L Y S A   E A
UniRef90_UPI0004709C6C   M K I N L Q L L D A G M S A P T Y A H A G A G A D L R S T I D
UniRef90_H6LJX7          M M V N Y P I K I V N   H S P Y P L P E Y Q T I G S A G M D L R A N L D A K
UniRef90_D0LCH8          M P A R A H P G D A G V D L Y C A I D
UniRef90_UPI000319B604   V Q I K L L D A G M A P   P E Y A Q P G D A G A D L R S R I D
UniRef90_F8E8C7          M K K I N V K I Q K   T N D S R V P V Y K T E E S A G A D L F A A   E A
UniRef90_Q82KK4          M T R A P L N V L L R R V D P D V P L P A Y E H P G D A G A D L R T T   E S
UniRef90_S8AVU7          Q P S L L I K K L N E K A Q T P K R G S P F A A G Y D M Y A S E D T
UniRef90_P32518          V K K L S E N A V L P S R A S S L A A G Y D L S S A A E T K
UniRef90_C0BCV4          L P V R V H P T D A G A D L R A D I P E P
UniRef90_A4S9G9          A L R V K R L S D D A T M P T R G S A G A D L A S A H D
UniRef90_W7TKM8          M S E T L Q V K   R L S Q H A V L P V R G S E W A A G Y D L A S A E D T V
UniRef90_A5E891          M T E T I A I D V Q I L P H G E G L P L P A Y Q T A H A A G M D L L A A V A A D
UniRef90_B5YDD8          V K K V L I E R I D K D L P L P N Y A T S G S A A L D L Y S R I D
UniRef90_UPI00034B84BF   M E I K I L K L N E A A I V P H Y S H P G D A G L D L F S I E E Q
UniRef90_A8LKC5          M S L M I E V   L R E P W A D E A I P L P S Y A T V G D A G A D L R A N L D Q G
UniRef90_G1N547          R L R F T K L S K N A C T P S K G S A R A A G Y D L Y S A Y D
UniRef90_A8NJ41          I Y F K K L S E N A Q I P T Y G S E W A A G A D L Y S A Y D
UniRef90_C4GB07          M K I A L R K M T E S A Q I P V R G S L Q A A G Y D L F A D L S E A
UniRef90_UPI0004681171   M S D V V E V P I L   A A E A P H Y A H A D D A G A D L V A S   E S
UniRef90_J9VJD9          L L I K K L S P S A T L P T R G S S L S A G Y D L Y S A E E T V
UniRef90_Z9JXF2          L P V R L A P G A A L P H R A H D H A G Y D L V S N   E S
UniRef90_D4J3L9          M N I N I K K L T D S A K L P E R G S E Y A A G A D L F A D V A E E
UniRef90_E6J7T8          L R I R L D R G L P L P V R A H A A D A G I D L H A A E D C D
UniRef90_K6WVI6          V R V R R L D P Q L P L P A Y A R P G D A G L D L L A R E D A
UniRef90_K1XX16          L E I A I P F K K L S E K A K I P S Q A T S S D A G Y D L Y T T   E S
UniRef90_UPI0003F6AE48   Y P L P Q Y A T P G A S G M D I R A H L D K P
UniRef90_G4YI11          L R V K K L T P E A I L P T R G S S L A A G L D L S A A Y D A
UniRef90_B3RU43          T S Q P E I T L R F K K L S E N A T A P K R G S A Q A A G Y D L Y S A E Q S
UniRef90_B2GJ65          L D P D L P A P A Y A R E G D A G A D L R A R A D
UniRef90_UPI00037106C0   M Q P P K V P V K I K F L H S V W K E H S Y A T E H S V G L D L R A C I D E E
UniRef90_C4XRY8          L R V K F L R D S S R D N P P S V G T A A G L D L R A D I E A A
UniRef90_D8LVR6          M Q E E I   L Y V K K L S E N A T I P V R G S V H A A G Y D L F S A A D
UniRef90_G2Q0G1          I K K L S D K A R L P T R G S A F A A G Y D L Y A A   R P
UniRef90_H0E2S9          M S E S S G V S I A F R R L D P A A V I P L R Q H P G D A G L D L C C L E P
UniRef90_C7TZU9          I K L K Y K K L S D R A A T P V R G S A F A A G L D L Y A A H E A
UniRef90_D6ZER6          A V A F V R L D A E L E P P A R A H H G D A G V D L R A V S   A
UniRef90_B0EI63          M E E V   L L V K K L A E D A T I P T R G S N Y A A G I D L Y S N T N
UniRef90_D4KCG2          M S R M R P S I K I N K L H D D A H L P T Y G S A N A A C A D L Y A Y I D R C
UniRef90_K2JUX1          M T V D I K I Q W L   E G A D P A I K P P S Y E T E H A A G A D V R A N F D V G
UniRef90_UPI0004648D86   D D V P L P A Y A H P G D A G A D L V T T V D
UniRef90_A0A024JNC6      L Q V K L   L S A T A R A P T R G S A S A A G Y D L Y A S   Q A
UniRef90_B5Y572          I Q R L S P H A T L P R R G S D L S A G L D L S S A A N
UniRef90_N0B3H8          M Y N V K V K L M N K   D A L V P Q A N K G D A G F D L S A E E K
UniRef90_Q6TVI1          A L R V V R L S P N A T L P T R G S P R A A G Y D L C S A C D C L
```

```
                                             50          60          70          80
UniRef90_F7Z0I3            T I  A P G E A E L I  R T G I  A I E L P  R R T E A Q V R P R S G L A L N H R V
UniRef90_F4LU95            T Y L  E A G E F K V I  P C G I  K I E L P  T G F E A Q I  R P R S G L A V N H G I
UniRef90_W9WS65            I T I  P S R G K A L V  S T D L S A T P  E G T Y  G R I  R P R S G L A A K H F I
UniRef90_P61906            V V L N P G E R A M I  P T G L S F E I P  L G Y E I Q A R P R S G W A A K S G L
UniRef90_R6CH03            V T I  G A G E T A M I  P T G V A A Q L C D G E Y V L L A Y A R S S L A A K H G L
UniRef90_I0ER20            V V I  K S H S V G L V S I G I  C L A L  E V G Y E L Q V R T R S G L A L K N Q V
UniRef90_E8RDN4            M V L Q P G D I G L V P C G F A V A I P  P G Y E I Q V R P R S G L A V K H G I
UniRef90_K4ISY3            I Y L  E S L E R C L V K T G L F I E L P  L G V E A Q V R P R S G L A L K K G I
UniRef90_Q98C10            L L I L P G K R S L V P T G L I L E I P  E G  M E G Q V R P R S G L A F K H G L
UniRef90_W8JEM5            I A L L P G Q R T L V P T G I K M Q I P  S G  Y E V Q I  R P R S G L A L K Y G V
UniRef90_R7DAX0            V T L E P M Q K C V V G C G L A V E I P  S G C V  G L V F P R S G L A A K Q G I
UniRef90_E4RKS6            V I I  K S G E Y E L I K T G L K I A V P K G  Y A A F V Y P R S G L A L K H G I
UniRef90_X1DPK6            C E L  R P F E R K K I P T G I K I S I P Q G  Y A G F I  Q P R S G L A A K N G I
UniRef90_UPI0003AA354A     V D I  P P G G R A L I  P T G L A I A L P  P G F E A Q V R P R S G L A I K N G V
UniRef90_R7IS17            V T V E P G A T E F V Q T G L A L E V P  A G Y A G L V Y A R S G L A C K K G L
UniRef90_D5UN00            I R I  E P G T R A M V  P T G I A L A L P H G T V  G L I  H P R S G L A A K H G L
UniRef90_F5YBN6            I F L  S P L G R A K I  P T G L F M E I P  P G F E A Q V R P R S G L A A K A G I
UniRef90_G8QW30            M V I  D S G S Y A M V  P T G L S I A L P K G  F E A Q V R P R S G L S A K F G V
UniRef90_UPI000368B356     I V I  A P G A R A L V  P T G L V L Q F P  T G F E A Q V R P R S G L A L R H G I
UniRef90_UPI00037BB3ED     V V L D P G Q R A T M G T G T A I A L P D G  Y A A F V H P R S G L A A R C G L
UniRef90_I0IL92            V T L  A A G S S A L V  S A G F S L F L R N P H L A A M V L P R S G L G H R S G L
UniRef90_UPI0002555220     V V I  L P L D R A R V S T G L V L E I P  P G Y E A Q V R P R S G L A A R N G L
UniRef90_R7FUU4            I L I  A P D Q T V M V G T G I A V Q I P D G L V  G L V Y A R S G L A S K R G V
UniRef90_Q1DAL8            R V L G P L D R L A V P T G L A L A L P  A G Y E G Q V R P R S G L A L R H G L
UniRef90_S9PIF1            L T L G P L E R A A I  P T G L A L A L P  P G F E A Q L R P R S G L A L R H G L
UniRef90_U3NWA8            I A L L P G Q R V L I  P T G L R V E I P  L G Y E L Q V R P R S G L A L K H G I
UniRef90_R7K7W6            I E I  K P N E T Y F V P T G L S S E F E E G F V  M L I  F A R S G L S C K Q G L
UniRef90_B1HSG8            V E I  P A G G T K L I K T G I Q I E L P K G T  E A Q I  R P R S G L A L K H S I
UniRef90_M9RG50            V T L D V G A R I L V  P T G L A I P  A G F E V Q V R P R S G L A L K H G I
UniRef90_UPI0003B4FA24       T L  A P G E R A L L  P T G L A I A I P Q G  Y A G F V H P R S G L A I R A G L
UniRef90_C7QP06            L E I  L P G E S K L V  P T G I A I E L P P N T  E A Q I  R P R S G L A L K H Q I
UniRef90_R6ST20            V T I  A P G E T A L V H T G L V M E I P Q G L V  G L V Y A R S G L A T K R G L
UniRef90_B1LXS4            V V L  P P G K P V L I  P A G F T V L I R D P A W C G L I  F P R S G R G H R E G L
UniRef90_E3B9S2            L T L  A P G E H R A L V  P T G V A L A L P  P G W A G F V H P R S G L A A R H G I
UniRef90_W6JXY8              T L  A P G E R A L V R T G I A V A I P D G W V  G L V H P R S G L A A K H G I
UniRef90_D6SS25            I T L  A P G Q R H P F P A G V A L E I N E P S V A G F V F S R S G L G T K Q G L
UniRef90_UPI00047D7E02     V L I  A P G E I K L I N T G I K L Q L P  L N T E A Q V R P R S G L A L K Y G I
UniRef90_W4HIX3            T D I  A P G G R A V I  P T G L R I A V P  T G Y E A Q L R P R S G L A R D H G I
UniRef90_K7RWV9            V H L  E P G R R A L V  P T G V R V A V P E G C V  G L I  N P R S G L A A R T G L
UniRef90_D6YU11            M V I  T P G Q S A L I  P T G L K M A I P  P G Y E I Q V R P R S G L A L K H Q I
UniRef90_V9W9A2            V I I  E P G D V K T I  R T G L A F E I P  V G Y E L Q I  R P R S G V S L K T K L
UniRef90_A9HI24            I V V  A G A R V L V  P T G L C I  A L P  P G Y E L Q V R P R S G L A L K H G I
UniRef90_W0B8V4            I Q I  A S Q E T V L L  P T G I A I Y I A D P T L A A V I  L P R S G L G H K H G I
UniRef90_UPI000366AD5F     A V L Q P G E R A L I  G T G V A I A L P E G  Y A A F V V P R S G L A A K H G I
UniRef90_UPI00038239FB     L I I  G A G E R T L V R C G F A M A L P E G  Y A G L V C P R S G L A G K S G I
UniRef90_UPI0002192FC1     L T L Q P G Q R E L V  G T G I A V A L P P G T V  G L V H P R S G R A W R D G L
UniRef90_B8HHR9            F T L E P G E R K L V  P T G I A V A L P F G T V  G L I  H P R S G L A A K H G I
UniRef90_V2X2I0            K T I  P P H G K A L I  D T Q I S I A V P A G H Y  G R V A P R S G L A S K F M I
UniRef90_UPI0004709C6C     F V L E P F E R R V V  P T G L A L E I P E G  Y A A F V H P R S G L S S K H G V
UniRef90_H6LJX7            I I I  M P H K V Y Q I  P T G I F L E L P  I G I E A Q I  R A R S G L A L K H G L
UniRef90_D0LCH8            L E L  P A G R R Q L V  P T G I A V A L P V G T V  G L I  H P R S G L A A R T G L
UniRef90_UPI000319B604     F R L  A P G E R L L V  P T G L A I A L P D G  Y V G L V H P R S G L A T K H G V
UniRef90_F8E8C7            G V V K A G K I K L V K T G V S F S I P E G  Y E A Q I  R P R S G L A L K G V
UniRef90_Q82KK4            C E L  K P G E R A V L  P T G V S V A L P E G  Y A A F V H P R S G L A A R C G V
UniRef90_S8AVU7              V I  P K G G K G L V E T G L S M A V P E G C Y  G R I  A P R S G L A S K N F I
UniRef90_P32518            V  P A R G K A L V  P T D L S I A V P Q G T Y  A R I  A P R S G L A W K Y S I
UniRef90_C0BCV4            V T L Q P R E S T F F N T G I E V A I  P E G Y F G A L  A I  R S S L A C K H G I
UniRef90_A4S9G9            C V V  P A R G K E L V K T D L S I A I  P L G T Y  A R V A P R S G L A W K K F I
UniRef90_W7TKM8            V  P A K G K A L V K T D L S I A I  P P N T Y  A R I  A P R S G L A W K K H I
UniRef90_A5E891            A P L  G P G S H A M V  P T G L S L A L P D G  Y E A Q V R P R S G L A A R H G V
UniRef90_B5YDD8            F E L  P P G G G L V I  P T G I K I A L P E G  Y L A F V L P R S G L A A K E G I
UniRef90_UPI00034B84BF     E I  I P G E T K L I N T G I A I A L P  P G T E A Q I  R P R S G L A L K H S I
UniRef90_A8LKC5            V E I  Q P L C R V I  P T G L R V A I P  A G Y E M Q I  R P R S G L A L K H G L
UniRef90_G1N547            Y V I  P P M E K A V V K T D I Q I A L P A G C Y  G R V A P R S G L A A K H F I
UniRef90_A8NJ41            C V I  P A K D K G S V G T D L Q V Q I P  R G Y Y G R I  A P R S G L A M K H F I
UniRef90_C4GB07            V T I  P Q E T K M V G T G I A C A I  P E G Y F G G I Y A  R S G L S A K E G L
UniRef90_UPI0004681171     V T L G P G E R A L I  G T G V S I A L P H G  Y A A F V V P R S G L A A K H G V
UniRef90_J9VJD9            V  P A R G K A L I  D S G L C I  A V P E G T Y  G R V A P R S G L A S K H S I
UniRef90_Z9JXF2            L T I  P A G G R A L V  G T G V S V A L P E G T V  G L V C P R S G L A V K H G I
UniRef90_D4J3L9            V K I  A P H E T K M I  G T G V A M E I P V G Y F G G V F A R S G L S S K E G L
UniRef90_E6J7T8            L A P G H R V L M P T G V A I A L P  V G Y V G L V H P R S G L A A R A G L
UniRef90_K6WVI6            L L Q P G H R A L V  G T G I A V Q I P P G W V  G L V H P R S G L A A R H G V
UniRef90_K1XX16            G V I  K S G E R K L F K T N I S T A I  P H G Y Y  G R V A P R S G L A Y K H G I
UniRef90_UPI0003F6AE48     L E I  P P L G R V L I  P T G I R I A L P E G  Y E A Q V R P R S G L C A K R G L
UniRef90_G4YI11            V I  P A G G K G L V K T D L A V P D G C Y  A R V A P R S G L A L K K F I
UniRef90_B3RU43            V I  P P H G K A V I K T D I A I A V P A G C Y  G R V A P R S G L A V K K H I
UniRef90_B2GJ65            V E L  L P G E R A L V D T G V A V A I P  A G Y V G L V H P R S G L A A K H G I
UniRef90_UPI00037106C0     V E I  A P G E R Y A V P T G L A I E V G E P G I A G F I  Y S R S G L A G K E G L
UniRef90_C4XRY8            L T I  A P G H R A A V P T G I A I A I  D M P G V A G F I  Y S R S G L A A K H G L
UniRef90_D8LVR6            V T V K A R G K A L I  P T D L S V A I  P P N C Y F Y F V A P R S G L A L K K F I
UniRef90_G2Q0G1            T T I  P A R G K V L V  D T D L S M S L  P A G T Y  G R I  A P R S G L A A K H S I
UniRef90_H0E2S9            I H L  E P G D R A M V  P T G L A I A I P E G H V  G L V V P R S G L A L K H G I
UniRef90_C7TZU9            T I  P G G R G L I  P T G L Q I E I P E G C Y  G R V A P R S G L A L K N G I
UniRef90_D6ZER6            I T L  A P G E R G I  V G T G V A V A I P  V G Y V G L V H P R S G L A A R V G L
UniRef90_B0EI63            F I I  Q P H D R F L V S T G I A V Q I P H Q C Y  G R I  A P R S S L A L K Y G I
UniRef90_D4KCG2            I M I  Q P H E T V K V H T G L R M A P P E G W Y V A I Y A  R S G L A T K H G L
UniRef90_K2JUX1            V E L  A P G A R A L I  P T G F A M E I P  P G F E V Q V R P R S G L A L K H G V
UniRef90_UPI0004648D86     V E L  A P G E R A V V P T G L S I A L P D G  Y A A F V V P R S G L A A K H G V
UniRef90_A0A024JNC6        T V L  P A R G R A L V P T D I S I A L P G A H T Y G R V A P R S G L A V K H G I
UniRef90_B5Y572            L T I  A A G D R A L V P T G L A V A C P P G T Y  G R V A P R S G L A L K K G I
UniRef90_N0B3H8            V I  K S G E R A L I  G T G I M I E L P E G T  E A Q I  R P R S G L A L K H G I
UniRef90_Q6TVI1            V  P A G G R R V V F T D L Q I Q L P D G C Y  G R V A P R S G L A V K H F I
```

```
                                               90            100           110           120
UniRef90_F7Z0I3          T V L N S P G T I D E G Y R G E I K V I L I N F G K Q P F T V E K G M R I A Q M
UniRef90_F4LU95         T V L N S P G T I C D Y R G E V K V I L I N H G K Q K F A I K R G D R I A Q L
UniRef90_W9WS65         D T G     A G V I D A D Y R G E V K V I L I N H S E V D F E V K K G D R I A Q L
UniRef90_P61906         T V L N T P G T I D A D Y R G E V K I I V I N L G N E A V T I N D Q E R C A Q L
UniRef90_R6CH03         A P A N C V G V I D M D Y R G E I F I P L H N S S K E A Y T V Q N G E R I A Q L
UniRef90_I0ER20         M V L N S P G T V D N D Y R G E I K V I L A N F S E Q D F K V Q V G D R I A Q G
UniRef90_E8RDN4         T V V N A P G T I D A D Y R G E V K G L I N L G Q H P Y T V R R G D R I A Q L
UniRef90_K4ISY3         T V L N S P G T I D A D Y R G E I G V I L V N L N S G D R I A Q L
UniRef90_Q98C10         T V L N S P G T V D S D Y R G E V K V L L I N L G D E D F A V T R G M R I A Q L
UniRef90_W8JEM5         T V I N S P G T I D S D Y R G E I C I L L I N M G E S M F V I P K M R I A Q A
UniRef90_R7DAX0         T L S N S V G V I D S G Y R G E V C A A L I N Q S Y E T V T L E A G T R V C Q L
UniRef90_E4RKS6         T V L N A D G V I D S G Y R G E V A V I L I N H G S E D F K I N F N D R I A Q L
UniRef90_X1DPK6         S I V N T P G L I D S G Y R G E I C A I L I N D P K N V F V I K K G D K I C Q V
UniRef90_UPI0003AA354A  T C L N T P G T I D A D Y R G E V K V I L I N H A A E R F T V E R G M R I A Q M
UniRef90_R7IS17         A P A N K V G V I D A D Y R G E I M V A L Y N H S S Q A V E V E P G E R V A Q L
UniRef90_D5UN00         T I V N T P G T I D A G Y R G E V K V C L N T D D R A V E I T R G D R I A Q L
UniRef90_F5YBN6         T V L N S P G T I D S D Y R G E L E I L I N L G S E T F T V K N N D R I A Q L
UniRef90_G8QW30         T V L N A P G T I D A D Y R G E I K V I L I N H G K D P F V H N G D R I A Q M
UniRef90_UPI000368B356  T V L N A P G T I D A D Y R G E L K V L V N H G D E P F A V T R G A R I A Q L
UniRef90_UPI00037BB3ED  T I V N A P G T V D A G Y R G E I R V T L I N D A A T P V K L A R G D R I A Q L
UniRef90_I0IL92         V L G N L V G L I D A D Y Q G P V M V S V W N R G S V P V T I M P G D R L A Q M
UniRef90_UPI0002555220  T V L N S P G T I D A D Y R G E L A V L L I N L G H E S F T V H D G D R I A Q L
UniRef90_R7FUU4         A P A N K V G V I D S D Y R G E I I V S L H N H S G Q P Q T I S A G E R I A Q L
UniRef90_Q1DAL8         T L L N S P G T V D A D Y R G E V Q V I L I N L S H E P F T L R R G D R V A Q L
UniRef90_S9PIF1         T L L N S P G T V D A D Y R G E V Q V V L V N L S S H P F T V K R G E R I A Q L
UniRef90_U3NWA8         T V L N T P G T I D S D Y R G E I G V I L I N L G E S T F I I E P K M R I A Q A
UniRef90_R7K7W6         A P A N K V G V V D S D Y R G E I T V A L Y N H S N E T R K I A P G D R I A Q F
UniRef90_B1HSG8         T V L N S P G T I D E G Y R G E I G V I L I N H G Q D T F F V E K S M R I A Q M
UniRef90_M9RG50         T L P N S P G T I D S D Y R G P L G V I I Q N G G T K P F E I T H G M R I A Q M
UniRef90_UPI0003B4FA24  G L V N A P G T I D S G Y R G E I K V I V I N H D D E A I T L A R G D R I A Q L
UniRef90_C7QP06         T V L N A P G T I D E G Y R G E I R V I L I N H G K N P F Q V T K G M K I A Q M
UniRef90_R6ST20         A P A N K V G V I D S D Y R G E I M V A L Y N Q G T V S Q T V L P G E R V A Q L
UniRef90_B1LXS4         V L G N G T G V I D A D Y E G P L M V S A W N R A S E P V R I E P G D R I A Q L
UniRef90_E3B9S2         T V L N A P G V V D S G Y R G E I Q V N L I N D A R E S F T I S R G D R I A Q L
UniRef90_W6JXY8         T I V N A P G T V D A G Y R G E I L V N L L N D P R E S F T I T P G D R I A Q L
UniRef90_D6SS25         V V S Q G V G V I D P D Y R G E I I V S L L N N S G E P K T V A R G Q R I A Q L
UniRef90_UPI00047D7E02  T V L N S P G T I D E G Y R G E V A I I L I N H G K E P F I V E E N M K I A Q M
UniRef90_W4HIX3         T L P N S P G T I D S D Y R G P L G V I V M N L G D E T F H I S H G D R I A Q L
UniRef90_K7RWV9         S I V N A P G T I D S G Y R G E L K V L L V N D P D R P V D L A A G D R I A Q L
UniRef90_D6YU11         T V L N T P G T I D A D Y R G E I G I L I N H G H Q N F T V S P G M R I A Q F
UniRef90_V9W9A2         R Q P N S V G T I D S D Y R G E V Q L M F E N T L T K S Y L I Q K G D R L A Q G
UniRef90_A9HI24         T L P N S P G T I D E D Y R G E I G I I L L N T G D A P L T I E R G M R I A Q A
UniRef90_W0B8V4         V L G N L V G L I D S D Y Q G E L K I S C W N R S Q E H F T V N P G E R I A Q L
UniRef90_UPI000366AD5F  T V V N S P G T V D A G Y R G E I K V T L L N T D H E P F R V E A G D R I A Q L
UniRef90_UPI00038239FB  T V L N A P G V I D A G Y R G E T K V L L N T S Q V P F Q V K V G D R I A Q L
UniRef90_UPI0002192FC1  S I V N A P G T V D A G Y R G E I K V C L I N L D R T P V T I A R G D R I A Q F
UniRef90_B8HHR9         T V V N A P G T I D A G Y R G E I S V C L L N T D K K T M E F K R G D R I A Q F
UniRef90_V2X2I0         D T G     A G V I D A D Y R G I V F V L L F N L S D Q P F E V S E G D R I A Q L
UniRef90_UPI0004709C6C  T V V N A P G T I D A G Y R G E I R V P L I N D A K T P L R V V G D R I A Q L
UniRef90_H6LJX7         S L V N G V G T I D A D Y R G E I K I L I N L L D K P Y Q M E P G E R I A Q M
UniRef90_D0LCH8         S I V N T P G T I D A G Y R G E I K V C L I N D P E Q P I T I S R G D R I A Q L
UniRef90_UPI000319B604  T V V N A P G T I D A G Y R G E I A V T L L N T D K E S L A F Q R G D R I A Q L
UniRef90_F8E8C7         T I L N T P G T I D S D Y R G E V G V I L V N F G D N D F V F N T G D R I A Q V
UniRef90_Q82KK4         A L V N A P G T V D A G Y R G E I K V I V V N D P R E S V R F E R F D R I A Q L
UniRef90_S8AVU7         D T G     A G V I D A D Y R G P V K I L L F N H S D V D F E V K E G D R V A Q L
UniRef90_P32518         D V G     A G V I D A D Y R G P V G V V L F N H S E V D F E V K V G D R I A Q L
UniRef90_C0BCV4         M L A N S L G I I D S C Y R G P V K A K L V N I G R R P Y T I N P G D R I A Q L
UniRef90_A4S9G9         D V G     A G V V D Y D Y R G N V G V V L F N H G T E D F E V S R G D R V A Q L
UniRef90_W7TKM8         D V G     A G V V D Y D Y R G P V G V V L F N H G T E D F G V S R G D R V A Q L
UniRef90_A5E891         T V L N A P G T V D A D Y R G E I C V L L I N H G K E P F T I R R G E R I A Q M
UniRef90_B5YDD8         S I L N T P G L I D S D Y R G E I F V N L I N F S N K T F Y G K R G M R I A Q L
UniRef90_UPI00034B84BF  T V L N S P G T I D A G Y R G E I G I I L I N H G K K P F Q V V I G M K I A Q L
UniRef90_A8LKC5         S L P N T P G T I D S D Y R G P L V L L T V I G T E A V T L H H G D R I A Q A
UniRef90_G1N547         D V G     A G V I D E D Y R G N V G V V L F N F G K E T F E V K K G D R I A Q L
UniRef90_A8NJ41         D V G     A G V V D S D Y R G H L V V L F N F G T E D F Q I K K G D R I A Q F
UniRef90_C4GB07         R P A N C T G V V D S D Y R G E I K V A L H N D S K E S R T I L P G Q K I A Q M
UniRef90_UPI0004681171  T V V N S P G T V D A G Y R G E I K V T L L N T D R E H F E V T A G D R I A Q I
UniRef90_J9VJD9         D T G     A G V I D A D Y R G P V K V L L F N Y S D S D F T I Q K G D R I A Q I
UniRef90_Z9JXF2         T V L N G P G I V D A G Y R G E I R V A L H N D A V A D F A I E P G D R I A Q L
UniRef90_D4J3L9         R P A N C V G V V D S D Y R G E V K V A L H N D G E V E R V I T P A E K I A Q L
UniRef90_E6J7T8         S I V N A P G T I D A G Y R G E I K V N L I N D P A Q P V R I A R G D R I A Q L
UniRef90_K6WVI6         S I V N A P G T I D S G Y R G E I F V N L I N D S E H A V R V S R G D R I A Q L
UniRef90_K1XX16         D V L     A G V I D S G Y R G D I G V I L I N F W T E D F S V N E G D K I A Q F
UniRef90_UPI0003F6AE48  M   A F L G T I D Q D Y R G E I F I S L I N L S P E A Q S I E P G E R V A Q L
UniRef90_G4YI11         D T G     A G V I D A D Y R G N V G V V L F N H A A E D F P V K R G D R V A Q L
UniRef90_B3RU43         D V G     A G V I D Q D Y R G N V G V V L F N H G K E E F S V S K G E R I A Q L
UniRef90_B2GJ65         T V V N A P G T V D S G Y R G E L R V C L L N D A R Q P Y T V R R G E R I A Q L
UniRef90_UPI00037106C0  T V A Q G V G V I D P D Y R G E I K V F L L N T S S E K R R I R R G Q R I A Q L
UniRef90_C4XRY8         T V A Q G V G V I D P D Y R G E I I V W L N T S T E P L T I N R H R I A Q L
UniRef90_D8LVR6         D V G     A G V V D C D Y R G P L G I V L F N F G D E D F E V K K G D R V A Q L
UniRef90_G2Q0G1         D T G     A G V I D A D Y R G H V K V L L F N H G E T D Y E V Q E G D R I A Q L
UniRef90_H0E2S9         S L V N A P G T I D A G Y R G E I R V L L L N S D R E P F I A S S G E R I A Q L
UniRef90_C7TZU9         D V G     A G V I D R D Y R G N V G V V L F N F G H H N D F E V K T G D R I A Q L
UniRef90_D6ZER6         S I V N T P G T I D A G Y R G E I K V C L V N D P V A A I E I E R G D R I A Q L
UniRef90_B0EI63         D V G G   G V I D E D Y R G E I K V L L F N H S N E I F N C R K G D R I A Q L
UniRef90_D4KCG2         A P A N K T G I I C D Q D Y R G E Y I V A L H N H S N I P Q M I T H G D R I A Q M
UniRef90_K2JUX1         S M V N T P G T I D A D Y R G P I G I L L I N H G S E T F H I Q R G E R I G Q M
UniRef90_UPI0004648D86  T V V N A P G T V D A G Y R G P I G I T L L N D A R E S V A L Q H G E R V A Q L
UniRef90_A0A024JNC6     D T G     A G V I D A D Y R G P V G V L F N H S D A D F E V N I G D R V A Q L
UniRef90_B5Y572         D V G     A G V I D A D Y R G P L G V I L F N H W G R E D F E I R Q G D R V A Q L
UniRef90_N0B3H8         T V L N S P G T I D E G Y R G E I K V I L I N H G K K D F L V E S K M R I A Q L
UniRef90_Q6TVI1         D V G     A G V I D A D Y R G N V V V L F N F G H H N D F E V K T G D R I A Q L
```

```
                                      130
UniRef90_F7Z0l3           I I  A P V M S V T V S V T E Q L
UniRef90_F4LU95           V I  A K V V E A E I
UniRef90_W9WS65           V L  E R I Y T P D I V E V N D L
UniRef90_P61906           V L  A P V I Q A Q F E L V N E L
UniRef90_R6CH03           V V  T P A V F A E I E E C E E L
UniRef90_I0ER20           V V  Q K T Y K A E F L E C E E L
UniRef90_E8RDN4           I L  A P V A R T E W R L V T A L
UniRef90_K4ISY3           V L  A K H E Q A E W Q E E D I L
UniRef90_Q98C10           V F  A V V T Q A A V E E
UniRef90_W8JEM5           V V  S P I V Q A K F I A V D S
UniRef90_R7DAX0           V V M P Y V P C D L V P V D E L
UniRef90_E4RKS6           I I  Q K V N L I E W E L V D D L
UniRef90_X1DPK6           I I  Q K V E K V Q L K I V K E L
UniRef90_UPI0003AA354A    V V  A P V T Q I D W M V A E A L
UniRef90_R7IS17           V I  T P Y L T A V F E E T E E L
UniRef90_D5UN00           L V  Q Q V E L P D F V E V
UniRef90_F5YBN6           I I  A P V I Q A E T E E T F S L
UniRef90_G8QW30           V I  A A Y T V T S F N L V E S L
UniRef90_UPI000368B356    V L  A S V A R A M V V E A E
UniRef90_UPI00037BB3ED    V V  Q R V E R A A F R E V D G L
UniRef90_I0IL92           I F V P V V R P V F S V V E S F
UniRef90_UPI0002555220    V I  A P V I R A R M L E A A S L
UniRef90_R7FUU4           V I  A P Y I R A E F E E S D T L
UniRef90_Q1DAL8           V V  A A V P P V S L L E V E
UniRef90_S9PIF1           V V  A P V S R V S L V E W E V L
UniRef90_U3NWA8           V F  T S V V Q A R F V
UniRef90_R7K7W6           V M V P Y L S P I I S V E D T L
UniRef90_B1HSG8           V I  Q F V P T I Q L L E V N E L
UniRef90_M9RG50           V V  A P V V Q A T F T V V D E
UniRef90_UPI0003B4FA24    V I  Q R V E H A N F V E I S D L
UniRef90_C7QP06           V I  T P V I R V K I E E V D Q L
UniRef90_R6ST20           V L  T P Y V S A D F V E S E T L
UniRef90_B1LXS4           V F  T R V T R P A L T V L E
UniRef90_E3B9S2           V I  Q R V E H V V F E H V E S L
UniRef90_W6JXY8           V L  Q E V A R A H F T A A D S L
UniRef90_D6SS25           I F M P W F K A R F E E S V S L
UniRef90_UPI00047D7E02    V I  K P T L N V E I E E V K E L
UniRef90_W4HIX3           V L  A P V V R A V F E E A T H L
UniRef90_K7RWV9           V I  L P M M T A R F I P V E E L
UniRef90_D6YU11           V L  A Q V V Q A Q F V F A G E L
UniRef90_V9W9A2           I I  A P V E R A K F T V V D E L
UniRef90_A9HI24           V L  A P V V R A A W Q E V E T L
UniRef90_W0B8V4           V F  Y P L F K H P F
UniRef90_UPI000366AD5F    I I  T P V S R A V F V P V E E L
UniRef90_UPI00038239FB    V I  T P F I A P T F V E
UniRef90_UPI0002192FC1    L V  Q D V R L C E V E E V A D
UniRef90_B8HHR9           V I  Q R I E I A S F I Q V E A L
UniRef90_V2X2I0           I I  E K I H T P E I I E V Q D L
UniRef90_UPI0004709C6C    V I  Q S I A H A D F D I V E S L
UniRef90_H6LJX7           V F  S E Y V K A E F K E V D E L
UniRef90_D0LCH8           V V  Q R V E L P D F V E V D E L
UniRef90_UPI000319B604    L I  Q R V E H A E F T V V E E L
UniRef90_F8E8C7           V F  S K V Y R A E F T L S D E L
UniRef90_Q82KK4           V V  Q Q V E R V R F Q E V A E L
UniRef90_S8AVU7           I L  E R I Y T P E I M V V E D L
UniRef90_P32518           I V  Q K I V T P E V E Q V D D L
UniRef90_C0BCV4           L I  I P C V H A T F V Q V D E L
UniRef90_A4S9G9           I L  E Q I L T P E V V E C D D L
UniRef90_W7TKM8           I L  E R I S M A A V V E V E E
UniRef90_A5E891           V I  A A V A R A A L S I T T T L
UniRef90_B5YDD8           L V  L Q Y A H V M W E E V S Q L
UniRef90_UPI00034B84BF    V I  A T I I Q A N V T L V D K L
UniRef90_A8LKC5           V I  A P V V Q A V F A P V D R L
UniRef90_G1N547           I C E R I F Y P E L E E V Q A L
UniRef90_A8NJ41           I C E K I S H C E F V E V K S L
UniRef90_C4GB07           V V  Q A F L P V E F E T V E D L
UniRef90_UPI0004681171    I V M P V S R A V F V P V D T L
UniRef90_J9VJD9           I L  E K I V M A P I V E V E D L
UniRef90_Z9JXF2           V V  I A H A A P E L H V V E S L
UniRef90_D4J3L9           V V V P F L S V E F S E V S E L
UniRef90_E6J7T8           L V  Q R V E L W D V V E V D D L
UniRef90_K6WVI6           L L  Q E V A I V A W E E V D V L
UniRef90_K1XX16           I I  E K C H Y V E W Q E V T E L
UniRef90_UPI0003F6AE48    V V  A P Y T Q V A W E A A D A L
UniRef90_G4YI11           I L  E K I E Y P E I Q E V D E
UniRef90_B3RU43           I L  E R I L I A P L E E C E D L
UniRef90_B2GJ65           V V Q E V V T A R F R V T D R L
UniRef90_UPI00037106C0    V F Q K C W Q G D I V I T E S L
UniRef90_C4XRY8           V L  A P F I R P I I T P V D D L
UniRef90_D8LVR6           V L  E R I C M A P I V E V E S L
UniRef90_G2Q0G1           I V  E R I Y T P A V V E V Q E L
UniRef90_H0E2S9           L V  L P V A L P V A V E V D E L
UniRef90_C7TZU9           I C E R V F C P E L V E C E S L
UniRef90_D6ZER6           L V  Q R V E L P E F Y E V E S L
UniRef90_B0EI63           I I  E R I S C C R I S E V K E L
UniRef90_D4KCG2           A V V P F W Q A D F E E V S E L
UniRef90_K2JUX1           V V  A P V V Q G V Y S V V E T L
UniRef90_UPI0004648D86    V V  Q K V E R A R F V Q A E R L
UniRef90_A0A024JNC6       I I  E T I V T P E V A V V E E L
UniRef90_B5Y572           I L  E S I V L P D V V E V Q
UniRef90_N0B3H8           V V  A P V A K I N L I Q S D L
UniRef90_Q6TVI1           I C E R A A F P D V E E V A C L
```

```
                              1         10            20             30              40
UniRef90_B0VEZ7                    M N I L V Q K L S P T A T I P Q K M T E N A S G F D L F A D I G E P
UniRef90_J9GCA0                      P K L R V K K L D E K A F I P V K G S E H A A G Y D L F S I E N T V
UniRef90_Q89662                  E P K L Y F V R L S P H A V P V R A T H G A A G Y D L F S A Y D
UniRef90_UPI00026C6B63               L R I R R T G A T P L P H R A H A D D A G L D L A S A     E E
UniRef90_A0A058Z086          M P A S D V V F R V K R L S P Q G H L P M R A S K G A A G Y D L F S A R D
UniRef90_S4PE28              M P S E V E T V L K F T R L S E N A Y P P V K G S E K A A G Y D L K S A Y D Y T
UniRef90_H6RR82                          P D G A V P R Y A V A G D A D L T A A E D
UniRef90_C8VXW7          M T N T N N L V L V K K L H N D A I I P K R Q T E L S S G L D L H   C L D V V
UniRef90_K5WJ82                      R L L I K R H S S K A K L P T R G T A F A A G Y D L Y S A E K K T
UniRef90_B1XM22                        L K L H P N A I I P K Y Q H E G D S G V D L H A I     E P
UniRef90_R7BQU6                        L S D K A V I P Q N A Y K G D A G Y D L C S I     E E
UniRef90_UPI0003C1B2E1                                      M D L R A A V D A P
UniRef90_R7AHK3          M L D K I P V K     F T K M A S E A V T P S H G R F G D A G Y D L S S L E D
UniRef90_G7V543                M S I T I K I R N L S R H A L P S Y A T E G S S G I D L Q A Y I E K D
UniRef90_T1KEL4              M E P S K Y K L R F K K L D P S A I A P I R M S S L S A G I D L H S K E D T T
UniRef90_A4ALQ0          M I D N V E V L I     S G R Q V P V Y A H P G D A G A D L C S A     Q H
UniRef90_E6MFH2              E H C Q I R L V N     R S D F P A P V Y E T A G A S G L D L R A A I E N E
UniRef90_W6UIY0                  M N I N I I N     N S G H P L P Q Y E T E H A A G M D I R A F I X T X
UniRef90_B1ZFB6             K V G L H I L D P R L   T G W G F P R W G S A A A A G L D L H A C L D A A
UniRef90_C2S7Y9          M N G M N L R V K L K R V   K D V E L P K Y A K S G D S G F D L V A A E D T
UniRef90_C8WHI4          M I E R V S I P L     Q Q I D P D L P V P A Y A Y V G D A G V D L R A T C D D
UniRef90_T1KF56                      L R F K K L T K E A T K P S K A S E L S A G Y D L F S A Y D T V
UniRef90_M4QN39                      V K K L R Y N A R L P T R G S D G S V G Y D L Y S S E D A T
UniRef90_J2GUY5          M T N E R L V Q V K I K K L H Q D A V I P A Y A R A M D A G F D L V A V E D T
UniRef90_B1ZNN9                      R L R P E A K L P V R A S E H A S C F D L C A V     E A
UniRef90_A0A023FX02          M P E G S P K L K F V R L T E H A R A P T R G S A A A A G F D L Y S A Y D Y L
UniRef90_C6XGJ5             M Q S I D I P F L Q L P H A H G I P L P E Y K T S G S S G M D L F A A E D E P
UniRef90_H2ZPZ1                  N P V L K F A K L T A N A R S P T R G S A L A A G Y D L Y S A Y D
UniRef90_V9KQ7              E V E L L V L M C N K H P D V V V P C Y A K E G D S G L D V Q A D I L E P
UniRef90_K2H8E9             M N R V E V S L M R E W A D P T I P L P T Y A T D G A A G A D I R A N F A A P
UniRef90_F1QV95                     L K F A K L T E H A T T P S R G S N R A A G Y D L Y S A Y D Y S
UniRef90_F3YVC6          P T V G V K V K F L H S V W R E H A L A Y A T E C S A G L D L R A C I D E P
UniRef90_G0MF05                    V T I Q F T K K N E N A E K P T Y G S D L A A G A D L Y S C     E T
UniRef90_UPI00037A9326      N I E V L I K Y L N E D V H K L Y Y A H A G D A G V D L R T T     E S
UniRef90_E4V069               P Q L Q V Q K L V P E A R A P T R G S A F A A G Y D L Y A A K D T
UniRef90_A7RPL3                      K K L T K L G L P P T R G S S H A A G Y D L Y S A Y D
UniRef90_K5WY44                    L L V K R L S E K A K L P T R G S P L A A G Y D L Y S A E S K
UniRef90_UPI0003B5DAE1       E N T E I L L K V V G D G E G L E L P S Y A H A G D A G A D L R A T R D
UniRef90_Q6GZR2                      K L S E H A S G L I R G S A G A A G Y D L A A A     H P
UniRef90_E2AWL7          M S E S E I I S L K F A K L S D K A F A P T K G S E Y A A G Y D L R S A Y K
UniRef90_D1BT99                 V D V L I T L L D V V P L P A Y A H P G D A G A D L V T T V D
UniRef90_R2QJE5          M K K R G F E I V T K Y Q D K E I H L P E R A T K N A A G Y D F E A A E D
UniRef90_E8V1E2               M S I A I Q T Q K L R P E A K L P R Y A H T G P W G A D L Y S A     E A
UniRef90_UPI00047B9913      M E N R   F K V S F K K L D E R A Q V P T Y G T E F A A G A D L Y A C M D E A
UniRef90_UPI0004747E64            K L H P D A A V P A Y A R P G D A G F D M V A V E D T
UniRef90_A6W8A4                         L P T Y A H P G D A G A D L T T R V D
UniRef90_L7TM70             M R I N F K K L H P D A V M P S Y G T P H A A G A D L V A N L K A T
UniRef90_UPI0003B68CD9   M T E S V D V     L T T A S A P P L Y A H H D D A G A D L C S T     Q T
UniRef90_Q1AST9          M R S G R A L K V A F R R L V P G A R P P E R A H A G A G Y D L R A V     E G
UniRef90_K1QHT0             K M P V E S V F A K L S K N A F S P T R G S K L A A G Y D L Y S A Y D Y L
UniRef90_E3M3R2               R V A V R F T A L N E N A Q T P T Y G S Q E A A G A D L Y S A E D
UniRef90_UPI0002481CC9   M A E N V E V F L E V C R     E G A V I P A Y A R E G D A G M D V C A A     E E
UniRef90_R6B2G1          M T K T R G F E I L S T W Q G K D I H L P E R K T E K S A G Y D I E     C G E D
UniRef90_UPI00038183ED                   A Y A T P C S A G L D L R A C E E E E
UniRef90_G0YQ06                  H P S A V L P S Y E S R G A A A A D I R S T     E S
UniRef90_UPI00037ECFA0               R L D P G L P P P G R A H A D D A G L D L R A T T D
UniRef90_UPI00037CB7AB                   I P S Y S H P G D A G A D L K A S     E S
UniRef90_T1L6G0          M E Q P Q A K L K F R K L D P L A R A P A R A T P L S A G A D L H S V E D
UniRef90_D5EFC4                  L R I V V E D E L F I P K R K N T G D A G A D I K S A V D
UniRef90_UPI0003749293      E R M N P E L K F T K I D P R A I A P S Y A T E G D S G L D L Y P V E D
UniRef90_M2SKY1             Q Q L Q V Q L     L S A N A K A P T K G S A F A A G H D L Y S A V D
UniRef90_J9A5R0                  I K V K R L H E D A V I P K Y A K P G D S G F D L V A V E D
UniRef90_D3R316          M H E L K V A I E L C R     P T A I K P R Y M H I G D A G M D L Y A A D D
UniRef90_C9L7Z4          M M D T I K E K Y V   K D M Y D N I K L P K R A T A G S A G Y D F F S P V D F
UniRef90_M1HHC2                    L F V K K L D E S A V I P T R G T A L S A G Y D L S S V A D
UniRef90_A7IBE3          M S R P S V R I Q R L P H G E G L P L P A Y A T E G A A G L D L S S A L P E E
UniRef90_Q9Q8S9                      K F S E H A S L P T K A T A D A A G Y D L Y S A Y     A
UniRef90_H2JG96             M S V E I F I E L C R K D A V L P K Y A N P G D A G M D V Y A A     E S
UniRef90_E9GFI8                    L R F A K L S Q N A I S P T R G S K H A A G Y D L Y S A Y D Y E
UniRef90_D0JA47          M N T S V I I K I R N I S G H P D     P N Y G T E G S A G M D L Q A H L E K C
UniRef90_U6PXM5                    I R F V K L S P D A Q V P V G S A A A A G A D L F S A E D
UniRef90_C6BSY5                 V E V K V K F L S E T A S E L D Y A T P N S A G V D L R A C I E D D
UniRef90_UPI00035A058B      M P S E Q I T L Q F A K M T N Q A T T P T R G S A L A A G Y D L Y S A Y E Y K
UniRef90_P32208                M S L Y V K C V K L S N N A I I P N R S M S G S A G Y D L Y S A Y S Y T
UniRef90_Q7Q0U6          M P E Q K C V L K F A K L T E N A F A P T R G S A K A A G Y D L R S A Y D Y T
UniRef90_S5DJK6          M N K N I E I E I Q L T     N N N A S V P S R K H D S D I G Y D I S S S V N A
UniRef90_W2EB41                   M E I K I K K L H P D A V I P E Y A T A G A A G F D L V A L E D
UniRef90_R7CMI2          M S R I R G F E V A W E M K G I H L P E R K T S K S S G Y D L E S A E D
UniRef90_L7VST0          M K E I E V A V E I C R     E G A K L P E Y Q N E W D S G M D V C A A E D
UniRef90_G5EET2                   I T I R F T E M V G D A Q K P T Y G S I S S A G A D L Y S A E D
UniRef90_K2CIW6          M K P S R V K I     Q R I D K T L P L P V Y E T R G A V G F D L L A     R E T
UniRef90_E4WVJ8              M S I E M K F H K L S E N A M T P A R G S D Y A A G L D L F S A E E K
UniRef90_B4LTG5                    K I I E H A L E P Q R G S E R A A G F D L R S A Y D
UniRef90_G9WHZ6          M T K E R G F E I V T K Y E Q A G I Q L P K R A T A H A A G Y D I Q A A A D M
UniRef90_M9VDR5                 V I V P T V A D S E A M P R Y A M L G D A G A D L   T C R H D
UniRef90_U3GS18                           P V K A H A T D A G Y D L V A T A A K
UniRef90_Q4FNL4                                  M A F I E E P
UniRef90_UPI0003B3329E     M A P V D I A F V R P G A R E D F L A P   A T S Q S A G M D L R A C L D T P
UniRef90_UPI0002485E39                       P D K A H P G D A G I I D L R A A     E A
UniRef90_E4L7Y5          M N N K R G F E I V T E W K D K A I S L P E R K T I A S A G Y D I E S A I D A
UniRef90_L1I6G8                 L K V K L Q D G A T I P K R A T E G S A C Y D L Y S N E E G
UniRef90_UPI00047212E2         M N V N I   K R L S P D A K I P Q Y A H A S D A C F D L V A A E D
```

```
                              50          60          70          80
UniRef90_B0VEZ7          I I L N P L E W R Q I S T G I A L E I P   V G Y E A Q I   R P R S G L S S T L G L
UniRef90_J9GCA0          V   P A K Q K K L I A T G I A M Q I P I G N Y   G R I A P R S G L A A K N F I
UniRef90_Q89662         I K V P A R G R A L V P T D L V F Q F P P G C Y   G R I A P R S G L A A K F F I
UniRef90_UPI00026C6B63  L V I P A G G R A L V D T G L A V A L P   V   G L V C P R S G L A A K H G V
UniRef90_A0A058Z086     M V I P A R S R A L V P T D I S L A L P E G T Y   G R M A P R S S L A L R H G I
UniRef90_S4PE28          V   S A R G K E L V K T D L Q I E L P S G C Y   G R V A P R S G L A V K N F I
UniRef90_H6RR82          V E L A P F E R R L V G T G V A V A I P E G   Y A G F V I R P R S G L A H R L G I
UniRef90_C8VXW7         T V L D P G E R V L V R T G A L Q M N   P G M E A Q I   R P R S G L A I K H G I
UniRef90_K5WJ82          V   P A H G K A L V D T Q L S I A V P N G T Y   G R I A P R S G L A T K F M I
UniRef90_B1XM22         V A I A P H K T A L I K T G L A A E I P   I G T E L Q I   R P R S G L A L K Q S V
UniRef90_R7BQU6         I E L N P F K R A L I S T G L A V A I P E G   Y A G F I   V P R S G L A I K Q G L
UniRef90_UPI0003C1B2E1  L T L K P G E R T L V P T G F V F E V P   A G Y E A Q I   R P R S G L A I K N G I
UniRef90_R7AHK3         V I L E P F E R K L I K T G I S I E L P   L G F A A L V I P R S G N A I N K G L
UniRef90_G7V543         I I I P S M E R K I I P T G I Y M E I P   T G Y E A Q I   R P R S G L A L R H H G I
UniRef90_T1KEL4         V   P A S G R Q L I G T G L Q L Q I P L N C Y   G R I A P R S G M A W N Y F L
UniRef90_A4ALQ0        Y T L A P G E R E T V A T G V S I A L P D G F V   A F V V P R S G L A A R H G I
UniRef90_E6MFH2        M V L V P H R V Y R I P T G I Y L E M P   A G Y E A Q V   R A R S G L A F K H G V
UniRef90_W6UIY0        X X X X X L Q R I L I P T G L H I E L P   V G Y E A Q I   R P R S G L A Y K H G I
UniRef90_B1ZFB6        L P L E P Q A P A L I P A G V S V R I G D P D W C G L V F P R S G L G H R E G L
UniRef90_C2S7Y9         I I W P G E T K V V Q T G L S F E I P   P G Y E L Q V   R P R S G M T R N T K L
UniRef90_C8WHI4         I L K P F E R K L V P C G I A V A I P   S G Y A G F V L P R S G L A I K H G V
UniRef90_T1KF56         V   P A K G K A L V K T D L Q L Q I P A G C Y   G R I A P R S G L A L K H S I
UniRef90_M4QN39        V P C Q A G   R A L V S T G I A L S I P D G L Y   G R V A P R S G L A V K C I
UniRef90_J2GUY5         L I A P G Q S A K V P T G L A F A L P E G   F E L Q V R P R S G L S A K T K L
UniRef90_B1ZNN9       G V V K P G E R A F V K T G W A M A V P   P G Y E I Q V R S R S G H A A K S G V
UniRef90_A0A023FX02     V   P A G G R C V C L T D L Q V C V P D G C Y   G R V A P R S G L A A K N G I
UniRef90_C6XGJ5        V E L L P G M R S L I P G G Y I I A I P   P G Y E G Q V R S R S G L A L N Y G V
UniRef90_H2ZPZ1        V I V P A R G K Q L I K T D I Q I N L P D G C Y   G R V A P R S G L T H K H F I
UniRef90_V9QKQ7        I T L N P G E R E L I P C G V K F D I P Q G   Y E I Q V R P R S G L A H N H G I
UniRef90_K2H8E9        L P I E P M A R A I V P T G L R M A I P E G   F E M Q L R P R S G L A R D H G V
UniRef90_F1QV95          I G P M D K T L V K T D I Q I A V P H G Y Y   G R V A P R S G L A V K H F I
UniRef90_F3YVC6        L I   P A G G R V A V P A G L A I E I E Q P G L A G F V F S R S G L A R D G L
UniRef90_G0MF05       A T V P A K G K W L V S T G I H M K L P   Y G Y Y G R V A P R S G L A A K H F I
UniRef90_UPI00037A9326 F D L H P F Q R F L A P T G I A I A L P   A G Y V G L V H P R S G L S I K Q G I
UniRef90_E4V069         E I P G R G K G L V S T G L A I A V P E G T Y   G R I A P R S G L A S K N F I
UniRef90_A7RPL3        V S I P A Q G K A L V K T D I A V A I P D G C Y   G R V A P R S S L A W K H Q I
UniRef90_K5WY44         L I P A R G Q A M V D T Q L S I A V P V G T Y   G R V A P R S G L A S K F M I
UniRef90_UPI0003B5DAE1 V T L G P F Q R D L V P T G V A I A L P   A G Y V G L V H P R S G L A V R Q G V
UniRef90_Q6GZR2       V V V P S F G R A L V K T D L A V K M P P G L Y   G R V A P R S G L A L K K F I
UniRef90_E2AWL7       Y I I P A H G K E L V K T D L Q I E V P L G T Y   G R I A P R S G L A W K N H L
UniRef90_D1BT99       V E I P P Q G R V T V P T G V A I A L P D G   Y A A F V H P R S G L A M R H G L
UniRef90_R2QJE5        I V I P P E E K V L V P T G I K A Y M G E D E Y   L Q L A N R S S N P L K R F L
UniRef90_E8V1E2       A V I S P G S T T L V P T G I A M A F P   A D Y G A L V E D R S G L A V K G I T
UniRef90_UPI00047B9913 I V I K S G E T A F V H   T G I A M A I P V G V V G L I Y A R S G L A C K K G L
UniRef90_UPI0004747E64  I I Q P G E T K L V R T G L A V A L P   T G Y E L Q V R P R S G I S L K T K L
UniRef90_A6W8A4       V V V P G E R V N V P T G V S I A L P   A G Y A V F V V P R S G L A A K R G L
UniRef90_L7TM70       F V L S P G E S K L F K T G I A V E M L   T G M W A E V R G R S G L A Y K N G I
UniRef90_UPI0003B68CD9 V T L A P G E R A T V G T G V A I A L P E G   F A A F V V P R S G L A A R H G I
UniRef90_Q1AST9       A E L P P G R A L V R T G L S V A I P E G   Y A G L V L P R S G L A S R H G V
UniRef90_K1QHT0        V   P A K G K V I A K T D I Q I A L P N G C Y   G R V A P R S G L A A K H F I
UniRef90_E3M3R2       V V V P A K S K M C V S T G I Q M E L P   F G Y Y G R V A P R S G L A A K H F I
UniRef90_UPI0002481CC9 V S I A P G E T V I I P T G L K L A I P D G   Y E V Q V R P R S G I S Y K T P L
UniRef90_R6B2G1       I D L I P H Q V T L I K T G L K A Y M K D D E Y L A   I F I R S S M A I K K G L
UniRef90_UPI00038183ED I M I P A G G R Y A I P A G I A I D P Q C N T V A G F I Y S R S G L G T K K G L
UniRef90_G0YQ06       A F I M P G D A A V V G T G L K P E I P E G   Y V A L I Y S R S G H G F K N D I
UniRef90_UPI00037ECFA0 V V L G P G E R A L V G T G V A I A L P P G H   G L V C A R S G L A V R E G V
UniRef90_UPI00037CB7AB S V V P A R G K A L V P T G L C I E L P E G H   A G L V W P R S G L A V K H S L
UniRef90_T1L6G0       I M I P P Y G K Q L V K T G L Q L Q I P S Y C Y   G R I A P R S G M A W N H H I
UniRef90_D5EFC4       V V I Q P G E A C N I P A G F K I A I P   Y Q Y G G F I F P R S G L A Y K H G I
UniRef90_UPI0003749293 F I I P P G E H A V I P T G I S I E L P   T G Y E A Q V R S R S G L A A K Y K V
UniRef90_M2SKY1       V V I P A R G R K L V G T D I K V S V P V G T Y   G R V A P R S G L A Y K H G I
UniRef90_J9A5R0       V I I E P G E T A V V K T G L A F E I P N   G Y E M Q V R P R S G I S R K T K L
UniRef90_D3R316       V I L K P G E S K V V P L G F K M A L P   I G Y E M Q I R A R S G L S L K T R L
UniRef90_C9L7Z4       V G L K P G E T I K I P T G I R C E M N N D W V   L Q I F P R S G L G F K Y Q V
UniRef90_M1HHC2       V V V P S L G R V A V P T G L A I K V P A N T Y   G R I A P R S G L A F K H G I
UniRef90_A7IBE3       T P L I L L P G A F A A V P T G F A I A L P E F E A Q V R P R S G L A R K H G V
UniRef90_Q9Q8S9       Y I I P P H K R C L V K T D I G L A I P E G C Y   G R I A P R S G M S L K F S I
UniRef90_H2JG96       A I I A P G E T V V V P T G L K L A I P E G   Y E I Q V R P R S G I S F K T P L
UniRef90_E9GFI8       V   P A M G K V I A K T D I Q I Q L P E G C Y   G R V A P R S G L A A N H H I
UniRef90_D0JA47       E I I P M H R K T I K T G L F V E I P K G   Y E M Q V R S R S G L A L H H G I
UniRef90_U6PXM5      C V V P A H G K L C V S T G L Q V E L P   F G Y Y G R V A P R S G L A A K N F I
UniRef90_C6BSY5       F V I E A G G R Y A F P A G I A I E I T S P G I A G F I Y S R S G L G T K D G L
UniRef90_UPI00035A058B   I P A R G K Q I V K T D I Q I A L P D G C Y   G R V A P R S G L A A K H F I
UniRef90_P32208       V   K P Y N R L L V R T D I C L M I P D K C Y   G R I S P R S G L S L N Y N I
UniRef90_Q7Q0U6       V   P A R G K Q L V M T D I Q V C V P G R V A P R S G L A V K N F I
UniRef90_S5DJK6        L I P S K E V Q L I N T G I A I S L P N Q C   A G F V L P R S G L A S K H K I
UniRef90_W2EB41       V I I P G D I E P V R T G L A F E I P   V G Y E L Q I R P R S G V S L K T E L
UniRef90_R7CMI2       V I L A P H K T T V L S T G L K A Y M Q E D E Y L A V Y I   R S S L A I K H Q I
UniRef90_L7VST0       V I I R P N E T V V P T G L K A Y M G N D E Y L S   I H I R S S I A I K K G I
UniRef90_G5EET2       V V V P A N G K L C V S T G L Q I E L P   I G Y Y G R V A P R S G I A A K H F I
UniRef90_K2CIW6       V T I E P G K I E L I P G N V I V E V P E G Y M L A   V A S R S S T P R K K G L
UniRef90_E4WVJ8       V I Q A K G R A L I K T D I Q V A L P D G C Y   G R I A P R S G L A Y K K G I
UniRef90_B4LTG5       L I V P A R G K A I V P T G L Q V Q V P E G S Y   G R V A P R S G L A V K N F I
UniRef90_G9WHZ6       L I P A D G T I K L V P T G L K A Y M Q T N E V L Y L I N   R S S G P Y K R G L
UniRef90_M9VDR5       V D L G P G E R A M V E T G V R I A L P E G   Y V G L V N P R S G L A A R R G L
UniRef90_U3GS18         T L A P G Q R A L I P T G L H I N L P A G T V   G Y V C P R S G L A A K H G I
UniRef90_Q4FNL4       I R I P N S S Y L V P T G L S M A F S E D Y E V Q I R P R S G L A A K K S I
UniRef90_UPI0003B3329E T V I P A G G R L K V S T G I S V Q P R A A G I A G F V Y S R S G L G A R D G I
UniRef90_UPI0002485E39 G V L E P G R R A L I P T G L K L A L P H G   W E A Q V R P R S G L A L H H G I
UniRef90_E4L7Y5       V I E K G K M K I P T G L K A Y M G N D E Y L S   I H I R S S I A I K K G I
UniRef90_L1I6G8       T I P A H S R R M F D T G V Y V E F P N Q   F M L Q I R P R S G I T L K T K L
UniRef90_UPI00047212E2 V V I E P G E T A L I K T G L A F E I P E   D Y E M Q I R P R S G I T L K T K L
```

```
                              90            100           110          120
UniRef90_B0VEZ7          S I L N S P G T I  D S D Y R G E I  K V I L I N L S P N P I R I  E P E M R I  A Q I
UniRef90_J9GCA0          D V G     A G V I  D A D Y R G E V  K V L L F N F S D V D F Q V  S V G D R V  A Q L
UniRef90_Q89662          D V G     A G V I  D P D Y R G N V  S V V L L F N F S E S S F N I  R R G D R V  A Q L
UniRef90_UPI00026C6B63   T V L N G P G I V  D A G Y R G P L  K V A L H N D P T E D F P L  H V G D R I  A Q L
UniRef90_A0A058Z086      D V G     A G V I  D C D Y R G P L  G V M L F N H S D E D F Q V  V A G N R I  A Q L
UniRef90_S4PE28          D V G     A G V I  D E D Y R G N V  G V V I F N H S D Q E F M I  K K G D R I  A Q L
UniRef90_H6RR82          S M V N A P G T I  D A G Y R G E I  K V N L I N D P T T P L R L  S R G D R I  A Q L
UniRef90_C8VXW7          T V L N S P A T L  D S D Y R S D I  G V I L V N H S K D I F T I  T K G D R I  A Q L
UniRef90_K5WJ82          D T G     A G V I  D Q D Y R G V V  H I L L Y N L S D K D F E V  E E G D R V  A Q L
UniRef90_B1XM22          T V L N S P G T I  D A N Y R G E I  G V I L I N H S D T V F E V  K A G M R I  A Q M
UniRef90_R7BQU6          S L V N A P G L I  D S N Y R G E L  K V I A I N L D P E T I M I  H P G D R I  A Q M
UniRef90_UPI0003C1B2E1   T C L N S P G T V  D S D Y R G E V  K V I L A N L G D S D F V V  E R G M R I  A Q M
UniRef90_R7AHK3          S L V N T P G L I  D S N Y R G E L  K A I A I N D P K A P I E I  R K G D R I  A Q L
UniRef90_G7V543          T V L N N P G T I  D S D Y R G E I  K I L L I N L S H H S F T V  K N G D R I  A Q I
UniRef90_T1KEL4          D V G     A G V I  D S D Y T G E V  K V L L F N F G K E D Y K V  K Q G D R I  A Q L
UniRef90_A4ALQ0          T I V N S P G T V  D A G Y R G E I  R V T L L N D P T S T F E V  E P G D R I  A Q L
UniRef90_E6MFH2          A M A N G V G T I  D A D Y R G E I  A A L M I V L I D E P F T V  H P G D R I  A Q L
UniRef90_W6UIY0          S I V N S P G T I  D A D Y R G E L  K V L L V N L S D T D F V V  N D G D R I  A Q M
UniRef90_B1ZFB6          V L G N G T G V I  D A D Y E G P L  L I S A W N P G G A A I R I  E P G E R I  A Q L
UniRef90_C2S7Y9          R V V   L G T V  D S G Y R G E V  G V L V D N T N M Q A H V I  E K G T R I  A Q G
UniRef90_C8WHI4          S L V N A P G L I  D S N Y R G E V  Q A I L V N D P Q S E F A I  K R G D R I  A Q L
UniRef90_T1KF56          D V G     A G V V  D A D Y R G N V  G V I L F N F G D E E F Q V  N K G D R I  A Q L
UniRef90_M4QN39          N V G     A G V I  D P D Y T G E V  K V V L F N H G T E D F E I  K K G D R I  A Q L
UniRef90_J2GUY5          R L S N A P G T V  D A G Y R G E V  C V L M D N I D A H S Y L  K K G D R I  A Q G
UniRef90_B1ZNN9          F V L N S P G T V  D A D Y R G E V  A V I L F N T G A S D T F A  A G D R I  A Q M
UniRef90_A0A023FX02      D V G     A G V V  D A D Y R G N L  G V L L F N F G N S E F T V  S R G D R I  A Q F
UniRef90_C6XGJ5          A C L N S P G T I  D S D Y R G E I  K I L L I N L G Q E N F L I  M R G M R I  A Q L
UniRef90_H2ZPZ1          D V G     A G V I  D Q D Y R G N V  G V I L F K D T D F E V  K K G D R I  A Q L
UniRef90_V9KQ7          S I V N A P G T V  D M G Y R G E I  K V N L I N H G Q M P V T I  A P A Q K I  A Q L
UniRef90_K2H8E9          T L V N A P A T I  D A D Y R G A V  A I L L I N L G Q V P F V V L H G M R I  A Q G
UniRef90_F1QV95          D V G     A G V V  D E D Y R G N L  G V V I F N F N K E P F E V  K K G D R I  A Q L
UniRef90_F3YVC6          T V A Q G V G V I  D P D Y R G E V  T V W L L N T S G E E R R I  A R G E R M  A Q L
UniRef90_G0MF05          D V G     A G V I  D S D Y R G E V  K V L L F N F G D A D F E V  K K G D R I  A Q L
UniRef90_UPI00037A9326   T V V N A P G T I  D A G Y R G E I  K V P L I N L D P E T T H F  E A G D R I  A Q L
UniRef90_E4V069          D T G     A G V I  D A D Y R G E V  K V L L F N F S G V N F T I  K A G D R I  A Q L
UniRef90_A7RPL3          D V G     A G V I  D R D Y R G N V  G V V L F N L G S S A Y E V  K Q G D R I  A Q L
UniRef90_K5WY44          D T G     A G V V  D A D Y R G V I  F V L L I N H S E K D F Q V  N E G D R V  A Q L
UniRef90_UPI0003B5DAE1   T V L N A P G T I  D A G Y R G E I  K I P L I N M P E R T A V L  H R G D R I  A Q L
UniRef90_Q6GZR2          D V G     A G V V  D P D Y R G N L  G V I L F N F G C D P F R V  K R G D R I  A Q L
UniRef90_E2AWL7          D V G     A G V I  D A D Y R G N L  G V V L F N H S N E D F E V  A P G D R I  A Q L
UniRef90_D1BT99          T I V N A P G T V  D A G Y R G E I  R V T L L N T D A A P I R L  E R G D R V  A Q L
UniRef90_R2QJE5          S L S N G V G V I  D S D Y E G H I  M F Q F T N F G L T D V T I  K K G E R I  G Q G
UniRef90_E8V1E2          T L     A G V I  D P G Y R G E I  K V V L T N V S S A P I T L  A A G D R I  A Q L
UniRef90_UPI00047B9913   A P A N K V G V I  D S D Y R G E I  M V A L H N H S G V D I E V  E P G E R V  A Q M
UniRef90_UPI0004747E64   R V S N A P G T V  D S G Y R G E I  C L I D N C A S G S Y L I  R K G D R I  A Q G
UniRef90_A6W8A4          T T L N A P G T V  D A G Y R G E I  R V T L H N T D R E A V E L  R A G D R I  A Q L
UniRef90_L7TM70          A I L G     G V I  D S D Y R G D I  G V I L H N T S D K P F I  V K H G E R I  A Q L
UniRef90_UPI0003B68CD9   T V V N S P G T V  D A G Y R G E I  R V T L L N T D T R P Y A V  S A G D R I  A Q L
UniRef90_Q1AST9          S L A N A P G L I  D P G Y R G E V  K V P L I N H P R E A F R V  E P G M R V  A Q L
UniRef90_K1QHT0          D V G     A G V I  D Q D Y R G N V  G V V L F N H A D Q D F E V  K K G D R I  A Q L
UniRef90_E3M3R2          D V G     A G V V  D S D Y R G E V  K V L L F N F N N T D F E V  K K G D R I  A Q L
UniRef90_UPI0002481CC9   R L S N S P G T I  D S G Y R D E L  G I I M T N T S E S A F R I  R K G D R I  A Q I
UniRef90_R6B2G1          F L A N S T G I I  D A D Y E G H I  L M V A V Y N T K D E P F H V  N K G D R V  A Q G
UniRef90_UPI00038183ED   T V S Q G V G V V  D P D Y R G E I  F I S L L N T S G E D R V I  A R G E R V  A Q L
UniRef90_G0YQ06          R L A N C V G V I  D S D Y R G E I  K V K L T N D G N S S F E V  Q P G D R V  A Q M
UniRef90_UPI00037ECFA0   G L V N A P G V I  D A G Y R G E I  R V C L V N H D R E T V R L  R R G D R V  A Q L
UniRef90_UPI00037CB7AB   D S G     A G V I  D A K Y R G E I  K V L L F N H S D E N F T I  E P G D R I  A Q L
UniRef90_T1L6G0          D V G     A G V I  D P D Y S G E V  K V L L F N H G K N G Y M V  K Q G D R I  A Q L
UniRef90_D5EFC4          R L C N G V G V I  D H Q Y R G E V  M L P L R N D G M K P F A I  Q R G D R L  A Q L
UniRef90_UPI0003749293   H V L N S P G T I  D N G Y R G E I  K V I L I N H G S V T F V H  K P D G R I  A Q L
UniRef90_M2SKY1          D   T M A G V I  D A D Y R G P V  G V I L A N L S D E D F E V  K I G D R I  A Q L
UniRef90_J9A5R0          R V V   L G T I  D S G Y R G E V  S V I V D N S S Y E A I K I  R K G D R I  A Q G
UniRef90_D3R316          R L P N G L G T I  D A G Y R G E V  G V I M Y N A S P D T Y L I  H R G E R I  A Q A
UniRef90_C9L7Z4          N L C N G T G I V  D A D Y E G H I  F V K L V N R G D K T V K I  K R G E G F  A Q G
UniRef90_M1HHC2          D V L     A G V V  D A D Y R A E V  K V I L Y N T S G V D Y E I  K K G D R I  A Q L
UniRef90_A7IBE3          S V L N T P G T I  D W D Y R G E L  M V L L I N H G P E P F T V  T R G M R I  A Q M
UniRef90_Q9Q8S9          D V G G     G V I  D R D Y R G N I  G I I L I N N G N D T Y Y  K K G D K V  A Q I
UniRef90_H2JG96          R V P N S P G T I  D S G Y R D E L  G I I I S N S S D M D Y I  R K G D R I  A Q I
UniRef90_E9GFI8          D I G     A G V I  D R D Y R G N V  G V V M F N H S Q T A F K V  N K G D R V  A Q L
UniRef90_D0JA47          T V L N D P G T I  D S D Y R G E I  K I L L I N L S N I P F T I  K N G D K I  A Q L
UniRef90_U6PXM5          D V G     A G V I  D S D Y R G E V  K V L L F N G P S D F E V  K K G D R I  A Q F
UniRef90_C6BSY5          T V S Q G V G V I  D P D Y R G E I  K V S L L N T S G E K R R I  E R G Q R I  A Q L
UniRef90_UPI00035A058B   D V G     A G V I  D Q D Y R G N V  G V V M F N F S E E E F V V  N K G D R I  A Q L
UniRef90_P32208          D I G G     G V I  D S D Y R G E I  G I V F I N N G C S D F N I  K V G D R I  A Q L
UniRef90_Q7Q0U6          D V G     A G V V  D E D Y R G N V  G V V L F N H S E T N F E V  K K G D R I  A Q F
UniRef90_S5DJK6          T L I N S P G L I  D P G Y T G E L  M V P L I N H G S T D Y Q I  S I G D R I  A Q L
UniRef90_W2EB41          R Q P N S V G T I  D S D Y R G E V  F L M L E N L R Y G S Y L I  Q K G D R L  A Q G
UniRef90_R7CMI2          V L I N S T G I I  D A D Y E G H I  M I A V Y N T T D S A F T V  N K G D R I  A Q G
UniRef90_L7VST0          R I S N S P G T I  D A G Y R D E V  G I I T N T S A E T Y L  R K G D R I  A Q L
UniRef90_G5EET2          D V G     A G V I  D S D Y R G E V  K V L L F N F N T T A F E V  K T G D R I  A K L
UniRef90_K2CIW6          T F P H G F G I I  D H D Y C G P  V K I Q V Y N F A T E S V T  V E R G D K I  A Q G
UniRef90_E4WVJ8          D V G     A G V V  D Q D Y R G N V  G V I L F N F G E E E F E V  K K G D R I  A Q L
UniRef90_B4LTG5          D V G     A G V V  D E D Y R G N L  G V V L F N H S D T D F E V  K R G D R I  A Q F
UniRef90_G9WHZ6          V L P N S V G V I  D A D Y E G E I  F V Q I Q S I S G Q N V Q I  K K G D R I  V Q A
UniRef90_M9VDR5          S I V N A P G T I  D S G Y R G Q I  K V L L I N D P R E S V H L  D A G S R I  A Q L
UniRef90_U3GS18          T V L N A P G V I  D P G Y I G E I  N L I N L D E C P Y V I  L E G D R I  A Q L
UniRef90_Q4FNL4          T V L N T P G T I  D S D Y R G E I  G V I L H N G K E D F L I  N N K D R I  A Q M
UniRef90_UPI0003B3329E   T V A Q G V G I I  D P D Y T G E I  L V F L L N T S G Q E R R I  Q N G E R V  A Q M
UniRef90_UPI0002485E39   T V L N S P G T I  D A G Y H G E I  C V I A I N D P E T P W A  W E E G D R I  A Q L
UniRef90_E4L7Y5          V L M N S T G I I  D A D Y E G H I  M I A L Y N T S E T D F S V  T K G E R I  A Q G
UniRef90_L1I6G8          Q V G     A G V I  D R D Y R G S I  K V L L Y N H S D S A Y H I  E K H D K I  A Q G
UniRef90_UPI00047212E2   R V   Q L G T V  D A G Y R G E V  G V I V D N I A D G T Y L I  R K G D R I  C Q A
```

```
                                          130
UniRef90_B0VEZ7          V F C P V I S P Q L I E A Q T L
UniRef90_J9GCA0          I I E K Y T R T D I E E T D D L
UniRef90_Q89662          I L E R I M V P E L S E L T Q L
UniRef90_UPI00026C6B63   V V V P F L A P V L Q E V D D L
UniRef90_A0A058Z086      I I E T I I T P P V V E V D D L
UniRef90_S4PE28          I C E K I Y Y P E L V E V T N L
UniRef90_H6RR82          V V Q P V A R A R F V P V A E L
UniRef90_C8VXW7          V F Q P I L H V N L Q E T S K L
UniRef90_K5WJ82          I I E R I Y T P K I K E V A E L
UniRef90_B1XM22          V M V P V M H L D I T V V D
UniRef90_R7BQU6          V I Q K V E E V T F K Q V V S L
UniRef90_UPI0003C1B2E1   V I A P V T Q V V V S E V T E
UniRef90_R7AHK3          I I I K A E E V D F T E V D E L
UniRef90_G7V543          V V Y K H E K V K W N P
UniRef90_T1KEL4          I C E K I I Y P E I E E M K E L
UniRef90_A4ALQ0          I V M P V S R A R F I P V S T L
UniRef90_E6MFH2          V F T P V V Q P E I I A V E T
UniRef90_W6UIY0          V I A K H E T V S W K S V G E L
UniRef90_B1ZFB6          V F T R V M R P D F E I R E
UniRef90_C2S7Y9          V I A P V V T A H F V E V E E L
UniRef90_C8WHI4          V V M R V P D A A F D V C A E L
UniRef90_T1KF56          I C E R I A Y P E L E E A A E
UniRef90_M4QN39          I L E R C D T P I I K E I
UniRef90_J2GUY5          V I A I V P V A Q F E V V D E L
UniRef90_B1ZNN9          A L C P V L M W D A V E V N E L
UniRef90_A0A023FX02      I C E R I T Y P E L V E C Q S L
UniRef90_C6XGJ5          I I A N S V R A
UniRef90_H2ZPZ1          I C E R I F L P E L Q E L E T L
UniRef90_V9QKQ7          V V S P V I R A I L R K T D T L
UniRef90_K2H8E9          V I A P V V R A A F A E T D R L
UniRef90_F1QV95          I C E K I C Y P D L Q E L Q T L
UniRef90_F3YVC6          L F L P Y F A A R L S I V D E L
UniRef90_G0MF05          I L E Q I A H C R Y E Q V D S L
UniRef90_UPI00037A9326   V I Q R Y V E A R F V E A E T L
UniRef90_E4V069          I L E R I Y T P E V L V V E Q L
UniRef90_A7RPL3          I V E R I Q T P S I V E V E D L
UniRef90_K5WY44          I L E R I Y N P E V L E V D N L
UniRef90_UPI0003B5DAE1   V I Q R Y V E P V F V Q A R V L
UniRef90_Q6GZR2          V L E R Y E S P P I L E V D S L
UniRef90_E2AWL7          I C E R I I Y P K L E E V K C L
UniRef90_D1BT99          V I Q K V E K A R F L R A E V L
UniRef90_R2QJE5          I F L P F L K A D
UniRef90_E8V1E2          R I V Q R L Q A D F V E V E K L
UniRef90_UPI00047B9913   V M A P Y Y V A D Y T E V D E L
UniRef90_UPI0004747E64   V I A E V P Q A S F E L V Q E L
UniRef90_A6W8A4          V V Q R V E R V E F V P V P Q L
UniRef90_L7TM70          I F A T Y I P V N F I E K K E L
UniRef90_UPI0003B68CD9   V V M P V T R A R F L S V D T L
UniRef90_Q1AST9          V L V R
UniRef90_K1QHT0          I C E R I Y I P E L Q E C Q D L
UniRef90_E3M3R2          V C E K I G H C V Y E A V S E L
UniRef90_UPI0002481CC9   V L Q V V P K M R F T V V D S
UniRef90_R6B2G1          I F T K Y L T T D D D H A E
UniRef90_UPI00038183ED   V F Q P F F R A Q I S V V D S L
UniRef90_G0YQ06          M I V P A I Q A T F E V Q E N L
UniRef90_UPI00037ECFA0   L V Q R V E L P T V R V V D T L
UniRef90_UPI00037CB7AB   L V Q K V E N I N F L P V E S L
UniRef90_T1L6G0          I C E M V I H P I M E E I D E
UniRef90_D5EFC4          V I L K V K L P G F V V V D A L
UniRef90_UPI0003749293   V I A P V T T V I P V E V S D L
UniRef90_M2SKY1          V V E K I A M P N V V V V E E L
UniRef90_J9A5R0          V L A A V G H T T F E E V D V L
UniRef90_D3R316          V I A P I I H V E W E D A E S
UniRef90_C9L7Z4          I F L P Y
UniRef90_M1HHC2          V I E K I E M L D V A V V D D L
UniRef90_A7IBE3          V V A P V T Q I M L E E S G D L
UniRef90_Q9Q8S9          I F E K V T S V N I E S V G T L
UniRef90_H2JG96          V L Q V V P K M E F T I V N S
UniRef90_E9GFI8          I C E L I L Y P E I E E A E S L
UniRef90_D0JA47          I V Q K H E K V E W N E
UniRef90_U6PXM5          I C E R I A H C K Y E E C T T L
UniRef90_C6BSY5          V F M P Y C Y A R L T P S E E L
UniRef90_UPI00035A058B   I C E R I Y L P Q L E E L P S L
UniRef90_P32208          I F E R V E Y P I M E E V K C L
UniRef90_Q7Q0U6          I C E K I A Y P D L E E L P T L
UniRef90_S5DJK6          V L I N T N S V E F K I V E N L
UniRef90_W2EB41          I I A P V E R A K F T V V D E L
UniRef90_R7CMI2          I F A K Y Y K A D
UniRef90_L7VST0          V L Q E V P R M R L K V V D S
UniRef90_G5EET2          I C E Q I G N G T Y E E V K S L
UniRef90_K2CIW6          V F V R I D R F E W E E V D S
UniRef90_E4WVJ8          I L E R I W M P V L V E S S E
UniRef90_B4LTG5          I C E R I S I P E L E E Q V D K L
UniRef90_G9WHZ6          I F M P F L T V D
UniRef90_M9VDR5          V I V P V V Q A V F Q P V D D L
UniRef90_U3GS18          I I H N T V D V D W Q R V S E F
UniRef90_Q4FNL4          V L M P V I K M E F E E T D N L
UniRef90_UPI0003B3329E   I F Q P F V R P R W R E V T E L
UniRef90_UPI0002485E39   V I K Q V P H S V L D I G D A L
UniRef90_E4L7Y5          I F Q K Y L K I E
UniRef90_L1I6G8          A L H I E T P D I E V V N E
UniRef90_UPI00047212E2   V I K P V E Q A A F T E V C D L
```

```
                 1         10              20            30            40
UniRef90_E3BRN0        M K K R G F E V V S K Y R D A N I N L P K R Q T K G S A G Y D F E A A V D M T
UniRef90_R6M8L8                          Y E D I I L P K R S T K N S A G Y D F Y S L Y D
UniRef90_UPI00039B09FB             L Y A R E R E N F L T P     A T A L S A G F D L R A C L N A P
UniRef90_Q4ZC04        M N Q L Q I K L       L S E N A T L P T R N H S T D A G F D I Y A A     E T
UniRef90_UPI00035EB044 M R K   E V V I R F K R L T E R A R L P Q F A Y E D D A C F D L F S P C D
UniRef90_T1HY93        M S A I   P K L Q F V K L Q S T A F V P T K G T T N S A G F D L R S P C D C T
UniRef90_B2A6K7            M K I K I S       A K D E H M P K Y Q N P G D V G A D L K S A E E E T
UniRef90_Q9CJ30        M K I R G F E V V T K Y K N A G I N I P K R S T E H S A G Y D L E A A     E T
UniRef90_S0JCE8        M K K R G F E R V T S F E G Q N I N L P V R A T N H A A G Y D F E A A A D V V
UniRef90_B9CV36        M T N T L E I K       K I S E N A T M P T R A N E F D S G L D L Y     V S E T
UniRef90_X5H482                                      M D L Y S A I V S D
UniRef90_UPI0003F63E19         E V L V C P V D P G H P V L R Y A H A G D A G A D L     S T T D H
UniRef90_F2I8N4        M A K R G F E I V S S Y K D Q G I N L P Q R Q T T S A A G Y D L E A A E K A A
UniRef90_C9A8U0        M K L R G F E I I T A Y K E K S I T L P Q R A T H H A A G Y D F E A A E E I V
UniRef90_D9QRE8          M E I E I K R L D D S L P L P E Y K H R G D A G M D L Y S     R E E
UniRef90_UPI0004768A73     M P V K I   K R L H P D A V I P Q Y A T A G S A G F D L V A V E D
UniRef90_D3R5T2                              H Y M H A G D A G A D L V T T     A H
UniRef90_V7Q4R8          M N V N I   K R L S P D A Q I P Q Y A H A S D A C F D L V A T E D
UniRef90_N2AZT8              L I I Q K I Y K N I K L P Q R A T S G S A G Y D F Y S P I D
UniRef90_I8SIG6        M Q L R G F K F I S S Y E K N D L R L P T R K T Q Y S A G Y D L A A A E D
UniRef90_UPI00037D2856     M P I D V Q L M M L D P D L P V P A Y A H P G D A G     A D L L A A E A
UniRef90_E2BVQ2                          K G S E Y A A G Y D L R S A Y R
UniRef90_C0XSM4                V K R L D P H V A L P A R A H A T D A G A D L T S T E D
UniRef90_M5J7X0        K R G F Q V V S K Y K N E D I K L P I R A T K N A A G Y D F F A A E D F V
UniRef90_R6TQM9             D E D L Y N E Y S L P K R G T K Y S A G Y D F F A L     Q P
UniRef90_F8DS81        I K I C N I       S E N P L P N Y A T D G S S G M D L Q A F L K K S
UniRef90_T0IKX3        R G F E V I S Q Y Q E H D I K L P I R K T A L S A G Y D L T I A Q D A
UniRef90_X0XG80            M E M K V K R I H K D A K L P C Y G H V G D A G L D L F S V M E
UniRef90_R9L175        N I D I S L L D K Q L     P E P A Y A H P G D A A L D L R S V E D G S
UniRef90_UPI00047702F2                                              E P
UniRef90_M2XBQ1                  R L D A D L P L P R Y A K P G D A G L D L R A S S D A
UniRef90_C4WTK9                  K L T E H G F Q P T K G S E H A A G Y D L R S A Y     S
UniRef90_G2X1Y8        M S S Q A P A L L I K L S P A A R L P T R G S A F A A G Y D V Y A S K A T S
UniRef90_G8DG33        M S P A T T N L Y V S R L T D D A K L P T K G T P L S A G Y D L Y S S     E Y
UniRef90_G3ADX7        M T T Q I K Q K I V T D T L S P K A K L P T K G S A L A A G Y D I Y S S     E S
UniRef90_G2SRP6            K R G F K V V T K Y L D K G L N L P K R A T R N A A G Y D F E C A E D F V
UniRef90_Q38UZ3        M K K R G F E I V T K Y Q S A N L S L P V R S T A H S A G Y D F A C A E D F V
UniRef90_Q67P75                  R L P Q R K T R L S A G Y D L E A A     E E
UniRef90_F4BRH7        M E K K R G F E V I S A Y Q T K G I H L P V R A T N H A A G Y D F E A A E D I I
UniRef90_R7HQ62              Y D D V V L P K R G T I S S A G Y D F Y S V I     S
UniRef90_F9VL48        M Y E L K V K L       L Y P N S K L P E F A N P G D A G M D V F S V E D K
UniRef90_Q4ZD34        M I N T L Q I K L       L S D N A T M P K R E H D T D A G F D I Y A A     E T
UniRef90_S4VUM5                  K R M H E D A V L P R R G T P G A A G Y D L W A V     G T
UniRef90_I6ULZ2           E I R V R K V H P N A R I P R R Q S E G A A G Y D L H S V     E S
UniRef90_UPI000373BDE1 M K I R G F E L V T N Y T D K E L L P K R E T A H A A G Y D L K A A     E R
UniRef90_K9D326             L K V K L H K D A V I P K Q A T D G S A G F D L V M P R D C I
UniRef90_R9WJE7        K R G F K I V S S K K G Q D I H L P Q R Q T T R A A G Y D F E A S E D F V
UniRef90_K1ZE97             I K R V D N S L P L P K Y E T D G S V G F D I T A     R E S
UniRef90_K0KKS3        K I N D T L K I Y K R S E N A T L P T K G S V L A A G Y D I Y S S E     E S
UniRef90_H5KNL1            I Y V K V K R L H P A A K L P A Y A T S G S A A M D F E A V E I K P
UniRef90_UPI00047AA646 M D Q R Q P D I E L Q L L D P D L E P P S Y A H P G D A G A D L R T R Q D
UniRef90_G8U0H6                  P D A R L P H R A T A Q S A G Y D I F P Y I P E P
UniRef90_A5IR57        M T N T L Q V K L       L S E N A R M P E R N H K T D A G Y D L F S A     E T
UniRef90_R4RFW2        K R G F Q V V S T Y Q E A G L T L P K R Q T K Q A A G Y D F A A A T D F T
UniRef90_G5BR16                                  L L S A Y D
UniRef90_H4GKB1        K R G F Q V V S F K A D Q K I N L P Q R Q T Q Q A A G Y D L E A A E D F V
UniRef90_UPI000371AFB4 M K L R G F E L I S A Y N D D N L   L P K R E T K H A A G Y D L K V A     E N
UniRef90_X6LBS0            V Q K L S E D A H T P T K G S K M A A G Y D L F S A K E E T
UniRef90_W6MR68        S K L E P M L K V L L R S S S A K L P T R G S S L A A G Y D L Y A S     A P
UniRef90_H6TAI8                L S N N G Y I P T K S T P G S A G F D L Y S A Y D
UniRef90_C4Y3L6                  S E K A T V P T K G S A L A A G Y D L Y A S E D A
UniRef90_UPI0001D2E531
UniRef90_UPI0004647FA1          I Y D S L T L P K R A T V G S A G Y D F Y T P I D
UniRef90_G5KH86        M R K R G F E L I S S M T N K D L   L P K R E T A H A A G Y D L S V A     E K
UniRef90_M7P081        M S N K S F F E V V S Y Y K K N N I Q L P K R Q T Q Y S A G Y D L A A A I E
UniRef90_UPI0003B5A40F     V S I K A K R L V T H A Q L P H Y A H V G E Y G   D L A A A S S E S
UniRef90_G7VJ58        T R G F E I V S K Y A D E N I T V P K R S T Q Q A A G Y D F E A A V D I T
UniRef90_C7GZZ1                  I L P K Y H T E G S A G L D V R A Y I E D E
UniRef90_N1ZNJ0        K R G F E I V S K Y Q G E D L T L P V R A T Q N A A G Y D F C A A K D F V
UniRef90_U4KJV3            F E V V S T Y K E Q S I H L P K R Q T L K S A G Y D F E V A E D
UniRef90_UPI000478B3C8 M L N K L Q I K     Q L S E S A T L P T R S H T H D S G L D L Y A S E D T L
UniRef90_H5SHK5            M N V L I Q R T D S D L P L P T Y A T P G A A G M D I A A A V A E P
UniRef90_X0VWZ5        M K S V K I A I K R K E S A K D L P L P G Y V T A G S S G M D L Y A D T E G E
UniRef90_G9ZMK0        M I N R G F E L V S K Y Q D A D L T L P F R T T K N A A G Y D F Q S A V D M T
UniRef90_M6ZUD7            I T T E L D N G G R M P S R A H G W D A G A D L H A S     H A
UniRef90_R6YBM4                Y E D I S L P V R S T K H S A G Y D F K S P I E
UniRef90_C5R8M6        K R G F A V V N K Y A N A N L S L P S R S T E H A A G Y D F Q A A E D D V
UniRef90_T1JSF0                K C Y P D V S T P S R G T I D S V G Y D L Q S Y     E N
UniRef90_R7WSC9
UniRef90_W7CRI5        M K T R G F E I I P T E H R K Q I T L P V R A D A R S A G Y D F S A N     E T
UniRef90_N1ZX86        M K T R G F E V V S K Y Q D K G I N L P R R Q T L A S A G Y D I E A A E D I V
UniRef90_F9XC35            P A L Q V K L L A P T A K A P T R G S Q H A A G Y D L Y A S     R P
UniRef90_S5M6I6        I K P V L K L F K L R E S A V V P A R A T S G S A C F D L A A A F E K D
UniRef90_UPI000379723D                          M D L V T T S N
UniRef90_G8PB54        R G F E V I T K Y Q N K G I N L P E R Q T K N A A G Y D F E A A E D D T
UniRef90_R9NPX5             R I Y D E I R L P K R A T A G G A G Y D F Y A P V     P
UniRef90_J3EQ56        K R G F E T V D R Y R D A G I Q L P Q R A T Q Q A A G Y D F Q A A E D F T
UniRef90_R5VEA7        M R L R G F E I A K G Y E D K D I H M P V R K T K N S A G Y D V E A A S D
UniRef90_UPI0004699D1E         D Q S L G L P N Y E T A G A A G A D L R A N L P E G
UniRef90_R5Y2Y2        M K E I K I K       Y L N D D I T R L E Y I D G K S D W I D L R A A     E E
UniRef90_Q287L0                  S P G A F A P R M A S E G A A G D L Y T P H D
UniRef90_Q4L3V0        I K K L S E K A I L P T R A N P T D S G L D L V A E D T
```

```
                        50              60          70              80
UniRef90_E3BRN0    I I I K P F     L V P T G I K S Y M G D D E V   L I L A N R S S N T F K R N L
UniRef90_R6M8L8    I T I K P N E R V V I P T G I K V C M N E N E F L G L Y I   R S S L G F K Y N I
UniRef90_UPI00039B09FB  E T I A P G T R L C V P T G L S V Q P Q Q P G L A G F V Y S R S G L G A R D G L
UniRef90_Q4ZC04    I T L E P Q E K A L I S T D I A V N I P K G   Y V G L L T S R S G V S S K T H L
UniRef90_UPI00035EB044  L T I P P G E S A V V D L E I A S E F P   T G Y E V V I R P R S G M G I   R H G I
UniRef90_T1HY93    V   I P A R G K R L I F T N L Q I K L P D G C Y   G R I A P R S G L S L L H H H L
UniRef90_B2A6K7    I I I P A G E N K L I K T G V K I E L P Q D   I M A T V H P R S G L A K K G I
UniRef90_Q9CJ30    V S F A P G E I K L I P T G L K A Y M Q A G E V L Y M Y   D R S S N P R K K G L
UniRef90_S0JCE8    I P I K P     V L V P T G I K A Y M G D D E F   L Q L A N R S S N P L K R F L
UniRef90_B9CV36    I N I P A H T T K V V K T D I A I N L P   Y G Y E A Q V R P R S G K S L K T K L
UniRef90_X5H482    V V L E P G H R T C I N T G I A I S I P N G   Y E A Q I R P R S G L A L K F G I
UniRef90_UPI0003F63E19  L E L G P F E R A L V H T G V R I A L P   A G Y V A L V H P R S G L A V K R G V
UniRef90_F2I8N4    V K A A A G E P T L V P T G L K V Y M P H D E Y   L Q I I S R S S N P W K R N L
UniRef90_C9A8U0    V P L F A K E T A L I P T G I K A Y M G E D E Y   L Q L T N R S S N P L K R F L
UniRef90_D9QRE8    G V L K P G K Y G L F K T G L A I A L P   R G Y A G F I N P R S G L A V D Y G V
UniRef90_UPI0004768A73  V A I S P G E T K K V P L G L A F E I P E G F V   M L V C M R S G I A Y N T T L
UniRef90_D3R5T2    V E L G P F Q R A L V P T G V R I A L P   A G Y V G L V H P R S G L A V K Q G V
UniRef90_V7Q4R8    V I I E P G E T A L V K T G L A F E I P E   G Y E M Q I R P R S G I T L K T K L
UniRef90_N2AZT8    F T L N P G E T I K I P T G I K C C M K S G W V   L K C Y P R S G L G F K Y R L
UniRef90_I8SIG6    V L L A P A S V T L V P T G I K A Y M Q S D E Y L G   I H I R S G L S I K K N L
UniRef90_UPI00037D2856  A E I P A G G W V I V R T G I A I A L P D G   Y V G L V H P R S G L A A R L G V
UniRef90_E2BVQ2    C V I P A R G K E L V K T D L Q I E V P P G T Y   G R V A P R S G L A W K N Y I
UniRef90_C0XSM4    L T L A P G Q R A L V G T G I A I A L P A G T V G L I   H P R S G L A A K H G L
UniRef90_M5J7X0    L T L R P E D Y T L V P T G I K A Y M Q P D E Y   L L L A N R S S S P L K R G L
UniRef90_R6TQM9    F T L K P G E T I K V P T G V K V T M N E D E M L M I V V   R S S Q G F K Y N V
UniRef90_F8DS81    I S I H P M E R K I I R T G L F I E I P   I G Y E G Q I R P R S G L A F H H G I
UniRef90_T0IKX3    T L F P G K V V L V P T G I K A Y M E E D E Y L G   I H I R S G L A I K H S L
UniRef90_X0XG80    C V L K A G E V R A I S T G L Q L A I P D G   Y V G L I W D K S G I S L K N
UniRef90_R9L175    I A P F E R A V V S C G F A L A I P E G H   A G L V I P R S G L A A K H G I
UniRef90_UPI00047702F2  I D M F P G D C E L I P T G I A V N I A D P G Y A G M I   L P R S G L G H K H G I
UniRef90_M2XBQ1    V L D P G A R A L   I G T G L A I A V P V G W V G L V H P R S G L A A K H G I
UniRef90_C4WTK9    Y V V K A H G K E L I K T D I Q I K V P Q G T Y   G R V A P R S G L A W K N F I
UniRef90_G2X1Y8    I P A R G K A L V D T D I A I S V P A G T Y   G R I A P R S G L A S K H F I
UniRef90_G8DG33    V K I P P F C K K M V S T G V A M T V P E G T Y   G R V A P R S G L A H K N S I
UniRef90_G3ADX7    A V I P A H G Q G L V S T D I S V V V P I G T Y   G R V A P R S G L A V K H G I
UniRef90_G2SRP6    L P L K P     Y L V P T G I K A Y M Q D D E F   L M L A N R S S N P L K R R L
UniRef90_Q38UZ3    L T L K P F     L V P T G I K A Y M Q D D E Y   L M I A N R S S N P L K K G L
UniRef90_Q67P75    V T I P P G Q V A L V P T G L K A Y M G E D E V   L L L A V R S S L A V K R R L
UniRef90_F4BRH7    V V I K Q K K S T L V P T G I K A Y M G E D E Y   L Q L A N R S S N P I K H Q L
UniRef90_R7HQ62    V T L K P G E R K V I P T G I R V M M N N N E F L G   I F I R S S L G F K Y N V
UniRef90_F9VL48    L I K S G E S E L I S I G L V L E L P K N T   E I Q V R P K S G L A L N N Q I
UniRef90_Q4ZD34    V V L E P Q E K A L I A T D I A V N I P K G   Y V G L L T S R S G V S S K T H L
UniRef90_S4VUM5    T T V P A R G R A Q V R T G L A V A I P   A G Y Y G R V A P R S S L A V R G
UniRef90_I6ULZ2    G V I P P G E R R S I R T G L V W D I P K S I V   G L V F G R S G L A L K N W I
UniRef90_UPI000373BDE1  V E L L P G E I Q L V P T G V K S Y M Q P T E V   L Y D R S S N P R K K G L
UniRef90_K9D326    F I   G N S T K V G T G L A F E I P K G   Y V M L I V P R S S T G L K T P L
UniRef90_R9WJE7    L P I W K G N F Y L V P T G I K A Y M Q P D E F   L L L A N R S S G P F K R R L
UniRef90_K1ZE97    V T I K A G T I E L I P S N I I V E V P K G   Y M L I V A S R S S T P R K H G V
UniRef90_K0KKS3    L V P S Y G Q   A L V S T D I S I   I V P V G T Y G R V A P R S G L A V K H G I
UniRef90_H5KNL1    C V D S N G S S W W V Y T G L A M E I P   P G W C L K L Y P R S G L G C K K H T
UniRef90_UPI00047AA646  V E L A P G E R A L V P   T G V A I A L P A G Y V A L I   H P R S G L A T R L G L
UniRef90_G8U0H6    L T I Q P G A M A L I R T G I K A Y M P P G W V   L L L M V R S S V G I K R R L
UniRef90_A5IR57    V V L E P Q E K A V I K T D V A V S I P E G   Y V G L L T S R S G V S S K T Y L
UniRef90_R4RFW2    L P I W K G N F Y L V P T G I K A Y M Q P D E V L I L V N   R S S G P L K R R L
UniRef90_G5BR16    Y I I P P M E K A L V K T D I Q I A L P S G C Y   G R V A P R S G L A A K H F I
UniRef90_H4GKB1    L P I W K G N F Y L V P T G I K A Y M Q A D E V   L M L F N R S S G P L K R R L
UniRef90_UPI000371AFB4  I S I K P G E I K L V P T G V K A Y M Q A E V L F L F D R S S N P R K K G L
UniRef90_X6LBS0    V   A A H G K A L I K T D I A I Q L P E G C Y G R I   A P R S G L A W K D H I
UniRef90_W6MR68    A V I P G N G R G L V S T D V T L V I P E G T Y   G R V A P R S G L A V K H G I
UniRef90_H6TAI8    Y E I S P L K R I L V K T D I M F D I P E G C Y   G R I A A R S G L S L N K Y I
UniRef90_C4Y3L6    V I P A Q G Q G L V A T D L S I   I V P I G T Y G R V A P R S G L A V K H G I
UniRef90_UPI0001D2E531  L V L E P G A R D L V P T G I A L M L P E G   F E A Q V R P R S G L A L D Y G V
UniRef90_UPI0004647FA1  F I L K P N E T I K I P T G I R V S I N E G W F L A   I F P R S G L G F K Y R L
UniRef90_G5KH86    T V I K A G E I V L V P T G V K A Y M Q A G E V   L Y L Y D R S S N P R K K G L
UniRef90_M7P081    I N I P P Q Q I A I I P T G L K L F L P S N Q V   L L I Y A R S S L F I K K K L
UniRef90_UPI0003B5A40F  L L L P G A T Q P V S T G I A L E F P S T H   G A L V E D R S G L A L K G L T
UniRef90_G7VJ58    I P L K P     V L I P T G I K A Y M E E G E Y   L Q L V S R S S G P I K K R L
UniRef90_C7GZZ1    I C I K R G K I S M V H T G L F F D I P K G   F E I Q V R A R S G L A S K H G I
UniRef90_N1ZNJ0    L V L K P     Y L V P T G I K A Y M Q P D E F   L M L A N R S S N P L K H G L
UniRef90_U4KJV3    V K L M P Q E I K L V P T G I K A C F P E T E   A L F I Y P R S S L A I K K H V
UniRef90_UPI000478B3C8  I T Y   T H A I V I P T G I A V N I P   P G Y E G Q I R P R S G K S S K T N L
UniRef90_H5SHK5    L V I P P G G I A L V P T A L A I A L P D G   Y E A Q I R S R S G L A L K H G I
UniRef90_X0VWZ5    L E L P P G Q I K L V S C G I Y L G I P E   G F E A E V R P R S G L A L K H G V
UniRef90_G9ZMK0    I P I W K G D F Y L I P T G I K A Y M Q P N E V L V I A N R S S N P L K R G L
UniRef90_M6ZUD7    A V I H R G R T A L V G T G V H V D I P   P G F A G F I H S R S G L A A R H S V
UniRef90_R6YBM4    F E L N P G E I I K V P T G I K A Q M E D D E Y L M L L V   R S S M G F K Y N V
UniRef90_C5R8M6    V T S E S D E Q A L V P T G I K A Y M G D D E Y   L M I A N R S S N P L K R G L
UniRef90_T1JSF0    L V L P S R K I T I V K T G I K V Q P P A G C Y V   R L A S R S G L A S K G I V
UniRef90_R7WSC9    M T I P G R R V M V G T G V A V A L P F G T V   G L I H P R S G L A A R T G L
UniRef90_W7CRI5    A V I A P G A Q H L F W T D V C A Y M L D D E V L E M Y V   R S S I G I K R H L
UniRef90_N1ZX86    I I L K P     I L V P T G L K V Y M P E D E V   L V L A N R S S N T F K K N L
UniRef90_F9XC35    A T I P A R G K A L V E L D I S I A V P A G T Y   G R V A P R S G L A S K H G I
UniRef90_S5M6I6    L V I K A H E R A L I P T G F V F G I P   T G Y S L R I H P R S G L A W K H G I
UniRef90_UPI000379723D  V E L A P G E R G V V G T G V A V A L P   P G Y A G F V H P R S G L A A R V G L
UniRef90_G8PB54    V T I E N A Q K E L I P T G V K A F M G E N E Y   L L L A N R S S N P L K R R M
UniRef90_R9NPX5    I V L K P Q E T G K V P T G I R V E M D E D W V   L Q C Y P R S G L G F K Y R L
UniRef90_J3EQ56    L T L K P     Y L V P T G I K A Y M Q P D E Y   L L L A N R S S G P I K R G L
UniRef90_R5VEA7    I V I E P M K P T L I P T G L K A Y C Q D D E Y Y I L V N R S S G P   K K G F
UniRef90_UPI0004699D1E  A I T L A P F A R A L I P T G L I M A I P A G F E V Q I   R P R S G L A L K H G I
UniRef90_R5Y2Y2    V E L K A G E F K L H L G V A M K L P E G   Y E A H I V P R S S T F K K W G I
UniRef90_Q287L0    F V I K A R D S M L I D T G V C I E M P P N M Y   A Q I K S R S G L A V K H Q I
UniRef90_Q4L3V0    T I P A H S T V V V P T H I A I D L A   Y G Y E A Q V R P R L G N S L K T K L
```

```
UniRef90_E3BRN0         S L P N G I  G V V  D S D Y E G E I  F F Q F I  N Y G V R P F K I  K K G D R I  G Q G
UniRef90_R6M8L8         R M C N Q V G I I  D A D Y G H I  F V C Q N E S D K E V V I  K K G D R F A Q G
UniRef90_UPI00039B09FB  T V A Q G V G I I  D P D Y T G E I  L V V L N T S G E E R R L  A R G E R M A Q L
UniRef90_Q4ZC04         V I      E T G K I  D A G F H G N M K I  N I  K N D M Q R T Y K I  N K G D R L A Q L
UniRef90_UPI00035EB044  M I      H P G T I  D A G Y R G S W V V R L  F N F G T A P Y R I  C Q G D R I  A Q G
UniRef90_T1HY93         D I  G      A G V V  D A D Y T G N V G V L I  F N H G P A D F Q I  R V G D K I  A Q L
UniRef90_B2A6K7             I A I T G I I  D I G F R G E I  K V N L A N L S T N H V E I  N P G D R I  A Q M
UniRef90_Q9CJ30         V L I N S V G V I  D K D Y E G H M F M Q M R N F T D E E V V I  E K G E R V V Q G
UniRef90_S0JCE8         I L S N G V G V I  D S D Y E G H I  M F Q F T N V G L R D V T I  K K G E R I  G Q G
UniRef90_B9CV36         R V A      F G T I  D K T Y H K E I  G I I T D N I  G D E D I T V E K G E R L A Q L
UniRef90_X5H482         T V L N T P G T I  D A D Y R G E I  K V I L I N L G S E A Y T I  K Y R D R I  A Q M
UniRef90_UPI0003F63E19  T V L N A P G T I  D A G Y R G E I  M V P L I N D A H E T A V F E P G D R I  A Q L
UniRef90_F2I8N4         T L P N G V G I I  D S D Y E G H I  Y V Q L L N F G L E D V V I  E K G E R I  A Q G
UniRef90_C9A8U0         V L T N G V G V I  D S D Y E G H I  M F Q F T N F G P T D V V I  K K G E R I  G Q G
UniRef90_D9QRE8         T V L N A D G V I  D P G Y R G E I  G V P L I N G A E E F K V K K K T R I  A Q L
UniRef90_UPI0004768A73  R Q P N G I G I I  D S D Y R G E V A M M F V N C G E S E F H I  R K G D R V A Q G
UniRef90_D3R5T2         T V L N A P G T I  D A G Y R G E I  K V P L I N L D P E H T V F E P G D R I  A Q L
UniRef90_V7Q4R8         R V      Q L G T V  D A G Y R G E V G V I V D N M P I G T Y L I  R K G D R I  A Q A
UniRef90_N2AZT8         Q L N N T V G I I  D S D Y E G H I  F L K L T N D T N E I I  H I  K K G E G I  A Q G
UniRef90_I8SIG6         S L V N G Q G I I  D A D Y E G H I  F I A I Y N H S S Q S I  P I  N K G T R I  A Q G
UniRef90_UPI00037D2856  T V L N A P G T V  D S G Y R G E I  R V N L I N H G P A P A K I  E R G D R I  A Q L
UniRef90_E2BVQ2         D V G      A G V I  D A D Y R G N L S A L L F N H S N D D F E I  A P G D R I  A Q L
UniRef90_C0XSM4         S I  V N T P G T I  D A D Y R G E I  K V C L L N D P T T P I E I  T R G M R I  A Q L
UniRef90_M5J7X0         I L P N G V G I I  D S D Y E G E I  F F Q L V N L G P K D Y H I  K K G D R L G Q G
UniRef90_R6TQM9         R L C N Q V G I I  E S D Y E G H L F I  R L Q N H G D K D Y I  V K K G D A I  C Q A
UniRef90_F8DS81         T V F N N P G T I  D S D Y R G E I  K V L L L N L S N S S F V V E N G N K I  A Q I
UniRef90_T0IKX3         S L I N G Q G I I  D A D Y E G H I  L I A V F N H G S E S V T I  T K G T R L A Q A
UniRef90_X0XG80         I  H R L A G V V  D S G Y R G E V V M T N L S T E A F S I  A K G M K I  A Q M
UniRef90_R9L175         S I  V N A P G L I  D S G Y R G E V K V V L I N D P R E T F Q F Q R G D R I  A Q L
UniRef90_UPI00047702F2  V L G N L V G L I  D S D Y Q G E L M V S C W H R D N E P Y A I  N P G D R I  A Q L
UniRef90_M2XBQ1         T V L N A P G T V  D S G Y R G E I  M V T L L N T D H T P F R I  E R G D R I  A Q L
UniRef90_C4WTK9         D V G      A G V I  D S D Y R G N V G V I L Y N H S D E D F L V N A G D R V A Q L
UniRef90_G2X1Y8         D T G      A G V I  D A D Y R G Q V K I L L F N H A D T F A V A E G D R V A Q L
UniRef90_G8DG33         D V L      A G V I  D R G Y T G E V K V I L M N L S N D T H E F P K H T R I  A Q L
UniRef90_G3ADX7         S T G      A G V I  D A D Y R G E V K V V L F N H S D K D F P I  N A G D R I  A Q L
UniRef90_G2SRP6         V L P N G V G I I  D S D Y E G E I  F F Q L L N F G L K D V V I  K K G E R I  G Q G
UniRef90_Q38UZ3         V I  P N G V G I I  D S D Y Y G N I  F I Q M L N F S P R D V I L  R K G E R I  G Q G
UniRef90_Q67P75         A L A N G I G V I  D A D Y E G H I  L V A L V N L G T E P A T I  C G E R V A Q G
UniRef90_F4BRH7         I L P N G V G I I  D S D Y E G H I  Y F Q F I  H Y G L T D H V I  K K G D R I  G Q G
UniRef90_R7HQ62         R M C N Q V G I I  D A D Y Y G H I  F V C L E N E G D E V I E I  K K G D R F V Q G
UniRef90_F9VL48         T V L N A P G T I  D E G Y R G E V K I V I I N H G K Q D F M I  K E G M K V A Q L
UniRef90_Q4ZD34         V I      E T G K I  D A G Y Q G H M Q I N I  K N Y D N P V Y K I  N K G D R L A Q L
UniRef90_S4VUM5         I D V G A G V I  D A D Y R G E V G V V L F N H T D A D H V V Q G E A R I  A Q L
UniRef90_I6ULZ2         E V A E T      C V R P G E G K E L E I  T L I N N G K E E F V Y E E S C R I  A Q L
UniRef90_UPI000373BDE1  V L I N S V G V I  D G D Y E G H I  F A Q M K N I  T D E T V V V E A G E R I  V Q A
UniRef90_K9D326         R Q S N S V G V I  D S D Y R G E V S V L F D V S A G Y V Y T K K K G E S V A Q A
UniRef90_R9WJE7         I L P N G I G I V  D A D Y E G E I  F F Q L I N Y G L R D Y R I  K K G E R I  G Q G
UniRef90_K1ZE97         T P P H G F G I I  D H D Y C G P I  K I Q V Y N F S E K D V V I  E R G T K I  A Q G
UniRef90_K0KKS3         S T G      A G V I  D A D Y R G E V K I V L K N F S V D F Q I  K K G E R I  A Q G
UniRef90_H5KNL1         R L A N C V G L I  D S D Y R G E I  M A K L I D P G G E G V C L K P G M A V M Q G
UniRef90_UPI00047AA646  T I  V N A P G T V  D A G Y R G E I  S V T L L N T D Q E P I K L D R G D R I  A Q M
UniRef90_G8U0H6         V I  P N S V G V I  D G D Y E G E I  F L A L W N I  G D Q P Q T V H P T D R L A Q G
UniRef90_A5IR57         V I      E T G K I  D A G Y H G N L G I N I  K N F M N G S Y V I  N K G D K L A Q L
UniRef90_R4RFW2         I L P N G V G I I  D A D Y E G E I  F V Q L V N Y G L R D Y H I  K K G E R I  A Q G
UniRef90_G5BR16         D V G      A G V I  D E D Y E G N V G V V L F N F G K E K F E V K K K G D R I  A Q L
UniRef90_H4GKB1         V L P N S V G I I  D A D Y E G E I  F V Q L L N Y G L T D Y H I  K K G E R I  A Q G
UniRef90_UPI000371AFB4  V L I N S V G V I  D S D Y E G H I  F A Q M Q N I  S D Q I  A E L Q V G E R I  V Q A
UniRef90_X6LBS0         A T G G      G V I  D G D Y R G N V G V I L F N H S D E P F K V V K G M R I  A Q L
UniRef90_W6MR68         S T G      A G V I  D A D Y R G E V R V L L F N H D A A D F K V E A G D R I  A Q L
UniRef90_H6TAI8         D I G G      G V I  D R D Y R G N I  G I I V I N G E S T F Y I  S K G E R V A Q I
UniRef90_C4Y3L6         S T G      A G V I  D A D Y R G E V K I V L F N H S K K D F E I  K T G D R I  A Q L
UniRef90_UPI0001D2E531  T V L N T P G T I  D R D Y R G E V K A L L N L G T H P F E I  V R G M R I  A Q L
UniRef90_UPI0004647FA1  Q L N N T V G I I  D S D Y E G H I  F I K I T N D S N E T V E I  K K G Q G F A Q G
UniRef90_G5KH86         V L A N S V G V I  D G D Y E G H I  F A Q M Q N I  T K K D V V L E V G E R I  V Q G
UniRef90_M7P081         M L T N N V G V I  D S D Y E G H I  L I P L Y N F S N Q I I T I  H K N E R I  A Q G
UniRef90_UPI0003B5A40F  T L      A G V I  D P G Y R G E I  R V V V T N L G P N A A Q I  K I G D R I  A Q L
UniRef90_G7VJ58         M M P N A V G I V  D A D Y E G E I  F F Q F I N F G L K D A H I  K K G E R I  G Q G
UniRef90_C7GZZ1         G L A N G V G T I  D S D Y T G E L I I P L I N L G E K D Y V V K N N D R I  A Q I
UniRef90_N1ZNJ0         I L P N G V G I I  D A D Y Y G N I  F F Q L V N F G L T D K V I  K K G E R L G Q G
UniRef90_U4KJV3         M M A N N V G V I  D S D Y E G H I  F I P L Y N F S N E I  V E I  Q K G E R I  A Q G
UniRef90_UPI000478B3C8  R V      I L G T V  D C G Y G G E I  G V I A D T L N K S N Y L V K K G E K I  A Q L
UniRef90_H5SHK5         F C L N S P G T I  D S D Y R G E I  K V I L A N A S S V A F T I  E R G M R I  A Q L
UniRef90_X0VWZ5         T L V N T P G T I  D S D Y R G L V G L I M T N L G K E T F T I  K R
UniRef90_G9ZMK0         V I  P N G I G V I  D A D Y E G E I  F V Q I L N F G I A D T H I  K K G E R V A Q G
UniRef90_M6ZUD7         F V L N A P G V V  D C G Y A G E L K V I L H N A G G Y D F Q V E R G D R I  A Q L
UniRef90_R6YBM4         R L C N Q V G I V  D S D Y E G H M F I K I Q N E G K E V L K I  N K G D R F A Q G
UniRef90_C5R8M6         I L P N G V G I I  D A D Y E G E I  F I Q M I N F G L H D V I  K K G E R I  G Q G
UniRef90_T1JSF0         V H G      G V I  D P D Y T G E I  R V I L H N W S D E D F T I  T K G M R I  A Q M
UniRef90_R7WSC9         S I  V N T P G T V  D A G Y R G E I  K V C L I N D P E T P I V I  E R G D R I  A Q G
UniRef90_W7CRI5         T L A N T V G I I  D A S Y Y G N I  G I C L V N H S A E A V T I  E A G E R I  A Q G
UniRef90_N1ZX86         A L P N G I G V I  D A D Y E G E I  F V Q V L N Y G V R P L H I  K K G D R I  A Q G
UniRef90_F9XC35         D T G      A G V I  D A D Y R G P V K V L L F G K E F E I  N E G D R V A Q L
UniRef90_S5M6I6         T L A N A E A V I  D E D Y P E T F V M L Q N N S H I P F V I  K K G D R I  A Q A
UniRef90_UPI000379723D  S V V N T P G T I  D C G Y R G E I  R V C L I N H P R E P V R L E R M D R I  A Q L
UniRef90_G8PB54         I L P N G V G I I  D A D Y E G A I  F F Q M L N F G V T D I  H I  S K G E R I  G Q G
UniRef90_R9NPX5         Q L N N T V G I I  D S D Y E G H I  F A K I T N D S K E T V R I  E P G T G F M Q G
UniRef90_J3EQ56         I L P N G V G I I  D A D Y E G H I  F A K I T N L G D R D V T I  K K G D R I  G Q G
UniRef90_R5VEA7         V M A N S I G I I  D A D Y D G H F Y F Q Y W N F G D K P L E I  K K G D V I  A Q V
UniRef90_UPI0004699D1E  T L P N S P G T I  D A D Y R G P L G V I V Q N L G D A D F I  V E H G M R I  A Q M
UniRef90_R5Y2Y2         I Q T N F C G I V  D N S Y C G N D W W R M P V F A L R D T K I  E V N D R I  C Q F
UniRef90_Q287L0         V A A      A G V I  D N D Y R G T L S V L L F N G K K K S R Q F A Q G F
UniRef90_Q4L3V0         R V A      L G T I  D H T Y N K E I  G I I  T D N I  G N E D I T V K A K T R L A Q L
```

```
UniRef90_E3BRN0          I  F  M  P  F  L  K  A  D
UniRef90_R6M8L8          I  F  M  S  Y  L  I  T  D
UniRef90_UPI00039B09FB   V  F  Q  P  Y  V  R  P  L  W  R  E  V  Q  E  L
UniRef90_Q4ZC04          V  I  V  P  I  V  T  P  Q  L  Q  E  V  D  E  F
UniRef90_UPI00035EB044   A  L  R  E  V  P  R  V  R  I  V  E  T  S  T  L
UniRef90_T1HY93          I  C  E  K  I  C  Y  P  I  I  E  E  V  A  N  L
UniRef90_B2A6K7          V  F  N  P  V  V  K  P  E  F  V  Q  V  D  K  L
UniRef90_Q9CJ30          V  F  M  P  F  L  V  A  D  G  D  E  N  Q  E
UniRef90_S0JCE8          I  F  L  P  F  L  K  A  D  Q  D  E  T
UniRef90_B9CV36          V  V  A  P  V  V  Y  P  T  P  K  E  V  K  E  F
UniRef90_X5H482          I  I  A  P  V  T  R  A  S  W  N  L  V  K  N  F
UniRef90_UPI0003F63E19   V  I  Q  R  Y  V  E  A  T  F  V  P  A  A  A  L
UniRef90_F2I8N4          I  F  T  P  Y  L  K  T  D
UniRef90_C9A8U0          I  F  L  P  F  L  K  A  D
UniRef90_D9QRE8          V  V  Q  K  Y
UniRef90_UPI0004768A73   L  I  L  P  V  M  Q  A  Q  F  I  V  A  D  E  L
UniRef90_D3R5T2          V  I  Q  R  Y  V  Q  A  E  F  I  E  A  S  V  L
UniRef90_V7Q4R8          V  I  K  S  V  E  Q  A  A  F  T  E  V  T  E  L
UniRef90_N2AZT8          I  F  V  E  Y  I  T  A  D  D  D  V  V  E
UniRef90_I8SIG6          I  F  Y  K  Y  L  L  A  D  H  D  E
UniRef90_UPI00037D2856   V  V  Q  R  V  E  R  A  A  F  A  V  T  D  T  L
UniRef90_E2BVQ2          I  C  E  K  I  V  Y  P  K  I  E  E  V  E  S  L
UniRef90_C0XSM4          V  V  Q  K  V  E  L  V  S  F  S  E  V  A  D  L
UniRef90_M5J7X0          I  F  M  P  Y  L  Q  A  D  G  E  E
UniRef90_R6TQM9          I  F  T  K  F  L  T  V  D  N  E  E
UniRef90_F8DS81          I  F  I  K  Y  N  K  I  K  W
UniRef90_T0IKX3          I  F  Y  K  Y  L  K  A  D
UniRef90_X0XG80          L  I  Q  P  V  I  K  V  R  V  V  D  S  E  V  L
UniRef90_R9L175          M  I  V  A  T  P  S  I  T  L  H  N  T  D  H  L
UniRef90_UPI00047702F2   V  I  V  P  V  I  Q  P  Q  F  R  V  V  E  E  F
UniRef90_M2XBQ1          L  L  Q  R  V  G  T  V  E  L  V  E  V  D  E  L
UniRef90_C4WTK9          I  C  E  M  I  V  Y  P  E  V  V  E  F  K  T  L
UniRef90_G2X1Y8          I  I  E  R  I  Y  T  P
UniRef90_G8DG33          V  L  E  K  I  E  N  A  E  V  K  E  V  V  D  L
UniRef90_G3ADX7          V  L  E  K  I  I  N  A  D  I  E  E  I
UniRef90_G2SRP6          I  F  M  P  Y  L  Q  I  D  D  E
UniRef90_Q38UZ3          I  F  M  P  Y  L  V  A  D  D  E  V
UniRef90_Q67P75          I  F  V  R  Y  L  T  V
UniRef90_F4BRH7          I  F  M  P  F  L  K  A  D
UniRef90_R7HQ62          I  F  I  P  Y  L  I  T  D  D  D  N  T  T  D  L
UniRef90_F9VL48          V  L  K  P  T  Y  N  V  K  I  C  K  V  D
UniRef90_Q4ZD34          V  I  V  P  I  W  T  P  E  L  E  Q  V  E  E  F
UniRef90_S4VUM5          L  I  E  K  I  A  Q  P  E  P  E  W  V  D  S  L
UniRef90_I6ULZ2          V  F  V  P  V  L  S  C  E  V  S  F  V  E  S  L
UniRef90_UPI000373BDE1   V  F  A  P  F  L  L  A  D  G  D  E
UniRef90_K9D326          M  L  V  K  L  P  E  V  N  I  V  E  V  D  E  L
UniRef90_R9WJE7          I  F  M  P  Y  L  T  A  D  S  E  E
UniRef90_K1ZE97          V  F  V  R  M  D  K  F  E  W  E  E  V  S  E
UniRef90_K0KKS3          V  L  E  K  I  V  N  A  D  I  Q  E  I  D  E  L
UniRef90_H5KNL1          I  F  E  R  V  E  Q  V  S  L  V  E  V  E  E  L
UniRef90_UPI00047AA646   V  I  Q  R  V  E  Q  A  R  F  H  L  V  D  E  L
UniRef90_G8U0H6          I  F  L  P  Y
UniRef90_A5IR57          V  I  V  P  I  W  T  P  E  L  K  Q  V  E  E  F
UniRef90_R4RFW2          I  F  V  P  Y  L  V  A  D  Q  E  E  V
UniRef90_G5BR16          I  C  E  R  I  Y  Y  P  E  I  E  E  V  Q  E  L
UniRef90_H4GKB1          I  F  M  P  Y  L  T  A  D           E  E  L
UniRef90_UPI000371AFB4   V  F  A  P  Y  L  L  A  D  G  D  Q  A  E  G  L
UniRef90_X6LBS0          I  L  E  R  Y  Y  H  D  S  V  V  E  V  D  S  L
UniRef90_W6MR68          I  L  E  K  I  V  N  A  P  V  L  E  I  E  E  L
UniRef90_H6TAI8          I  F  E  K  Y  F  D  I  D  I  L  Q  C  D  N
UniRef90_C4Y3L6          V  L  E  Q  I  I  N  A  D  I  N  V  I  E  E  L
UniRef90_UPI0001D2E531   V  V  A  P  C  A  R  V  E  I  V  E  V  A  E  L
UniRef90_UPI0004647FA1   I  F  M  P  F  G  I  C  E  D  D  D  T  D  Q
UniRef90_G5KH86          V  F  A  P  F  L  V  V  D  D  D  E
UniRef90_M7P081          I  L  Q  N  F  L
UniRef90_UPI0003B5A40F   R  I  V  Q  R  I  Q  A  Q  F  M  E  V  Q  E  L
UniRef90_G7VJ58          I  F  L  P  Y  L  L  A  D  G  D  D  V  V  E
UniRef90_C7GZZ1          L  L  A  R  C  E  R  I  N  W  Q  E  R  E  E
UniRef90_N1ZNJ0          I  F  L  P  Y  L  L  A  D  D  E
UniRef90_U4KJV3          I  F  Q  K  F  H  T
UniRef90_UPI000478B3C8   V  V  Q  K  V  E  L  P  Q  L  E  V  V  N  Q  F
UniRef90_H5SHK5          V  V  A  R  Y  E  R  V  T  W  Q  L  V  E  Q  L
UniRef90_X0VWZ5
UniRef90_G9ZMK0          I  F  M  P  Y  L  L  A  D
UniRef90_M6ZUD7          I  V  S  R  V  E  I  V  T  F  T  Q  G  E
UniRef90_R6YBM4          I  F  N  K  F  Y  L  V  D
UniRef90_C5R8M6          I  F  M  P  F  L  V  T  D  D  D  Q
UniRef90_T1JSF0          I  V  E  R  A  E  V  P  D  L  V  E  V  E  Q  L
UniRef90_R7WSC9          V  V  Q  R  V  E  L  V  D  F  V  E  V  A  E  L
UniRef90_W7CRI5          I  F  K  K  Y  F  V  A  D
UniRef90_N1ZX86          I  F  M  K  Y  L  K  T  D
UniRef90_F9XC35          I  V  E  R  I  Y  T  P
UniRef90_S5M6I6          E  L  Y  E  T  I  S  N  K  F  M  V  V  T  E
UniRef90_UPI000379723D   V  V  Q  R  V  E  K  A  E  F  R  E  V  A  E  L
UniRef90_G8PB54          I  F  M  P  F  L  T  V  D  N  E  K  V
UniRef90_R9NPX5          I  F  M  E  Y  G  I  T  A  D  D  E  V
UniRef90_J3EQ56          I  F  M  P  F  L  R  S  D
UniRef90_R5VEA7          I  F  Q  K  Y  L  T  V  D
UniRef90_UPI0004699D1E   I  V  A  P  V  V  Q  A  A  F  Q  V  V  E  T  L
UniRef90_R5Y2Y2          R  I  Q  K  N  P  T  L  V  F  N  E  V  E  E
UniRef90_Q287L0          I  V  R  Q  Y  Y  K  L  P  L  K  E  C  E  Q  L
UniRef90_Q4L3V0          V  V  T  P  V  M  L  P  E  P  T  E  V  Q  E  F
```

```
UniRef90_B8ILI8           V E V R I L D P R L   P G W G F P R W G S A L A A G L D L H A C L D A P
UniRef90_R5QWI4                       K I Q E L Y D Q I R L P R R A T A G S A G Y D F F A P V D
UniRef90_R7MER2           M K K R G F E V A K G Y E N M G V V I P E R K T K Y S A G Y D V E A I E D T V
UniRef90_A4JW87           M A T L K I K     R L H P D A V I P K F A T E G A A C F D L V A I D V D N
UniRef90_D4YT75           M K I R G F E V V S N Y Q D Q G I N L P R R Q T L A S A G Y D L E A A E D I T
UniRef90_R6HDP4           M K L R G F E K I A S F K E V D F P M P E R K T K M A A G Y D I     C L P Q D
UniRef90_M3I992           M K I R G F E I V K D R V F P N I T L P V R S D K G S A G Y D F F S N     E E
UniRef90_R6CWT6               R G F E I A K G F E D K E I N L P I R K T K G A A G Y D I E A A E D I I
UniRef90_R7C3Y8                 I K A I Y D G I K L P K R A T R G S A G Y D F F S P V D
UniRef90_J0YNI8           M T N T L E I K L         L S E N A T M P K R     D R L D A G Y D I Y S A     E T
UniRef90_UPI000287CFFD                   Y D E L K L P K R A T A R A A G Y D L Y S P I     S
UniRef90_R6MIY4                       K I Y E D I K L P K R A T A G S A G Y D F Y A P M     A
UniRef90_UPI00036BD1E5                 P T R A H L G D A G L D L R A A H D Q T
UniRef90_H8ZC34                     L T E H A T C P K I A T K L S A G Y D L Y A Q S D G
UniRef90_R6PDP1                 M K V K I I D Y G I A E S   R L P F R A H Y N D A G A D V F A T S S Y N
UniRef90_R6GT51           M E K V R G F E V A K G W E N K N I N I P I R K T A R S A G Y D V E A A E D T I
UniRef90_H0DVV8           M T N T L E I K L         L S E N A T M P K R     D R L D A G Y D I Y S A     E T
UniRef90_R6AJK3           M K L R G F E V A K G W E S K D I H I P I R K T A N S A G Y D V E A A     E E
UniRef90_UPI00029D5D3F         D M R L L F A R L S E H T T A P T N G S T C A A G Y D L Y S A Y D Y T
UniRef90_R6ILQ3                 N I Q L D E Q A L M P V R A H D T D A G L D L L S P V D T
UniRef90_F7NLA8           M T P V R G F E I V S R D L A S G I H L P E R K T Q F S A G Y D I F S V E D
UniRef90_U5F7Q0                     I Y D T L R L P Q R A T A G S A G Y D F Y A P I     S
UniRef90_UPI0003634F32       K R G F E K V S S Y A A S S A K L P R R A T Q N A A G Y D F F A S K D F V
UniRef90_R5G3H4               K F K E L F L K D D I I I P G R G T Q K S S G Y D F T S P H D
UniRef90_K2G9I3             M K I K I K K I H P D A K I P Q F A L A G D V G M D L F S V V D
UniRef90_G0CWI5                       P R R A H T T D M G A D L M N G T G K R
UniRef90_K7PCP1                 L R V T R T I P D A F L P Y P A T L G A A G Y D L T I P R D     A
UniRef90_R9JCS4           M K T I K I K Y F T E K I E K     L T Y I G G K S D W I D L R A A     E S
UniRef90_UPI000249136F     M S K L R G F E I V E K Y R D Q G I N L P V R Q T K N A A G Y D I E S A E D F V
UniRef90_Q91F87                 L Q I K F A A L T E Y A Q K P K R G S E F S A G I D L R S A Y E Y L
UniRef90_D4LTW0                   I L S V Y E N I R L P L R A T A G S A G Y D F F A P V D
UniRef90_G0HB76           M T T I N I       T L D P G G I Q P C R A T P G S G A F D L H A L L G G
UniRef90_H1LKH6             N R G F E I V S K Y A D A N L A L P Y R T K N A A G Y D F E S A E D V I
UniRef90_UPI0002192722       K R G F A V V S K Y A T A G L N L P Q R A T K M A A G Y D F E V A E D F T
UniRef90_R6DQQ0           M E Q I K I K Y F T D K I D K     L E Y I D G K S D W I D L R A S     E E
UniRef90_C4V8P4           M T T A S K L K I     T K L S K N A R I P I R H S E G A A G Y D I S A L E E G
UniRef90_D6E6R8               R L A I P L K A L D A E L T V P A C A Y A G D A A V D L R S T V D E
UniRef90_G3B3J0           M T T T V D P I A K K Q K L S D K A K V P T K G S A L A A G Y D I Y S S E S G L
UniRef90_S4HPW0               Q V E V L I Q Y L D N E A P L P C Y A H A G D A G A D L R T T Q D
UniRef90_K1VAJ1                   E L L V K L L T P N A K V P T R G S P L S A G Y D L Y A A E D A
UniRef90_R8JSQ4             K I R G F E V A K G F E D K G I N L P E R Q T A N S A G Y D F E A S E D
UniRef90_M4RC35                 E V L V K Y L R Q P Y P T L R Y A H A G D A G A D L T A S E D
UniRef90_UPI0002490C58       T R G F K V V K A Y Q G K D V K I P S R A T K N A A G Y D F E S A A D F T
UniRef90_R6N421           M E K I R G F E V V K G F E D K E I N L P E R K T K Y S A G Y D I E A A E D
UniRef90_R7R169           M E Q K E T I K I     K Y L N D K I E K L C Y I D G K S D W I D L R A A E D
UniRef90_UPI0003827488     L M R V R G F E V V S S F V G Q D I V M P A R K T Q Y S A G Y D I S A L G D
UniRef90_A2T397                 L L I K L M H R D A I I P Q R I T D G S V G Y D L A A C E D
UniRef90_J0IZG8           M T K E L E I K L         L T E N A I M P K R     D R L D A G Y D I Y S A     E T
UniRef90_UPI0003B58944     M E K I I I K Y F D K D V   E R L T L V E       G K S D W Y D L R A S E D
UniRef90_E6W3W4           M E H I R T L D I R I Q L I E G G I I P R Y T Y E G D A G L D C Y A R L E Q D
UniRef90_UPI00046394F8         K A Y E E L M L P K R A T K G S A G Y D F F T P Y     P
UniRef90_R5I5H4                   K I Y E G I R L P R R A T A G S A G Y D F F S P V D
UniRef90_D7GU24                 V I R E I Y D G I R L P K R A T A G S A G Y D F F A     P A A
UniRef90_W8W2U1             K I K F I L T S E N A S A P Q K G T S K S A G Y D L K S I     E K
UniRef90_G8P8C0                 K K L D G N A T I T E R A T K H S A G Y D I S A S     E T
UniRef90_U7L0F4                 L E D G A R E P R R A H P D D A G F D L     A I I E R
UniRef90_R9KKU9           M E T I K I K Y F       G Q D L E K L E Y I G G K S D W I D L R A S     E T
UniRef90_R5HVZ7             R G F E I V N D Y K D K N I N L P I R K T K Y S A G Y D I E A A E D I I
UniRef90_UPI000192540C     M K T     V K I I D T K     G W S L     Y A T K E S A A F D L R S T E R K
UniRef90_UPI00039DA48C       K L R I K A F N N R A K E L Y E N H S H F H S G D A G L D L F V V E D Q
UniRef90_U2B983                   I Y D A L K L P A R A T G G S A G Y D F F M P I Q
UniRef90_S4U059           M N E N Q F E R V T G Y     E D A D L P Q R K T E Y A A G Y D V K     P Y E T G
UniRef90_Q98W23                 P N L V V K L V N E N A V L P Q R M S H G A V G Y D I     A I T E A
UniRef90_D4C6D1           M K I R I I D F G L P E N H R   P L R S H A N D A G A D V Y M P F D
UniRef90_X5KNC3                 I K Q L S P N F T M P V R A S D T A G G Y D I F     M P E G
UniRef90_O48500               I K I K L T H P D C M P K I G S E D A A G M D L R A P A A D L
UniRef90_K9B997           M L S L P I K L       L T E H A T M P R R A N Y T D S G I D L F T S     E E
UniRef90_T1KMD6           M A I N L S K Q I A F V K L N P R A K H P I R G S R H A A G F D L Y S P     D H T
UniRef90_UPI000370569F       M R G F E V V K E S F R K N D I F F I P E R S T K H S A G Y D F K A     P H K
UniRef90_K1U0S6             K T V Q V G I     K K L Y P D V V I P E Y K H D G D A A C C D I R A Y I D E S
UniRef90_S8F2G0               L R V Q A L T P E V R A M Y A A H G H Y H E G D S G V D L F V V Q D Q
UniRef90_R7L0V0                     M Y E D I R L P K R A T S G S A G Y D F Y     I P C P
UniRef90_X1UGZ3
UniRef90_UPI0004790087         I N V K R T S E D A V I P K F A H D S D S G F D L F T C     E E
UniRef90_R6P7Q1                   I Q P I T P N A T V   T R A H D A D A G L D L H C I E D
UniRef90_UPI00047CA169     M E K T I K I K Y F N       D Q I Q K L E Y I D G K S D W I D L R S A E D
UniRef90_R5Y836                   V K S V Y D S I K L P Q R A T A G S A G Y D F Y A P V E
UniRef90_UPI000380ADE6
UniRef90_E6MGZ4                   R V K L D N Y A R L P K R A H P I D A G L D I K T P K N
UniRef90_S8C6C3                 P P L K V M R L D A N A Q L P Q K G T P G A A G F D V R A L     Q R
UniRef90_D9R4W9           M T K T I R V K Y F T D K I E R     L R C I D G K S D W I D L R A A     E E
UniRef90_R7IJV6               M K I L V R Y H D G A V P L T V L   P Q G D W I D L C A A     E T
UniRef90_UPI0004790018         I T I K Y F S D D M E R I E L I D G K S D W I D L R A F E D
UniRef90_N2AN46           M E Q Q V       L K I K Y H S K E I E K L T Y I A G K S D W I D L R S A Q N
UniRef90_R7G6W3                 V Q I Q N I Y D E I K L P K R A T K G S A G Y D F Y T P I     T
UniRef90_K2FFT8             M K I L K K I N P L A K M P S Y A N I G D A G M D F Y S V V D
UniRef90_X0RC41           M T E I K I K Y F E D D L I K I E K V P Q       G D W L D L R A A     Q R
UniRef90_Q91BK5           M K Q I E P Q L K Y L K L S E H A Y E P T Y G S D G A A G L D L K S A H D
UniRef90_K4BVA4                 R L S E N A T L P K R M F P H S A A Y D L F S A R D
UniRef90_T1JSX5               M S L F F S R C Y S S A S P L V K A T S G S V G F D L K S F     E H
UniRef90_M0DBE0           Q Q V Q P A S V D L R L G E R F L E F Q R I H P T D A G T E T T V P E G D E
UniRef90_V2Y6D2           M E T I K I K Y F       S N E I E K L C Y I A G N S D W I D L R V A     E N
```

```
                                      50            60            70            80
UniRef90_B8ILI8          L A L A P Q A A P A L V P A G F A V A R D P G W C A L V F P R S G L G H R E G L
UniRef90_R5QWI4          V Q L A P G E T I K I P T G I R A Q M   E Q E W V L K V Y P R S G L G F K Y R L L
UniRef90_R7MER2          I P P K P G M K T L V K T G L A Y C Q N D E F F M L V N   R S S N P G K K G L
UniRef90_A4JW87          A V A H P N D R A I V R T G L A V E I P   P G Y V M K I Y S R S G H G F R D A V
UniRef90_D4YT75          I P L K P     I L V P T G L K A Y M P E D E V   L I L A N R S S N T F K R N L
UniRef90_R6HDP4          V T I K A H T L Q M V P T G V K A Y M Q D D E F L G   V H I R S S M A V K K G L
UniRef90_M3I992          V T L H P G S Q H I F W T D V K T Y M Q E D E V L S   V F V R S S I G I K R G L
UniRef90_R6CWT6          I E P K P G T N T L V K T G L K A Y M P N D E Y   L M L C N R S S N P K K K G L
UniRef90_R7C3Y8          F T L K P G E T I K I P T G I R V F I E E D W V   L N I F P R S G L G F K F R L
UniRef90_J0YNI8          V I L P Q E K A I I K T D V A V N I P E G   Y V G L L T S R S G V S S K T H L
UniRef90_UPI000287CFFD   F L L N P K E D I I P T G F K S Y M L N D E   S L D I Y P R S G M G F K Y Y I
UniRef90_R6MIY4          F E L K P G E T I K I P T G I K V K I N D G W V   L K L Y P R S G L G F K F R V
UniRef90_UPI00036BD1E5   I T   T P G H A A W V S T G V K A A I P E G H V   G L L M A R S S L Y   K H G L
UniRef90_H8ZC34          V I L A G K R K K I D L G C T V E I P S G Y Y   G Q I C S R S S L S L K N G I
UniRef90_R6PDP1          I H P G E T V K I P L G F G L E L P D G   F A G F I F P R S G L S S K G
UniRef90_R6GT51          I P P F K N G C K L I H T G L K A Y C M D D E W Y M L   A N R S S N P G K K H L
UniRef90_H0DVV8          V I L E P Q E K A V I K T D V A V N I P E G   Y V G L L T S R S G V S S K T H L
UniRef90_R6AJK3          V I I H P F K P T L I P T G L K A Y C Q S D E W   F M L A N R S S N P I K R G L
UniRef90_UPI00029D5D3F   V P P M E K V L V K T D I Q I A L P S G C Y   G R A A P H S S L A A K H F I
UniRef90_R6ILQ3          V I P A H G A V T V D T G V H I E L P   P N T A G F L K S K S G L N V K Y G I
UniRef90_F7NLA8          V C L E P A K V T L I A T G L K A Y M P G D E F L G I Y I   R S G M A V K H Q L
UniRef90_U5F7Q0          F T L H P R E T I K I P T G M R A E M Q E G W V L S L Y   P R S S L G F K Y R L
UniRef90_UPI0003634F32   L P L K K G Q A V L V P T G I K A Y M G D D E Y   L L L A D R S S A P L K R G L
UniRef90_R5G3H4          L L I K S G E V G L L Y T G I K A K M E D D E F L M L V I   R S S K G R K E G L
UniRef90_K2G9I3          V A M K G E K I S C P T G I A I K I E E G   Y A G L I W D K S G L S H K F A I
UniRef90_G0CWI5          I V I F P G K T A K I G T G V R M A I P D G   Y G G Y L H I R S S L G A K R G L
UniRef90_K7PCP1          V V P A K C K A I C I D V G I A M A I P D G T Y   G R I A A R S G L S L R T G L
UniRef90_R9JCS4          V D M K A G E F R L I P L G V A M L P E G   Y E A H I V P R S S T F K N F G I
UniRef90_UPI000249136F   V P L K P     V L V P T G V K A Y M Q S D E V   L I I S S R S S N P L K R G L
UniRef90_Q91F87          V P A N G N K L I K T D W K I Q Y P D G   Y F G K I C S R S G L S L N H N L
UniRef90_D4LTW0          I T L A P G E T A K I P T G I R V E M   E Q D W V L K C Y P R S G L G F K F R L
UniRef90_G0HB76          T L A P G H R T L V Q T G V H L A L P A G H   D G W V L S R S G I A A H K H G V
UniRef90_H1LKH6          I V L K P F     I P T G I K A Y M N S D E V   L I I A N R S S N P L K R G L
UniRef90_UPI0002192722   L T L K P     L L V P T G I K A Y M G E N E Y   L M I A N R S S N P L K R G M
UniRef90_R6DQQ0          V T L K K G E F K L I P L G V A M Q L P K G   Y E A H I V P R S S T Y K N F G L
UniRef90_C4V8P4          I I N P K E V V E I K T G L H I P K G H M   G V I F G R S G L A L M N G L
UniRef90_D6E6R8          T L Q P F E R K L V P C G I A V A I P A G Y A G F V L   P R S G L A A K H G I
UniRef90_G3B3J0          V P G H G Q A M I K T D L T V V V P V G C Y   G R V A P R S G L A A K H G I
UniRef90_S4HPW0          V T L R P F E R A L V P T G V A I A L P A G Y V A L V H   P R S G L A A K Q G V
UniRef90_K1VAJ1          V L P A R G K G I V S A G I S I A I P D E T Y   G R I A P R S G L A A K H G I
UniRef90_R8JSQ4          V V I E P L K P T L V P T G V K S Y M L E N E   S L D L Y N R S S N P L K R F L
UniRef90_M4RC35          V T L R P F E R A L V P T G I A I A L P A G Y V A L V H   P R S G L A V K Q G V
UniRef90_UPI0002490C58   L I L K P F     L I P T G I K A Y M A P N E V   L I L A N R S S G P L K H G T
UniRef90_R6N421          V I I P S F K K T L V K T G I K V Y M P D D E V V   L Y N R S S N P K K K G L
UniRef90_R7R169          V T L K K G E F A M I H L G I A M Q L P   A G Y E A C V I P R S S T Y K N F G I
UniRef90_UPI0003827488   Y V I E P K A C V K I A T G L K V C M L P D E F L G L H I   R S S L A I K Q E L
UniRef90_A2T397          V V I Q P R R P T L V K T G I A I E V P A G T Y   A Q L Y L K S S F A L K T G L
UniRef90_J0IZG8          V I L E P Q E K V V I E T D V A V N I P E   G Y V G L L T S R S G V S S K T H L
UniRef90_UPI0003B58944   V T M K A G D F K L V P L G V A M R L P D G   Y E A H L A P R S S T F K N F G V
UniRef90_E6W3W4          L L L M P A Q W A S V P L G V A I E L P D G   Y E A Q I R P R S S L S L Q G L
UniRef90_UPI00046394F8   I T I A P G E T V K I P T G I R V W M E E E W V   L K C Y P R S G L G F K Y R L
UniRef90_R5I5H4          F T I K P G E T V K F P T G I R V E M   D Q E W V L K C Y P R S G L G F K Y R L
UniRef90_D7GU24          F T L K P G Q M T K I L T G I R A R I D D G W V   L K L Y P R S G L G F K F R L
UniRef90_W8W2U1          C V V Q K R S H L A I K T G L K V E L P T N T Y   G R I A S R S G L S F K H G I
UniRef90_G8P8C0          V T I Q P D E I K V V S T G L A V Q L G D D E V   L K L Y D R S S N P V K R G I
UniRef90_U7L0F4          T R V P M G G H T V A D T G V R V N I P   A G Y V G K L F V R S S V G V K R H V
UniRef90_R9KKU9          V E L K A G D F K L I P L G V A M E L P   G Y E A H V V P R S S T F K T Y G I
UniRef90_R5HVZ7          I P I K P     T L I P T G I K A Y F E N D E F L M L V N   R S S G P     K K K G L
UniRef90_UPI000192540C   V I L P Y Q R I L L I S T G V F I S Q M D R D L Q G W V T S K S G L A I H N G I
UniRef90_UPI00039DA48C   I I P A K S T Q P I P L Q I A C E N L D N K A Y Y L   F P R S S   I S K T P L
UniRef90_U2B983          I E L K P G E T V K I P T G I R V T M Q P E W V I   H L Y P R S G L G F K Y R L
UniRef90_S4U059          V V L P H Q T K L I P T G I K C R L N Y D E H I Q L H   R S S V G I N N D V
UniRef90_Q98W23          A E I L P G Q Q K L L P T G I A L Q V P N G F Y   A H L F I K S G V A L R K G L
UniRef90_D4C6D1          C T L E P G G I A K I P L G F G L E V P D G   Y A A Y V F P R S S L A A K G
UniRef90_X5KNC3          G V A Y P N Q P T K V K L G F S A A V P E G H V   A L L L P R S G T G S K A G L
UniRef90_O48500          R A I A P G K S L M I D T G V A V E I P R G W F   G L V V P R S S L G   K R H L
UniRef90_K9B997          I T L S G H S T A I A P T G V A I D L P K G H   E A Q V R P R S G V T A K T K L
UniRef90_T1KMD6          F I R S G D R S L V A T G L S F M M P L G T Y   A R L A T R S S Y A I R G
UniRef90_UPI000370569F   I I L H P H E S K I I S T D I K A Y M A G D E F L A C H I   R S S L G I K K G I
UniRef90_K1U0S6          I T L Y Q G Y S V R I G T G F K L N I P E G W C V N V E G R S G F S F D E G V
UniRef90_S8F2G0          E I Q P G E T A F V K L G K A A A F E K N V S W L I M P R S S   I S K T P L
UniRef90_R7L0V0          I K L M P N E T I T I P T G I R A R I D D G W F   L M C C P R S G L G F K Y R L
UniRef90_X1UGZ3                                              Y E A Q V R P R S G L A L K Y G I
UniRef90_UPI0004790087   I T V A P G K K A V A K T G L I F E T P I G W G I Q I K N K S G I T V K N N A
UniRef90_R6P7Q1          F H I D G L G R I T V R T G I A I N L P E G   Y M A R V C P R S S L A R N Y G I
UniRef90_UPI00047CA169   I D L K Q G E F H L I P L G V A M E I P E G   Y E A H L V P R S S T F K N F G I
UniRef90_R5Y836          L N L K K G E S L L I P T G I R S K I N N G W V   L K I Y P R S G L G F K H R V
UniRef90_UPI000380ADE6                                      G L I H P R S G L A A K F G L
UniRef90_E6MGZ4          I F V P A R G S V V V D T G V H I E L P D G T V   G L L K S K S G L N L K H G I
UniRef90_S8C6C3          Y T I P P W G R I T L P L G L A I I L P E G T Y   G R L A S R S G L A Q R I G L
UniRef90_D9R4W9          V E L K A G E F K L I P L G V A M E L P   A G Y E A H V P R S S T F K N Y G V
UniRef90_R7IJV6          V T M H A G E F R I I S L G V S M Q L P E G   Y E A H I V P R S S T F R K W G I
UniRef90_UPI0004790018   V T L A K G E A A L I P L G V A M K L P D G   Y E A V I A P R S S T F K N F G I
UniRef90_N2AN46          V T L K K G E F R L I S L G I S I Q L P K G   Y E A V I V P R S S T F K N F G I
UniRef90_R7G6W3          F V L P P Q H T I K L P T G I R V K I Q E G W V   L T L Y P R S S L G F K Y R L
UniRef90_K2FFT8          V S I L P N E I I A C D T G I V M A I P   I G Y V G L W D K G G V A F R G G I
UniRef90_X0RC41          V E L K A G E F K L I P L G V A M E L P E G   Y E A H V V P R S S T F K N F G I
UniRef90_Q91BK5          Y I I K S N S R A V I K T D L A I C I P K D C Y   A R I A P R S S L S V K H S I
UniRef90_K4BVA4          V M V P A R G K A K V A T D L S I D L P P G T Y   G R V A A R S S L S W H R S I
UniRef90_T1JSX5          L I L P V G K T V I V K T G L V K P P E G T Y V   R I A S R S G L A S Q G I I
UniRef90_M0DBE0          F I L H P G D F V L G T T A E R V A I P D D L V   A H L G R L A I
UniRef90_V2Y6D2          V V M K K G E F R L I R L G V A M E L P E G   Y E A H V V P R S S T Y K N F G L
```

```
                                       90            100           110          120
UniRef90_B8ILI8        V L G N T V G V I  D A D Y E G P L M L S V W N R S G S A L T I A P G E R I A Q L
UniRef90_R5QWI4        Q M N N T V G I I  D S D Y E G H I F M K I M N D G R E T V E L K A G E G F A Q G
UniRef90_R7MER2        V L A N S V G I I  D A D Y Y G H F M Y A Y Y N F N E D V V I H K G D V I G Q A
UniRef90_A4JW87        R L S N C V G I I  D R D Y R G E I K V A L R A D G  G N Y V V N N G D R V A Q A
UniRef90_D4YT75        S L P N G I G V I  D A D Y E G E I F V Q M I N Y G V R P L H I H K G D R I A Q G
UniRef90_R6HDP4        A L V N N V G I I  D A D Y E G H I M L G L Y N T T D S D V T L V K G E R V A Q G
UniRef90_M3I992        N L S N N T G I I  D A S Y Y G N I G I A M R N I S D T S V K I E C G E R I A Q G
UniRef90_R6CWT6        V L A N S V G I I  D A D Y G N F M F A F Y N T K S E P T V I K G D A I G Q A
UniRef90_R7C3Y8        Q M N N T V G I I  D S D Y E G H I F V K L T N D S N E T V S V E Q G T G M V Q G
UniRef90_J0YNI8        V I     E T G K I  D A G Y Q G N L G I N I K N D M E H D Y K I N K G D K L A Q L
UniRef90_UPI000287CFFD R L A N T I G L G  D S D Y E G H Y F L K L R N E G N K P W I I E K G D A I G Q G
UniRef90_R6MIY4        Q M N N T V G I I  D S D Y E G H I C K I T N D T N E D V S V N K G T G F C Q G
UniRef90_UPI00036BD1E5 E L A N A V G V I  D A G Y R G E I I V A V R N P G D R S A H V K A G Q R I A Q L
UniRef90_H8ZC34        M    T M G G V I  D A D Y R G E L S V L L F N C S E T D F H Y S K G D R I A Q M
UniRef90_R6PDP1        I V C E L P P  D S G Y T G E I H A I I S N V S N K D Y Y V M T G D R I G Q L
UniRef90_R6GT51        V L A N G V G V I  D A D Y Y G N F M F A F Y N M S D E D V I I K K G D A V G Q V
UniRef90_H0DVV8        V I     E T G K I  D A G Y Q G N L G I N I K N D R Q D T Y K I K K G D K L A Q L
UniRef90_R6AJK3        V M A N S I G V I  D S D Y D G H F M F A Y Y N F F N E D V V I K K G D V I G Q V
UniRef90_UPI00029D5D3F D V     D D S H L S V I I F F F    P F E V K K G D R I A Q L
UniRef90_R6ILQ3        T    S E G V I  D V G Y T G S I A V K L Y N H S G M D Y V V R R G D K I S Q L
UniRef90_F7NLA8        C L V N S V G I I  D A D Y E G H I L V A V L N L G P E K F I L P K G T R F A Q G
UniRef90_U5F7Q0        Q L N N T V G I I  V D S D Y E G H I F A K I T N D A K E D K T L K Q G E G F L Q G
UniRef90_UPI0003634F32 V L P N G V G I I  D A D Y E G E I F F Q L L N F S L F D Q T I K Q G E R I G Q G
UniRef90_R5G3H4        V L A N Q V G I I  D A D Y D G H I I V A I R N V S E S D K K I C K G D R I C Q G
UniRef90_K2G9I3        K T L G    G V F D S N Y V G E Y L I G L I N L E K G Q K I A Q V
UniRef90_G0CWI5        V L A N S T G V I  D A D Y R G E I I A V V R N T G E K T V M I E P G E R F C Q I
UniRef90_K7PCP1        I V L    A G V I  D S D Y R G S I N V M F Q N N F D E P V E L K R G D K I A Q I
UniRef90_R9JCS4        I Q T N H Q G V I  D C S Y C G N D Q W F M P A Y A F R D T H I E I N D R I C Q F
UniRef90_UPI000249136F S I P N G I G V V  D A D Y E G E L F I Q L V N F F P K D F H I K K G D R I A Q G
UniRef90_Q91F87        E V G    A G I  V D A D Y R E G V S V V L N N L S P R D F H V A P G D R L A Q L
UniRef90_D4LTW0        Q L N N T V G I I  D S D Y E G H I F S K I T N D S N E D V S I A A G T G F M Q G
UniRef90_G0HB76        F V L N A P G L V  D S D Y R G D V G V L H N A D P E S F H W E A G D R I A Q L
UniRef90_H1LKH6        V I P N G I G V I  D A D Y E G E I F V Q I L N F G L S D V K I G K G D R I A Q G
UniRef90_UPI0002192722 I L P N G V G I I  D A D Y E G E I F I Q M V N W G I R D M H L K K G E R I G Q G
UniRef90_R6DQQ0        I Q A N H C G I  V D G S Y S G N D M W R M P V I A M R D T T I H V N D R I C Q F
UniRef90_C4V8P4        E P L N S K V L P D S N N E    L I V K I L N N S E D V F K Y E A G M R I A Q L
UniRef90_D6E6R8        S L V N A P G L I  D S N Y R G E I K A I L V N D P R E P F E I K R G D R I A Q L
UniRef90_G3B3J0        S T G    A G V I  D A D Y R G E V K I I L F N H S D K D F E I A E G D R I A Q L
UniRef90_S4HPW0        T V L N A P G T V  D A G Y R G E I K V P L I N D A E H T V Q F H R G D R I A Q I
UniRef90_K1VAJ1        D V G    A G V V D C D Y R G E    G D R I A Q L
UniRef90_R8JSQ4        L L G N G V G I I  D S D Y Y G H I M F Q F I N F G F F P Q T I K K G E R I G Q G
UniRef90_M4RC35        T V L N A P G T I  D A G Y R G E I K V P L I N D P E R T V S L H A G D R I A Q M
UniRef90_UPI0002490C58 I L P N G I G V I  D A D Y E G E I F I Q L I N F G L F D R H I K K G E R I G Q G
UniRef90_R6N421        I M A N S V G V I  D K D Y D G H I M F A F Y N I K E E D I E I K K G E A I G Q A
UniRef90_R7R169        I Q S N H M G L I  D E T Y C G N D W W R M P V I A M R D T E I H V N D R I C Q F
UniRef90_UPI0003827488 M L V N S Q G I I  D C D Y E G H I I I V L R N L G Q H Q V V I R N G E R I A Q G
UniRef90_A2T397        Q I    T G G V V  D P D Y R G E L Q I I L L I N N T F T C V P I L K G T F V A Q I
UniRef90_J0IZG8        V I     E T G K I  D A G Y Q G N L G I N V K N D N E T T T Y Q I N K G D K L A Q L
UniRef90_UPI0003B58944 I Q T N S V G V I  D N S Y S G Q D M W R M P C L A M R D T Q I H K G D R I C Q F
UniRef90_E6W3W4        I C P N S P A T I  D S G Y R G E V H F I A A N L S A K P F L I K N A D R I C Q M
UniRef90_UPI00046394F8 Q L N N T V G I I  D S D Y E G H I F A K L T N D T N E G K T I K A G E G F M Q G
UniRef90_R5I5H4        Q L N N T V G I I  D S D Y E G H I F A K L T N D T N E N V E L K A D T G F M Q G
UniRef90_D7GU24        Q L N N T V G I I  D S D Y E G H I V Q K L T N D S R E T V E V E A G T G F S Q G
UniRef90_W8W2U1        E V G    A G V I  D E D Y P N E L M I I L H N H S D T D F K V E V G D R I A Q I
UniRef90_G8P8C0        A L I N S V G I I  D S D Y P Q E F K G L F M N I S K E P V T I S K G Q R I M Q G
UniRef90_U7L0F4        C L S N G T G I I  D A G Y T G T I K A S L H N E S R D P V W F H A G E F V L Q L
UniRef90_R9KKU9        L Q T N S C G V I  D G S Y C G Q D M W K M P V Y A T R D T T I Q K G D R I C Q F
UniRef90_R5HVZ7        I L P N S I G I I  D S D Y R G E F Y F Q F Y N V T D K E L I I K K G D R I G Q A
UniRef90_UPI000192540C T V L N S P G I I  D S D Y R D E I H V I L Y N S S I E A Y T V T V G Q S L A Q M
UniRef90_UPI00039DA48C R L A N S I G L I  D G G Y R G E L I G M V D N I Y D K D F H I K R G E R Y F Q L
UniRef90_U2B983        Q L N N T V G I I  D S D Y E G H I F A K I T N D S N E G K T L K A G E G F M Q G
UniRef90_S4U059        M L A N G T G I I  D A D Y E G H I M I P I R N L G D E P F Y Y K S S E R I A Q L
UniRef90_Q98W23        I L    N A G V I  D P D Y T G E L K L L L L N P T G A P V H V Q A G E F I A Q A
UniRef90_D4C6D1        V V C E L P P V D S G Y R G E I H A I V S N V G N E A R T L P K D S R I G Q L
UniRef90_X5KNC3        R L R N T C G V I  D S D Y R G E  W V A V V S T D R E P F H W E A G N R V L Q V
UniRef90_O48500        M I A N T A G V I  D S D Y R G E I K M N L Y N Y G S E M Q T L E N F E R L C Q L
UniRef90_K9B997        R V    Q L G T I  D Q T Y N K E I G I I V D N I G L E P V T I P K G K K L A Q L
UniRef90_T1KMD6        I D V G A G V I  D P D Y T G E V K V L V I N N S D E D L Q I K E G D R F A Q V
UniRef90_UPI000370569F S L T N T T G I I  D S D Y Y G N I C F Q L K N N S D K T V I I E K G D K V F Q G
UniRef90_K1U0S6        V V T N A P G K C E F T Y K G E Y M V N L T K I N K K P T V I H K N D R I A Q M
UniRef90_S8F2G0        R L A N S V G L I  D A G Y R G E I M A N V D N I K T V P H T L K A G D R I V Q A
UniRef90_R7L0V0        R L D N T V G L I  D S D Y E G H I Q I R I T N E S N K I L E L K A S D A F A Q G
UniRef90_X1UGZ3        G L L N S P G T I  D A D Y R G E I K V I L F N F G K N S F K I E R E E R I A Q L
UniRef90_UPI0004790087 D I T V F E G T V  D M D Y R G E V G I M F K N E E D F E I T H T K L A Q G
UniRef90_R6P7Q1        D I L G    G I I  D A G Y R G E I K V I L H N T S T S R I N F R C K G D R I A Q L
UniRef90_UPI00047CA169 I Q V N H M G V I  D H S Y C G N D Q W L M P V L A M R D T H I S F N D R I C Q F
UniRef90_R5Y836        Q L D N T V G I I  D A D Y E G H I M I K L S C D A H D D V A V N A G D G F A Q G
UniRef90_UPI000380ADE6 S V V N T V G I I  D A G Y R G E I K V C L I N H D T E A V E L R R G D R I A Q L
UniRef90_E6MGZ4        T    C E G V I  D E G Y T G S I M A V L R N E S D T P K L F Y R G D K I C Q L
UniRef90_S8C6C3        E V G    A G V I  D A D Y R G E I K A L L F N R T S Q E I V L N P Q E K I A Q L
UniRef90_D9R4W9        I Q T N S M G V I  D E T Y C G N D Q W F F P A Y A L R D T V I H V N E R I C Q F
UniRef90_R7IJV6        L Q A N S M G V I  D E S Y C G D D D V W F P A L A M R D T T I A R G D R I C Q F
UniRef90_UPI0004790018 I Q T N S V G V I  D N S Y S G Q D M W R M P V L A M R D T I H K G D R I C Q F
UniRef90_N2AN46        I Q T N H M G V I  D E S Y C G D D L W M M P V L A V R D T Q V R V N D R I C Q F
UniRef90_R7G6W3        Q L D N S V G I I  D S D Y E G H I F V K L T N D T N E T V N L R A G D A M L Q G
UniRef90_K2FFT8        K T M G G V I  D S S Y R G E V K V I L K N L S D E K Y I I K K G D K I A Q M
UniRef90_X0RC41        I Q T N S M G V I  D E S Y C G D D Q W F F P A Y A L R D T V I E K N D R I C Q F
UniRef90_Q91BK5        D V G    A G V I  D H D Y R G V G I V L I N N G E F N F V I
UniRef90_K4BVA4        D V G G    G V V D L D    K N P V F V I L F N H S D V D F E V K V G D N I A Q L
UniRef90_T1JSX5        V H G    G V I  D P D Y T G E I K V I L H C S D R H F I I N K D M K I A Q L
UniRef90_M0DBE0        V V H A T A G L C D P G Y E G G Q I T L E L S N L G T A P V A L S P G M R V S Q L
UniRef90_V2Y6D2        I Q T N H M G V I  D E S Y K G D A D E W K W A L A M R D T E V H V N D R I C Q F
```

```
                                    130
UniRef90_B8ILI8         V F T R V T R P G L R V V E S F
UniRef90_R5QWI4         I F L E Y
UniRef90_R7MER2         I F M K Y L I T D
UniRef90_A4JW87         M L E L A P S V Q F A E V E D L
UniRef90_D4YT75         I F M K Y L K T D
UniRef90_R6HDP4         I F Y K Y L T A D
UniRef90_M3I992         I F T K Y L V A D V D D V T N
UniRef90_R6CWT6         I F M K Y L T A D D D N A D
UniRef90_R7C3Y8         I F M Q Y V T I D D D V T E
UniRef90_J0YNI8         V I V P I W T P E L K E V E E F
UniRef90_UPI000287CFFD  I F R K Y L L A D
UniRef90_R6MIY4         I F V E Y I T F D D D V T D E
UniRef90_UPI00036BD1E5  L I V P I A I P E V K L V N T L
UniRef90_H8ZC34         V I I K I Y T E A P I L V M E
UniRef90_R6PDP1         V I M P I V L A E F V
UniRef90_R6GT51         I F Q K F L I V D D D Q
UniRef90_H0DVV8         V I V P I W T P E L K E V E G F
UniRef90_R6AJK3         I F Q K Y L V T D
UniRef90_UPI00029D5D3F  I C E R I F Y P E I E E V Q I L
UniRef90_R6ILQ3         V V V K I D T P E L V L V D K L
UniRef90_F7NLA8         I F Q K Y F C C D Y E
UniRef90_U5F7Q0         I F L P F G I T E D D E V
UniRef90_UPI0003634F32  I F M P Y L T A D G E E
UniRef90_R5G3H4         I F M K Y L T V S D E V
UniRef90_K2G9I3         L F Q K V E I P
UniRef90_G0CWI5         V I H K L P R V L F
UniRef90_K7PCP1         I F E K I S R P I V R L V D D L
UniRef90_R9JCS4         R I M E N Q P A E F D E V D S L
UniRef90_UPI000249136F  I F I K Y L T T D D D Q
UniRef90_Q91F87         V C T P Y I T P E I V
UniRef90_D4LTW0         I F V E Y
UniRef90_G0HB76         Y L P T L P D T A L H V V D E L
UniRef90_H1LKH6         I F M P Y L L T D
UniRef90_UPI0002192722  I F M P F L V T D D D A T Q E
UniRef90_R6DQQ0         R I M K N P R I C F E Q V D H L
UniRef90_C4V8P4         V I I E T C N Y E L E E V D K L
UniRef90_D6E6R8         A I M R V A E A V F E P C E D L
UniRef90_G3B3J0         V L E K I L L T D V Q E I
UniRef90_S4HPW0         V I Q R Y V E A Q F I P A A Q L
UniRef90_K1VAJ1         I L E R I A M A P I R Q V D E L
UniRef90_R8JSQ4         V F R P F L K A D
UniRef90_M4RC35         V I Q R Y V E A T F V P A E R L
UniRef90_UPI0002490C58  I F L N Y L V A D D E V
UniRef90_R6N421         L F Q K Y L I T D N D K A E
UniRef90_R7R169         R I Q K H P K I V F D E V E E L
UniRef90_UPI0003827488  I F Y K Y L C V D N E V
UniRef90_A2T397         V L H Q V A T P A V Q E T T T L
UniRef90_J0IZG8         V I V P I W T P E L K Q V N E F
UniRef90_UPI0003B58944  R I M K Q Q P A E F E E V E H L
UniRef90_E6W3W4         L I L P V P R V N L V I S E E L
UniRef90_UPI00046394F8  I F V E Y
UniRef90_R5I5H4         I F V E Y I T V D D D V T D
UniRef90_D7GU24         I F V E Y G I T V D D E A D E
UniRef90_W8W2U1         I I Q P V V
UniRef90_G8P8C0         V F V K
UniRef90_U7L0F4         V V E E L P R V E L Q R V D A L
UniRef90_R9KKU9         R I M E N P E I V F Q E T E
UniRef90_R5HVZ7         I F Q K Y L L T D
UniRef90_UPI000192540C  T F V P V F F A E
UniRef90_UPI00039DA48C  V A V D S S P I D F E L V E E L
UniRef90_U2B983         I F L E Y G I T E D D E A D
UniRef90_S4U059         I I M P Y
UniRef90_Q98W23         I L Q A V I T P P V Q E A Q A L
UniRef90_D4C6D1         I I M P V V I A D F V N D L
UniRef90_X5KNC3         L L V P V S T P E L Q L V E E L
UniRef90_O48500         V V L P Y S T H N F K I V D E L
UniRef90_K9B997         V I Q K V E L L E P I E V R S L
UniRef90_T1KMD6         I F E F Y H T G K M L E I T D L
UniRef90_UPI000370569F  I F Q K Y L I A D
UniRef90_K1U0S6         E I V P Q Y K M V L E E V T D
UniRef90_S8F2G0         V A F S G E G I T L E L V D E L
UniRef90_R7L0V0         I F M P F
UniRef90_X1UGZ3         V F T R I T K A E F V P V K Q L
UniRef90_UPI0004790087  V L R K V F Y C T F K E V K E
UniRef90_R6P7Q1         V I T P V E T P R I R K V V E F
UniRef90_UPI00047CA169  R I M E N P H I N F E V C E H L
UniRef90_R5Y836         I F V Q F
UniRef90_UPI000380ADE6  L V Q R V E L V D F V E V D E L
UniRef90_E6MGZ4         L I I P V I Y E D A E L A E E
UniRef90_S8C6C3         I V E K I
UniRef90_D9R4W9         R I M E H Q P A L L F E E A E L
UniRef90_R7IJV6         R V M K M D K P E L V T V E R L
UniRef90_UPI0004790018  I F E K Q P V I T F T E V D H L
UniRef90_N2AN46         R I Q K H P H I L F E E T D S L
UniRef90_R7G6W3         I F L P F G I C E D D V C Q
UniRef90_K2FFT8         L I Q
UniRef90_X0RC41         R I M K M P V V E L T E V K H L
UniRef90_Q91BK5
UniRef90_K4BVA4         V I E L H A I P E I V E V
UniRef90_T1JSX5         I V E N A E F P E L I E V E
UniRef90_M0DBE0         T F T E L K R P
UniRef90_V2Y6D2         R I M K H P Q I S F L E V A S L
```

```
                    1         10             20             30             40
UniRef90_S7W9J6                    M K I K A S K L S S N T I I P K Q E S D G A A G F D L R S I E D G
UniRef90_U2EFP4            M R Q R G F E T L S Q Y K G D E I T L P N R A T K E S A G Y D I R S A V     S
UniRef90_Q5V1D1              Q I Q P A S V D L R L G H E F L E F Q H A H P N S S D Y V E E T V I E E E
UniRef90_Q77J78                      E T A L P P R R A T P G S V A Y D L F P S     E E
UniRef90_G9WLD2      M E E K I K I K Y H V K E L E K       L R Y I D G K S D W I D L R V A     E E
UniRef90_E7QU14              Q I Q P A S I D L R L G E E F L E F Q R I H P D S D E V D S Y V T E T D E
UniRef90_B5GUP7
UniRef90_T1KIJ8                    K C Y P D V P T P T R A T A G S I G F D L M S W E D
UniRef90_M0NEA9            Q I Q P A S V D L R L G R E F L E F Q R I H P D S E N T E T H V K P D E E
UniRef90_U2NVB1              M K I K L I D F G L K E D H H   P F R P H E N D A G A D V F M P Y D
UniRef90_R6HJ77                           S R I E R H G A M W D M A A S     E T
UniRef90_A7AQW9      M M   H I K I L P R S P E V A E R Y K T H K S Y Y P G D C G L D L F     C P D T
UniRef90_A0A033KE35  M T N T L Q V K L       L S E N A R M P E R N H K T D A G Y D I F S A     E T
UniRef90_Q5CXS0                               H D G D S G L D L F I I E D Q
UniRef90_J4D5D2                               Y E G D S G L D L F C I E D Q
UniRef90_UPI000379B5A0      L Q P S S I D V R L D R Y F R V F R Y T H I D P A Q C Q V E T P S E E P
UniRef90_R6QWV8                  V I T E F Y N N I Q L P T R S T K G S A G Y D F K S P M     P
UniRef90_T5DPQ9      M T K I R G F E L V S S F T N P D L   L P K R E T T H A A G Y D L S V A     E A
UniRef90_UPI0002B4497F               M P I R A T Q G S A G Y D I F A M E D
UniRef90_G9YF19      M R Q R G F E I V T A Y A G R G I T V P Q R K T K A S A G Y D L E A A     A S
UniRef90_R4Z6B5             V Q P A S V D V R L G Q Q F R V M R N I T V D D A L M E L E V P D G E P
UniRef90_A8V482            Q I Q P S S V D L R L G H E F L I P E Y A D K M E     K V V V D S N E G
UniRef90_R7UF30                                 Y D
UniRef90_D0WJP2            N I Q P A S V D V R L G S N F R I F R N S S H   A F I D I D V A P G G T
UniRef90_I2GUG7      M L N V K I K         K L S K D A V I P T Y A K H G D A G M D L T A T S K E Y
UniRef90_Q6SNY8              E I F L A K E G E G I   L P K R K E     D A G Y D L I     C P Q E
UniRef90_Q8TYK5          G P A S L D L R L G N E F V V F K T L H T V D A G E N I V I D E D E E
UniRef90_P28893           V R F S V F T G Y D A A D V S I P K I S S P G S A G F D L S V L E D R E
UniRef90_K2GIH3            K I I V C T Y D E G L   L P E K K T P G A V C W D M R A S L D
UniRef90_R9KJP0          R V K I K I K Y F T D K V Q K L E K I A K G   N W I D L R A A     E N
UniRef90_C3DWT3      N Q I Q P A S V D L R L G S H Y L K I R E H Q V G F M S L D Y E A F E S D E
UniRef90_D1CDK0      Q V Q P A S V D L R L G N T F R V Y N Y A Q Q A V I D I D L D S I E D K P
UniRef90_I0R4W5        R I K I K Y F S D K I D K     L K F I D G K S D W I D L R S A     E R
UniRef90_J0D4J5          V Q P A S V D V R L D R F F R V F T Y V D P A E S Q G D L T V A A D E P
UniRef90_D3E1U2      K Q I Q P S S V D M R L G D E F K V F K V I R E D L A S Y M E S T I V P E A
UniRef90_E7NB27          I Q P A S I D V R L D R W F R L F R Y P V I D P A A V D V G A     D E P
UniRef90_Q6SNV9                    I L P K R     E E D A G Y D L I     C P E E
UniRef90_B9Y6N6            Q I Q P A S V D I R L G N T F S V P S G M I N M E N E I R Y K T I T S E S
UniRef90_I7L157             I Q P N S L D I R L G S H F V W Y V P G D T V I D P Y E V C S N V E E S
UniRef90_Q4N8T3      M M   H V L L K P N N D E V R A L Y Q N H K S F Y E G D C G L D L F C V E D H T
UniRef90_UPI00034FBEED                R A T S G S A G L D L C S S S R A V
UniRef90_A0A022L2H7          I Q P S S I D V R L D S L F R V F R Y T H I D P A Q Q D L T P A S G D P
UniRef90_UPI0004264EC1    H Q I Q P A S V D I R L G T H F K I D E N A I E S I A   L D E P A F E S E E
UniRef90_H0EAN4          V Q P A S V D L R L G N S F R V F H N H R V T S I D L D P P A N L D E P
UniRef90_Y0BZ89                                 E T
UniRef90_I7J618      M V H L R I K C L N D T T K N L Y K N H K T Y Y E G D C G L D L F C S Q D Q I
UniRef90_D3FQQ5      E H I Q P A S L D L R L G T H F T I D E Y K E N T L S L T K L V S P E D N K
UniRef90_A3DFH7      E Q I Q P A S V D L R L G N T F S I V E D S C T G I I N L E Y K T I T S D T
UniRef90_K2BME8      H S I Q P A S I D C R L G N H Y L V V E Q N K M E S I T L D Y R E I E G D S
UniRef90_F6EJC0          V Q P S S V D L R L D R Y F R V F T R Y T H I D P K L R V E A P D N E P
UniRef90_F2N756          I Q P A S I D L R L G S D F R V F R N S S H V A I D P Q I H Q P D E D A
UniRef90_W2BRF8      E T V Q P S S I D V R L D R Y F R I F E N I D P A A E Q N E L T R M V D D P
UniRef90_B0LAS3                     E E D A G Y D L L A S     E K
UniRef90_UPI000288C289      Q I Q P A S V D L R L G T H F K V N E Y I M A L D S E P D Y E A F E T G E
UniRef90_S5DVC5            I Q P S S V D L R V G S D F R V F E H I D P K S Q Q D D L T A S Q S E P
UniRef90_E1VYR6           V Q P A S V D V R L D R F F R L F K Y A H I D P S E Q D E L T R L D E P
UniRef90_Q6SNY1              E I F L A K E G E G I   L P K R K E     D A G Y D V I     C P T E
UniRef90_D3FCP9          V Q P A S V D L R L G D T F R V F K N H R V T S I D L R E M P A E E P
UniRef90_I4X2H5      S S Q V Q P A S I D L R I S N H F L I P Y I S L E K P A K Y K E   V Y Q D T
UniRef90_UPI000373B943    V Q P A S V D I R L D R Y F R L F N H K Y P V I D P A E V E V A D D E P
UniRef90_H1YYP3          I Q P N S I D I R L G N H W Y D K S E I I D P Y D V K S H V N E K
UniRef90_K1ZYQ2          M Q V K I K     R I D K T L P L P I Y H T P G A V A F D L Y S R I N
UniRef90_J0RZV3          I Q P N S L D I R L G D H F V W Y E P C D D V I D P Y D R A S T R T D S
UniRef90_C2X4N3                       Y E A K S T V D Y D
UniRef90_UPI000412E9FC  M Q K T N I R D V F I E Y D S N A I T P K Y E T P L A A G A D L F A A E D
UniRef90_I2CJ86                         D A G Y D L   V C P Q E
UniRef90_V8PC68             L R F V K L T E N A F A P S K G S S R A A G Y D L Y S S
UniRef90_D4JA90
UniRef90_A0A022L0P1        V Q P A S V D V R I D R F F R V F K Y A M I D P A Q A E D L T R E I D E A
UniRef90_UPI000478ADF8     V Q P S S I D V R L D R Y F R V F R Y P H I D P A E E D L T R M V E E P
UniRef90_D3Q011           I Q P A S V D V R L D R W F R V F K Y T H I D P S K Q D E L T S L S E S
UniRef90_L8HCL4              E V L Q F R R T T H W A L P M R A S V E S P C Y N L F S A A D
UniRef90_X5LRL4      M S S Q A P A L L I K K L S P A A R L P T R G S A F A A G Y D V Y A S K A T S
UniRef90_C9SI90          I Q P A S V D V R I D R Y F R L P S I E Q P D L T R   E V A V D P D E A
UniRef90_C7MG72                         G Y Q L F A N I P E D
UniRef90_UPI0004205911               S R A T P G S A G L D L S S T S H T V
UniRef90_O41289            I Q P S S I D I R L D K F F R L F     D N H K Y P F I D P A A E S E P
UniRef90_E3BD44           V Q P S S V D V R L D R F F R V F E Y I D P A Q E Q L T R L V D E P
UniRef90_C7Q272      S E I P V K I F     L G Q D A K L P T N A H G D D F C D D V Y A A E G R L
UniRef90_G9B1F8           V Q P A G I D L R V D E     V Y R Q A G P G S L I D D E K E R L D P P
UniRef90_D9PUA2      Q I Q P A S V D L R L G D Y D F I L D V R D P Y F S N R L I K E E A S S D G
UniRef90_C1DWP7         L D I K I R K L R E S A K L P K H V G G N T K S C W M D L Y A S K I E V
UniRef90_I1TK04          V Q P S S V D V R L D S L F R V F T H I D P K L P Q E E L T T L V E E P
UniRef90_B1VHZ6                   P K R A T V G S A G F D I Y P A V D
UniRef90_O38018                       D A G F D L   C I P Y D
UniRef90_E2E2H0      M S N K V N V K V     K L E G G A T M P S Q G Y D N D V A F D L Y T S E D A I
UniRef90_A8ASV2            I Q P S S I D V R M D R Y F R V F T H I D P K L N Q D E L T S L V E D P
UniRef90_Q8FM44            Q P A S V D L R L G N H F L S L D E S S V A H L S L E K A A A Y K E V
UniRef90_I4WZV9      E Q V R G G S I D V R L G Q E F I L M K R S A R G P I D M D D D A N I G G K
UniRef90_F8I1Y6          V Q P N S L D I R L G N H F V W Y E P C D D V I D P Y Q K E T L H T H T
UniRef90_A2SQW1          Q I Q P A S V D M R L G N D F S L P L M T L T E E V G Y E E   V R G K E
```

```
                                50              60              70              80
UniRef90_S7W9J6        I T P P K S H K L I R T G L V I D P P R N I L P   I V F S R S G L A L K N K I
UniRef90_U2EFP4        C E I E P N E I K L I P T G I K A Y M L H D E V   L K I Y P R S S L A I K R K A
UniRef90_Q5V1D1        F I L H P G D F V L G T T H E R V A I P D D   L I A H V E G R S S L G   R L A I
UniRef90_Q77J78        M D I E P M G L A K I S T G Y G I D K F P D G C Y G Q I V S R S G M T W K N N T
UniRef90_G9WLD2        V S M K A G E F R L I S M G I S I E L P K G   Y E M W I L P R S S A F K N F G I
UniRef90_E7QU14        F I L H P G D F V L G T T K E R V E I P S D L L   A H V E G R S S L G   R L A V
UniRef90_B5GUP7                P T G V S I A L P D G   Y A A F V H P R S G L A A R C G V
UniRef90_T1KIJ8        V V L T S Q K I V I V R T G I K I Q P P A G T Y V   R L A S R S G L A S K G I V
UniRef90_M0NEA9        F I L H P G D F V L G T T V E R V E V P D D   L I A R V E G R S S L G   R L A V
UniRef90_U2NVB1        C T L K P G E I A R I P L G F G L I I P D G   Y A G Y I F   R S S M A V K G
UniRef90_R6HJ77        V T L R K G E V R I I P L G V S V K L P S G   F M G V L V P R S S T C L K H G I
UniRef90_A7AQW9        I T L A P K K T T D V L G V K I A A Y M R N V G W I L A P R S S   I S K T P L
UniRef90_A0A033KE35    V V L E P Q E K A V I K T D V A V S I P E   G Y V G L L T S R S G V S S K T H L
UniRef90_Q5CXS0          V I K A G E T A Y I K L G F K A A A H S D P V S Y L L F A R S S   I S K S P I
UniRef90_J4D5D2           T I E P H H T V T V N L G I R V S A F E T L E N G M L F P R S S   I S K T P L
UniRef90_UPI000379B5A0 F V L H P G E F V L G S T F E R V T L P D D   L A G R L E G K S S L G   R L G L
UniRef90_R6QWV8        F N I P F G T N K K I P T G I K C E I Q E G W V   L T I V P R S S Y G F K Y G V
UniRef90_T5DPQ9        V T I A P G E I K L V P T G V K A Y M Q D G E V   L Y L Y D R S S N P R K K G I
UniRef90_UPI0002B4497F V Y L L K R A T V K V P T G I R M Q I P   G G Y Y G Q L L S R S S L A S Q N I T
UniRef90_G9YF19        V V L V P H A V T V V P T G L K A Y M E E D E Y L S   I F I R S G L A F K Q G L
UniRef90_R4Z6B5        F V L H P G E F A L G H T A E T L G L P D N I V   G V V N G K S S L G   R L G V
UniRef90_A8V482        F I I K P K Q F V L A T T Y E Y V K L S D D   I T A F V E G R S S L G   R L G L
UniRef90_R7UF30        Y E I S S L G K Q L V K T D I Q I A V P D G C Y   G R V A P R S G L A H K H F I
UniRef90_D0WJP2        F I L Q P G Q F A L G T T L E R I A V P D D I L   G K L E G K S S L G   R L G L
UniRef90_I2GUG7            D D R D N V V Y G T S L A F E I P N G   Y V G L L F P R S S N T K K   D L
UniRef90_Q6SNY8        I R I A A G Q V R K I P I D L R L N L K K N Q W   A M I G T K S S F A D K G V F
UniRef90_Q8TYK5        F V I N P G E L V L A V T H E W I E I N A P D I T G V L H G R S S L G   R L G I
UniRef90_P28893        F I     R G C H Y R L P T G L A I A V P   R G Y V G I I T P R S S Q A K N F
UniRef90_K2GIH3        F E V Q P G E V R L I S A W F K T Y I P L G W C A K F Y A   R S W M P T K S L L
UniRef90_R9KJP0        I V M K K G E F K L I P L G I A V E L P   R G Y E A H V P R S S T F K N F G L
UniRef90_C3DWT3        I I I P P H S F L L A T T M E Y V K L P D N   L T A F V E G R S S I G   R M G L
UniRef90_D1CDK0        F L L H P G A F V L G S T V K V I P   P D L V G R L E G R S S L G   R L G I
UniRef90_I0R4W5        V E L K K G D Y K L I S L G V G M E L P K G   Y E A L V V P R S S T F K N F G I
UniRef90_J0D4J5        W I L H P G E F I L G S T W E Y V K L   D P T I A A R L E G K S S L G   R L G I
UniRef90_D3E1U2        F I I H P N E F A L A T T Y E Y V K I P D D L V   A R V E G R S S M G   R L G V
UniRef90_E7NB27        F V L H P G E F V L G A T Y E R I T L P D D   V A A R L E G K S S L G   R L G L
UniRef90_Q6SNV9        I T I G A G K V E R I P I D L K L N L K E T Q W   A M I A S K S S M A A K G V F
UniRef90_B9Y6N6        Y I L L P N Q F V L A T T M E Y F D L P D D   L T A F V E G R S S L G   R M G L
UniRef90_I7L157        I V L R P G Q F L L A E T L E A I E L P D D V V   A S I E G K S S I A   R L G I
UniRef90_Q4N8T3        V     E A H D T S I I N L G V R V S A F K K S V G W L M F P R S S M A   K T P L
UniRef90_UPI00034FBEED L T P D M G M Q A L   P T G V W G P L P L N T V   G L L L G R S G N T M K G
UniRef90_A0A022L2H7    F V L H P G E F V L G A T L E R L A L P D D   L A G R L E G K S S L G   R L G L
UniRef90_UPI0004264EC1 V I I P P H S F L L A T T K E Y I R L P H H   V T A F V E G R S S I G   R M G L
UniRef90_H0EAN4        F V I H P G E F V L G R T E E W V E L A D D L V   A R I E G K S S L G   R L G L
UniRef90_Y0BZ89        V V L E P Q E K A V I K T D V A V S I P E G   Y V G L L T S R S G V S S K T H L
UniRef90_I7J618        V     E A G Q T V F L N L G I Q A A A C S K P C G W L I F P R S S   I S K T P L
UniRef90_D3FQQ5        L I L P P Q T F L L A T T L E T I H L P N T   L T A F V E G R S S I G   R L G L
UniRef90_A3DFH7        Y I L L P N Q F V L A T T M E Y F E L P N N   L T A F V E G R S S L G   R L G L
UniRef90_K2BME8        I T I P P H T F L L A T T E E Y I E L P N D   L T A F V E G R S S I G   R I G L
UniRef90_F6EJC0        F V L H P G E F V L G S T L E I C T L P H D   L A G R L E G K S S L G   R L G L
UniRef90_F2N756        F V L H P G Q F A L G T T L E R I G L P D D   V L G K L E G K S S L G   R L G L
UniRef90_W2BRF8        F V L H P G E F V L G A T Y E Y V T L P D D   V A A R L E G K S S L G   R L G L
UniRef90_B0LAS3        M Y L L P S E T R K I P V E C K M E L P S G T V   G L I L G K S S V G S K G L D
UniRef90_UPI000288C289 V V I P P H Q S F L L A T T V E T I R L P   G D V T A F V E G R S S I G   R M G L
UniRef90_S5DVC5        F V L H P G E F V L G T T Y E K V T L S N K V V   A R L E G K S S L G   R I G L
UniRef90_E1VYR6        F I L H P G E F V L G S T Y E V V T L G H G   V A A R L E G K S S L G   R L G L
UniRef90_Q6SNY1        V T I G P G Q V K T I P I D L R L N L K E S Q W   A M I A T K S S M A G K G V F
UniRef90_D3FCP9        F V I H P G E F C L G R T L E W V E L P D D I V   A R I E G K S S L G   R L G L
UniRef90_I4X2H5        I I I P P Q G F V L G T T I E T V E L P N D   L T A F V E G R S S I G   R L G L
UniRef90_UPI000373B943 F V L H P G E F V L A S T Y E V I T L C D D   I A A R L E G K S S L G   R L G L
UniRef90_H1YYP3        I D I E P G M F L L A E T F E A V T L P D D I V   A T I E G K S S I A   R L G L
UniRef90_K1ZYQ2        L T I Q P K T V E R I P T N F I I A I P D   G Y M L E I K D R S S T L K R K G L
UniRef90_J0RZV3        I V M A P G A F M L A E T V E A V T L P D N I V   A S I E G K S S I A   R L G I
UniRef90_C2X4N3        G V Y K A F E T K V V P T G L A F K I P   L G Y E L Q V R P R S G M T R D T K L
UniRef90_UPI000412E9FC M I I R P F E K V A L P L N L K F A I P D   N M E I Q I R A R S G L S L K T Y L
UniRef90_I2CJ86        V V I P A G K V K K I A I D L R L N L K K N Q W   A M I G T K S S F A S K G V F
UniRef90_V8PC68
UniRef90_D4JA90        C V L K P G E V A R I P L G F G L I I P D G   F A G Y V F P R S S M A A K G
UniRef90_A0A022L0P1    Y M L H P G E F V L A S T Y E Q I T L P D D   V A A R L E G K S S L G   R L G L
UniRef90_UPI000478ADF8 F V L H P G E F V L A S T F E T V T L G D D   V A A R L E G K S S L G   R L G L
UniRef90_D3Q011        F V L H P G E F V L A S T L E V I T L P D D   L A A R L E G R S S L G   R L G L
UniRef90_L8HCL4                                        Y G R I A P R S G L G W K K G I
UniRef90_X5LRL4        V T V P A Q G V R T V P I D L V F R F P S G F Y   G R L W P R A G L S R L F Y V
UniRef90_C9SI90          I P A R G K A L V D T D I A I S V P A G T Y   G R I A P R S G L A S K H F I
UniRef90_C7MG72        Y M L H P G E F V L A S T Y E Q I T L P E D   V A A R L E G K S S L G   R L G L
UniRef90_UPI0004205911 I V L R P G E R L L A H T H E F V G I R A H G G A S E V R S R S S W G   R N G V
UniRef90_O41289        L T P E M G P Q T L   N T G I Y G P L P P N T F   G L L L G R S S V T M R G
UniRef90_E3BD44        F I L H P G E F V L G S T Y E Q I T L P D D   V A A R V E G K S S L G   R L G L
UniRef90_C7Q272        F I L H P G E F V L A S T Y E V V T L P E D   L A A R L E G K S S L G   R L G L
UniRef90_G9B1F8        V P P A T F K S V L V P T N I T T D   F D A R F G M K L N T R S G M G Y K T P I
UniRef90_D9PUA2        V T L E P G K S Y L V S V D R R I E I P E G   Y A M L Y L P R S   T L L R S F V
UniRef90_C1DWP7        F I L K P K Q F V L A T T I E Y I K L P D F   I T A F V E G R S S L G   R L G L
UniRef90_I1TK04        I P Y N A G D V V K V K F G V A M E L P D G   Y E G Y I V P R S S T F K N Y G L
UniRef90_B1VHZ6        F I L H P G E F V L G A T L E K F T I P D H   L A G R L E G K S S L G   R L G L
UniRef90_O38018        L I I P P H T S A T I N T G Y A F N I P K D H V   G L I A A R S S M       H L
UniRef90_E2E2H0        M I I P V S E T K V I P T D V K I Q V P H K C F   G W V T G K S S M A K Q G L L
UniRef90_A8ASV2        I C P D A V G A T L I P T G L R T E F D P T K F G L F I S P R S S I M   N L P L
UniRef90_Q8FM44        F V L H P G E F V L A A T L E K F T I P   L A G R L E G K S S L G   R L G L
UniRef90_I4WZV9        F E I P P H G F I L G T T E W I K L P K N   V T A F V E G R S S L G   R L G L
UniRef90_F8I1Y6        M I L H P N Q L V L G A T L E F L Q V P N D   L M A Y V I G R S S W G R L G L
UniRef90_A2SQW1        F D I Q P G Q F V L A E T L E T V T L P D N L V S S   I E G K S S V A   R L G I
UniRef90_E4RJ74        I I I P P H S F L L A T T K E Y I K L P D N   L T A F V E G R S S I G   R M G L
```

```
                              90            100           110           120
UniRef90_S7W9J6      H S N T     H T L S N K K Q E V I I N M F N G S N K A F N Y N V G D R I A Q L
UniRef90_U2EFP4      M L A N N V G I I D A D Y E G H I M I P L Y N F S N N K L T I K K
UniRef90_Q5V1D1      V V H A T A G L C D P G Y E G Q I T L E L S N L G T A P V A L T P G M R I S Q L
UniRef90_Q77J78      S V P T     G T I D V D Y R G E L K V I L R N H S A E S V P I R K G T S I A Q L
UniRef90_G9WLD2      I Q T N A M G V V D E S F C G N D I I H M P I L L A M R D T E I H V N D R I G Q F
UniRef90_E7QU14      V V H A T A G V V D P G Y R G Q I T L E L S N L G T A P V A L K P G T R I S Q L
UniRef90_B5GUP7      A L V N A P G T I D A G Y R G E I K V I V V N D P R E T V R F E R F D R I A K L
UniRef90_T1KIJ8      V Q G     G V I D P D Y T G E I K V I L H N F S D N H I I I K K G M K I A Q M
UniRef90_M0NEA9      V I H A T A G I V D P G Y R G Q V T L E L S N L G T A P V A L T P G M R I S Q V
UniRef90_U2NVB1        L V C E L P P I D S G Y R G E V H A I I S N V S T S T Q T I P K D T R V G Q L
UniRef90_R6HJ77      M M A N S V G I I E N D Y S G D G D V W F V A Y A L R D T V I E Q G T R I A Q F
UniRef90_A7AQW9      R L A N S I G L I D A A Y R G D I K V A F D N I S D E P Y T I Q S G D R L V Q V
UniRef90_A0A033KE35  V I     E T G K I D A G Y H G N L G I N I K N D H E D D
UniRef90_Q5CXS0      R L C N S V G L I D A G Y R G E L L A P V D N I K D F D F Q V K K G E R Y F Q L
UniRef90_J4D5D2      R L S N S V G I I D A Q F R G E I R L S L D N I K D F P Y T I K R G D R L V Q M
UniRef90_UPI000379B5A0  L T H S T A G F I D P G F T G H I T L E F S N V A N L P I T L W P G M K I G Q L
UniRef90_R6QWV8      S L S N T L G I I D S D Y E G H I F V K F S N T N N K E L W V D R S E S F C Q G
UniRef90_T5DPQ9      I L I N S V G V I D A D Y Y G N
UniRef90_UPI0002B4497F  V E G     G V I D N D Y R G E I S V L L K N N N D S E F I I K T D L A I A Q L
UniRef90_G9YF19      M L A N G T G I V D S D Y
UniRef90_R4Z6B5      Q V H A T A G F V D P G F H G V I V L E L S N V S T L P I L L R P G M K V A Q M
UniRef90_A8V482      F I E N     A G W V D A G F E G N I T L E F Y N A N S R P I K I Y P G M R I C Q L
UniRef90_R7UF30      D V G     A G V I D Q D Y R G N V G V I L F N L N K D A F T V K K G D R V A Q L
UniRef90_D0WJP2      M I H S T A G Y V D P G W E G E I T L E L S N V A T L P I V L H P G M R I G Q M
UniRef90_I2GUG7      I L G N S V G V L D S G Y R G E V F L K F K N C E G H D Y Q I     G D R V G Q I
UniRef90_Q6SNY8      V Q G     G I V D S G Y Q G I I Q V L I Y N S N E V E V V I P K G R K F A Q L
UniRef90_Q8TYK5      Q A H V E A G Y V D P G W R G R L T L E L V N F N P M P V K L R P G M R V V Q I
UniRef90_P28893      V S T G I I D S D F R G H I H I M V S A I A     D F S V K K N Q R I A Q L
UniRef90_K2GIH3      M Q W N N I A I M D P D Y R G E Y L M Q M Y N F T K D A V K H E K Y T R L C Q I
UniRef90_R9KJP0      I Q V N H Q G V I D G G Y C G N D D A W F V P M A M R D T E I H L N D R I C Q F
UniRef90_C3DWT3      F I Q N     A G W V D P G F E G Q I T L E L Y N A N R L P I K L I K G W R I C Q L
UniRef90_D1CDK0      V V H S T A G F I D P G F E G N I T L E L S N V A T L P I V L R A G I R I C Q L
UniRef90_I0R4W5      L Q T N S I G V V D E S Y S G N D E W K F P V L A M R D T L I E V N D R I C Q F
UniRef90_J0D4J5      L T H S T A G F V D P G F E G H I T L E L S N V S N L P V K L W P G M K I G Q M
UniRef90_D3E1U2      T M H V T A G F I D P G F E G R I T L E I S N L G A M P V A L Y P G Q R V C Q L
UniRef90_E7NB27      L T H S T A G F I D P G F Y H V T L E L S N T A T M P I K L W P G M K I G Q L
UniRef90_Q6SNV9      I Q G     G I I D S G Y Q G Q V Q V I V Y N S N N E A V V I P Q G R K F A Q L
UniRef90_B9Y6N6      F I Q N     A G W V D P G F K G E I T L E L Y N A N R C A I E L K A G R R I G Q L
UniRef90_I7L157      E L H Q T G G W I D A G F R G T I I T L E M C N V N S R P V R V Y A G M P I G Q L
UniRef90_Q4N8T3      R L S N S V G V I D P G F R G E L R L S L D N I K D F P Y T V K K G D R L V Q M
UniRef90_UPI00034FBEED  L M V T P G V I D A D Y T G E L K I     M A H T S H D V I V I E A G Q R I A Q L
UniRef90_A0A022L2H7  L T H S T A G F I D P G F E G H I T L E L S N V A N L P I T L W P G M K I G Q L
UniRef90_UPI0004264EC1  F I Q N     A G W V D P G F E G E I T L E L Y N A N R L P I R L K A E R R I A Q L
UniRef90_H0EAN4      I V H A T A G F C D P G W K G T L T L E L A N L T R V P I L L R P G L P I A Q L
UniRef90_Y0BZ89      V I     E T G K I D A G Y H G N L G I N I K N D A Y G T Y Q I N E G D K L A Q L
UniRef90_I7J618      R L C N S V G L I D S G Y R G D I L A A V D N I K T T D Y T V K A G D R L V Q A
UniRef90_D3FQQ5      F I Q N     A G W V D P G F S G Q I T L E L Y N A N R L P I E L I P G R R I C Q L
UniRef90_A3DFH7      F I Q N     A G W V D P G F K G E I T L E L F N A N R C A I E L K A G R R V G Q L
UniRef90_K2BME8      F I Q N     A G W V D P G F K G K I T L E L Y N A N S L P I K L E R G R R I C Q L
UniRef90_F6EJC0      L T H S T A G F I D P G F N G H I T L E L S N V A N L P I T L W P G M K I G Q L
UniRef90_F2N756      M I H S T A G Y V D P G W D G Q V T L E L S N V A N L P I L L R P G M R I G Q I
UniRef90_W2BRF8      L T H S T A G F I D P G F N G H I T L E L S N M S T L P L K L Y P G M K I G Q L
UniRef90_B0LAS3      V L G     G V I D S G Y R G D I S V I M V N T S K K G Q W I E Q N Q K I A Q L
UniRef90_UPI000288C289  F I Q N     A G W V D P G F E G Q I T L E L F N A S R L P I K L S A G R R I C Q L
UniRef90_S5DVC5      L I H S T A G F V D P G F S G Y L T L E L S N V A N L P I K I Y P E M K I G Q I
UniRef90_E1VYR6      L T H S T A G F I D P G F S G H V T L E L S N M A T L P I K L W P G S K I G Q L
UniRef90_Q6SNY1      I Q G     G I I D S G Y Q G Q I Q V I V Y N G N Q V A V V I P A G R K F A Q I
UniRef90_D3FCP9      I V H A T A G F C D P G W K G T L T L E L N N L T R V P I K L Y P G L L I A Q L
UniRef90_I4X2H5      F I Q N     A G W V D P G F K G H I T L E L Y N A N R I P I E L K A G R R L C Q L
UniRef90_UPI000373B943  L T H S T A G F V D P G F S G H V T L E L S N V A T L P I K L W P G M K V G Q F
UniRef90_H1YYP3      T L H Q T G G W I D A G F S G T I T L E L C N V N H R P V R L Y A G M P I G Q L
UniRef90_K1ZYQ2      F V     S T G Y I D Q D F C G E I L L Q V Y N I T N Q E I V V E K E E R L G Q A
UniRef90_J0RZV3      E L H Q T G G W I D A G F R G S I T L E M C N V N Q R P V R M Y A G M P I G Q L
UniRef90_C2X4N3      R A A     F G T V D S G Y R G E V G V L V I S L N M Q A H V I E R G T R I A Q G
UniRef90_UPI000412E9FC  K I S N S I G T I D A D S V S N I S V I L Y N I A N L P Y E I
UniRef90_I2CJ86      I Q G     G I I D S G Y Q G T I Q V V V Y N S N D V E I V I P Q G R K F A Q L
UniRef90_V8PC68      S I W I S S G V I D E D Y R G N V G V V L F N F G K E P F K V K K G D R I A Q L
UniRef90_D4JA90        L V C E L P P I D S G Y R G E I H A I I S N V S T S S Q T I H K D T R V G Q L
UniRef90_A0A022L0P1  L T H S T A G F I D P G F Q G H I T L E L S N M A T L P V A L W P G M K I G Q L
UniRef90_UPI000478ADF8  L T H S T A G F I D P G F T G H V T L E L S N V A T L P I K L W P G M K I G Q L
UniRef90_D3Q011      L T H S T A G F I D P G F S G H I T L E L S N V A N L P I S L W P G M K I G Q M
UniRef90_L8HCL4      D I G     A G V V D A G Y R G G V K A L V F N H N D E D I V I A S G D C V A Q L
UniRef90_X5LRL4      E V G     P G V V E P D N R E P L S V L V F N F S A F A F H I R R G D Y V A R L
UniRef90_C9SI90      D T G     A G V I D A D Y R G Q V K I
UniRef90_C7MG72      L T H S T A G F I D P G F Q G H I T L E L S N M A T L P V A L W P G M K I G Q L
UniRef90_UPI0004205911  A V C F D A G W I D P G Y I N R I T L E I Y N L N H E S V V L P V G E R I G Q L
UniRef90_O41289        L Q V L P G V I D N D Y E G E I K I M A R A I     D N I I T V P Q G V R I A Q L
UniRef90_E3BD44      L T H A T A G F I D P G F S G H I T L E L S N V A T L P I K L W P G M K I G Q L
UniRef90_C7Q272      L T H S T A G F I D P G F S G H V T L E L S N V A T L P I K L W P G M K I G Q L
UniRef90_G9B1F8      I L A N S T G I I E A T Y R G T I G V L L R N T F Q D T S L V S D G K R I
UniRef90_D9PUA2      S V H T A V G     D P G F R G T L Q F L V Q N C G E Y E Y R I K R G E R I A Q G
UniRef90_C1DWP7      F I E N     A G W V D P G F E G N I T L E F Y N A N S V P I K I Y P E M R I C Q L
UniRef90_I1TK04      L L T N S H     I D E A Y A G D D E W M G M F L A T R D G I N I I P A Q F
UniRef90_B1VHZ6      L T H S T A G F I D P G F S G H I T L E L S N T S N L P I A L Y P G M K V G Q L
UniRef90_O38018      C G V T V T G V I D S D Y K G E V M V M L R   T G A E S Y M V S R T R A V A Q L
UniRef90_E2E2H0      I N G     G I I D A G Y T G E I Q V I C T N I G K S N M K L R E G Q K F A Q L
UniRef90_A8ASV2      T L A N N T G I I V E G T Y R G G I G I P L K N
UniRef90_Q8FM44      L T H S T A G F I D P G F S G H I G I V A N L P I T L W P G M K V G Q L
UniRef90_I4WZV9      F I Q N     A G W V D P G F E G N I T L E L Y N A N Q V P I E L I A G R R I C Q I
UniRef90_F8I1Y6      V     A T A V M V S P G Y R G S L T L E L A N L G D T P V V L Y P G T R I A Q L
UniRef90_A2SQW1      A L H Q T G G W I D A G F S G T I T L E M C N S N C R P I K L V A A G M P I G Q L
UniRef90_E4RJ74      F I Q N     A G W V D P G F E G Q I T L E L F N A N R L P I K L E A E R R I C Q L
```

```
UniRef90_S7W9J6            V F C E L E N A D
UniRef90_U2EFP4
UniRef90_Q5V1D1           T F T E L K T P
UniRef90_Q77J78           I F L R Y C D V E E E Q I
UniRef90_G9WLD2           R I M Q H P V V N F V E V E H L
UniRef90_E7QU14           I F
UniRef90_B5GUP7           V V Q Q V E K V R F H E V A E L
UniRef90_T1KIJ8           I V E R
UniRef90_M0NEA9           I F T E L K T P
UniRef90_U2NVB1           V I T P V V I A D F V
UniRef90_R6HJ77           M P V R Y E D I E F E E V D S
UniRef90_A7AQW9           I S Y D G E E I S Y E L V N E L
UniRef90_A0A033KE35
UniRef90_Q5CXS0           V S F N G E K I T F S I V D E L
UniRef90_J4D5D2           V S Y D G K E I T F K V V D E L
UniRef90_UPI000379B5A0    C I L R L S S A
UniRef90_R6QWV8           I F L P F
UniRef90_T5DPQ9
UniRef90_UPI0002B4497F    V I L Q R F L P Q L F I V
UniRef90_G9YF19
UniRef90_R4Z6B5           V F Q
UniRef90_A8V482           V F A Q M K Q P
UniRef90_R7UF30           I L E R I Y I A D L Q E L P T L
UniRef90_D0WJP2           S F E R M T S P
UniRef90_I2GUG7           I I I P I P Q I N F I E V D E L
UniRef90_Q6SNY8           I I M P L I H E E L E P
UniRef90_Q8TYK5           V F H R L S S P
UniRef90_P28893           V V T P C L Q S E V V P Y E T L
UniRef90_K2GIH3           E F S P Y W H
UniRef90_R9KJP0           R I M E Q P D I E F E E V S E L
UniRef90_C3DWT3           V F A E M D Q
UniRef90_D1CDK0           T L M P V A R P
UniRef90_I0R4W5           R I I R H Q S F T F E E V E A L
UniRef90_J0D4J5           C F F
UniRef90_D3E1U2           V F E T M T S P
UniRef90_E7NB27           C F F R L S S P
UniRef90_Q6SNV9           I L M D K K H E E L E P
UniRef90_B9Y6N6           V F A K M
UniRef90_I7L157           V F Y R T D R A
UniRef90_Q4N8T3           V S Y D G E P I T F E V V D E L
UniRef90_UPI00034FBEED    L I L P
UniRef90_A0A022L2H7       C L F R L S S P
UniRef90_UPI0004264EC1    V F A
UniRef90_H0EAN4           S I M P Y G H P E L
UniRef90_Y0BZ89           V I V P I W T P E L K Q V E E F
UniRef90_I7J618           V
UniRef90_D3FQQ5           V F A E V
UniRef90_A3DFH7           V F A K M
UniRef90_K2BME8           V F C K M
UniRef90_F6EJC0           C L I R L S S P
UniRef90_F2N756           S F E R M S S P
UniRef90_W2BRF8           C F F Q L S S P
UniRef90_B0LAS3           L I I P V L H E N L E Q
UniRef90_UPI000288C289    V F A Q M
UniRef90_S5DVC5           S F
UniRef90_E1VYR6           C F F K
UniRef90_Q6SNY1           I L M N K I H E E L K P
UniRef90_D3FCP9           S F M
UniRef90_I4X2H5           V F A K L D Q
UniRef90_UPI000373B943    C F F R L S S P
UniRef90_H1YYP3           V F Y T T E K A E
UniRef90_K1ZYQ2           A F V K I
UniRef90_J0RZV3           V F Y T T E R A D
UniRef90_C2X4N3           V I A A V I T A N F Y E V D E L
UniRef90_UPI000412E9FC
UniRef90_I2CJ86           I L M P L I H E E L E P
UniRef90_V8PC68           I C E R I Y Y P V L E E V K V L
UniRef90_D4JA90           V I T P V V I A D F V
UniRef90_A0A022L0P1       C F F R L S S A
UniRef90_UPI000478ADF8    C F F
UniRef90_D3Q011           C L F K L S S P
UniRef90_L8HCL4           I L E C I V T P E V E I V E
UniRef90_X5LRL4           T L E R M Y V P S V V E V D E L
UniRef90_C9SI90
UniRef90_C7MG72           C F F R
UniRef90_UPI0004205911    I F H K
UniRef90_O41289           I L L P L V K T D
UniRef90_E3BD44           C F F Q L T S P
UniRef90_C7Q272           C F F K L S S A
UniRef90_G9B1F8
UniRef90_D9PUA2           V V F P V
UniRef90_C1DWP7           V F A Q M V
UniRef90_I1TK04           V Q Q K M P E V N F I E V D K L
UniRef90_B1VHZ6           A I F K L S S P
UniRef90_O38018           L V V R Y V
UniRef90_E2E2H0           I I L Q H
UniRef90_A8ASV2
UniRef90_Q8FM44
UniRef90_I4WZV9           V L A E L D Q
UniRef90_F8I1Y6           V F H T V
UniRef90_A2SQW1           V F Y V T K R C E
UniRef90_E4RJ74           V F A Q M
```

```
                              1          10            20            30              40
UniRef90_E8JI64                V Q P A S I D V R L D R L F R L F R Y A D P R E D Q S D L T R L V E K P
UniRef90_T0LUB4                                      S V T P N G Y D L R I V I S G E
UniRef90_UPI00035031AF                        R A T P G R A G L D L S S T A F T V
UniRef90_E1RID8                      I L K L I E S G D L V L D P Y G S Q Q P A S Y D L R A        G E D
UniRef90_K1QHS7                                                                    I A G D
UniRef90_T0WKK2                        K K L N E N A T I P E R A T E H S A G Y D I S A S       E T
UniRef90_K2BQX4                        S I D L R L G N N F R V F E H S Y P Y I D P F K I D V T D G D P
UniRef90_I5AZ20              S K I N P A S I D L T L G N N F E N Y I L G S E I D S E K D V V Q T E F L D
UniRef90_UPI00037AB275              S V D F R L G A E F S V F E H S H P Y I D L R E K G A I Q D E A
UniRef90_UPI000375A806      M T E A V       L R V K L L D P E A K P P T V A H P G S D G F D L Y A L E D A
UniRef90_UPI00034DBB9A            I Q P S S I D V R L D R Y F R V F K Y P H I D P A G L T R L V E V D S E
UniRef90_K4FBB6              E N V N S A S I D V R I G S E I L V E A K V S E L T A P V D I A A K E E E G
UniRef90_R9LMS8                      M K L Y W A K V K D E A I I P T K R E E   D A G Y D L Y P C F E E D
UniRef90_UPI00046CAF3F      M P S T E K C Q L R Y V K L T D K A F A P Q K G S D L S A G Y D L K S A Y E Y V
UniRef90_J0RY16                                                  Q P A S Y D L R A        E G D
UniRef90_D7BLW1                    I Q P S S V D V H L D R F F R L F K Y N V I D P A A E Q V E V D S D G A
UniRef90_UPI000371785A              S I D L R L G N T F R V F E H S H A Y I D P F D E V T R E K E P
UniRef90_U5J9B9             E I M N P E V F F A R V H P D A V V P T K R D E    D A G Y D L Y A C V D E V
UniRef90_K1ZK61            S Q I G P A S I D L H V G N T F L V Y K K A R T D D A N F E D I T T V N D Y
UniRef90_K1SNM5
UniRef90_B8D0W3                  Q I Q P A S I D L R L G S S F L            K I D E N L M E V M T L N D E E
UniRef90_F8WQ16                                        K Y S K E G D A G I N I P   I Y D E R
UniRef90_UPI0002628780          K I G P S S V D L T L G N S F S W L R R K I V L G E P V E Y A S E I A D S
UniRef90_F9W7P6                                   F L L P V P I T L G S A G L E V L A P E R G
UniRef90_S5Y020            E Q L K V D I V     I G D G Y   L P E N A H G N D F C D D V R A A E G R L
UniRef90_X5EFK9               I Q P S S I D V R L D R Y F R V F R Y T H T G E D G T D V V A A     E A
UniRef90_P11204             K I K E E I M L A Y Q G T Q I K E K R D E        D A G F D L    C V P Y D
UniRef90_M3X0A8                                        Y T T T G S A A L D L P P I      G P
UniRef90_UPI00034F9E37                       R A T A G S T G L D L S P S A F T V
UniRef90_B5Y8K7
UniRef90_Q1N6U2                                                             E D E P
UniRef90_J8K1R9
UniRef90_D3FG77                                R K A Y D G D G G Y D I Q      L P N D
UniRef90_V7EX53                                                            D R G
UniRef90_A8E2A3                   A V V K Y T I R E G A K K P K R G R E N D V A H D L F T A D D G V
UniRef90_K2D6F5             M Q N I H A S S M D F R L G R F F K V     Y D H A S Q A I L D E I S E P G R P
UniRef90_I6ZIB0            L E E E I K M K V L D       G A K M P Q   L T N G A    Y K L Y S S S S G R
UniRef90_F7DVL9                                   T R A T A G S A G L D L C A S T T R I
UniRef90_E8WLY5             S Q I G P G S V D L T L G N D F R I F K K Q H N E S D F A D V T E A V S E Y
UniRef90_K2A3I1                                                                  D E H
UniRef90_A9U6S3                                        A I N Y D V G A E G T V K
UniRef90_X1M5R4             E Q L G P C S L D L R L G N V F K I F K R T K F P Y I D L K Q E L P I D E S
UniRef90_F0LI21                                        Q P A G Y D L R V G E D G K
UniRef90_M9SCB1                                        P N G Y D L R V A E E G T
UniRef90_A8GC41             E R I N G A T V D V R L G N Q F R V F R G H T   A A F I D L S A A L D E A
UniRef90_B9KYK0                    S I D L H L G N T F M V F E H Q S I G D A M R T I V V P D G E P
UniRef90_F8TC49                              V P F Y E T H E D A A Y D I F A P S D
UniRef90_UPI00041E4C35             V D I R L G N K F R V F T K A T V Q A A L D D V M S D E I E A
UniRef90_G6Y6R8             K N L G N A S V D L R L G R D F F E P K K N A S E K S L G R N D F I R F D S Y
UniRef90_UPI00046B3270                   A R L S E H A S A R P G C L R R H S A Y D
UniRef90_G0X514            E N V N S A S I D V R I G N E I L I E A P A D G R A P G I G L F H A V H E E
UniRef90_G4RP41                   L D L R I G R E Y A I     Y A Y E G A A R H F R I V R E A E E
UniRef90_F6QUP7                              A R A T T G S A G L D L C S S S T R I
UniRef90_X1P9K1               I Q P A S V D I H L D K T W R H P F Y I D V K Q N I D D L S E P V E K P
UniRef90_E5FRZ9                                        I D V Y A N K D
UniRef90_S6BBF2                  S V D L R L G D R F R V F S Y I D L S G S R E E V N A A V E E R
UniRef90_Z5U1T6            M T R K P S I E L F P S K   N H E I H Q P I R T F F Q E T R R D L G       D R
UniRef90_A0MN26
UniRef90_R6EF28
UniRef90_F1A453              K A I G S A S I D L T L G N E F R V F K K N Q G T I D N Y Q D F S A P G E T
UniRef90_M5EK57
UniRef90_W5NUH4                                    P D S V G L D L S S A T A T I
UniRef90_Q6Q8I5
UniRef90_F4ABH9                     E L Y F A K T K P N A I I P T K R E E   D A G Y D V Y T C E T E T
UniRef90_R4TP42               N L Q P A S Y D L R L G Q E F R T L K P P T A W P A H Y D K P D T I D E E
UniRef90_W8NRB5            M M L K I R K E I L I E P F S E E      S L Q P A G Y D L R V G D E A T
UniRef90_D2VD40             S H L G P A S Y D L T L G D E F R E M T V S E T D D V D Y K Q Y S P K G E C
UniRef90_A0A059F4P7                                    Y E I Y A N E D K
UniRef90_R9NSL6             S E R I N G A T V D V R L G N L F R T F R P K T E V S A A L D I V L S E S D A
UniRef90_UPI00029A8031       K I R K E V L I E P F S E D      S L Q P A G Y D L R V G E A Y
UniRef90_Q54BK9            K S I G A A S I D L T L S N E F R V F K K R D N S D T I I V S E S I E G E R
UniRef90_UPI000273C991                        R A T A G S A Q V D L C A S T S T I
UniRef90_Q081H6                  S V D V R L G S Q F R V F K D H T A G P S A E M Q I A A D D Q A
UniRef90_A1SSZ3                  S V D I R L G N F R V F S E H T E V S S A L D I I I A K N E S
UniRef90_X2H6A7             A V L E K V M S D E I V L P       E G D A F Y
UniRef90_K2B2B7                     F D L R L G E V Y K I Y E R K T P D A R L I C S Y R P L I Q K
UniRef90_UPI00037F64F1                      H K D A G F D V Y T P     T G D
UniRef90_UPI000367DD4F                                   P N G Y D F   S I E N P
UniRef90_B9L4Y8            Q V G P A S I D L H L G R E F R L F K H A T D H R E V T E L V T V E D H
UniRef90_E0S747              V K V L D        G A K V P E L I N G V      Y K L Y S N C S G K
UniRef90_R5XWP3                                                             D K G
UniRef90_M4HNL1            M D T L K P E L E V L Y I A P P G F E P E N A H G D D F C E D I R A L E G R L
UniRef90_D6PHX6              L N P A S L D L R L G D H L M I E S I Y S P E L I R I D I S G T E D T P
UniRef90_D0I6V0                                                         A D G E A
UniRef90_F8TUY8                                                                    P
UniRef90_U1NVP6                              V Y A D A G V D T S R L D D L L D G D
UniRef90_A0A024IHW6                                                            E S
UniRef90_K2C1J4                    F D L R L G E V F K I S H R Q T P D I E S I K V W D P K P S S
UniRef90_Q9E6M6                               F E T F T P K R T E D A A Y D I A A P G D
UniRef90_D2EGS1                                                  V E K D
UniRef90_UPI000328BE90
UniRef90_Q2Z077             D V R C S R E F K V F T N A T V D P K G F D E G S F V D D V
```

```
                                      50          60          70          80
UniRef90_E8JI64         F V L H P G E F V L G A T Y E L V S L G   A D I A A R L E G K S S L G   R L G L
UniRef90_T0LUB4         A V I P A G T Q F L V S T M E Y I K M P E D A M   G Q I W I R S S Y A R K G V L
UniRef90_UPI00035031AF  L T P E M G V Q A L   P T G V Y G P L P E G T L   G L L L G Q S V T L K G I F
UniRef90_E1RID8         Y V L K K G E C T L V H S M E R V E L P   A G V A A T L M C R S S F G R K G V L
UniRef90_K1QHS7         Y T I P A R G K H V V D T D I         Q I   A V P S G C Y E R
UniRef90_T0WKK2         V T I Q P D E I K M V S T G L A V Q L G D D E V   L K L Y D R S S N P V K R G I
UniRef90_K2BQX4         F I I Q P G D F V L A T T E E Y V E I P D D   L T G R L E G R S S I G   R L G V
UniRef90_I5AZ20         L T L E H G E S V Y I G I A E K L T I P   Y D A M G Y V F P R S S I T     R L I
UniRef90_UPI00037AB275  F I L Q P R E F A L A I T D E T L E L D D D   V L G R L E G R S S L G   R I G I
UniRef90_UPI000375A806    V L E P G V M M R V R T G I A V E G P E G   F G F V L G D R S S L A A R G
UniRef90_UPI00034DBB9A  F I L H P G E F V L A S T Y E V V T L P H D   I A S R L E G K S S L G   R L G L
UniRef90_K4FBB6         V V I K P G Q C F L A H T V E T F N L P D T   I S G Q F I E R S   T V A R C F L
UniRef90_R9LMS8         L E I A P W E T K L V P L G V A S A   F D A Q Y V M L L K E R G S S G T K G
UniRef90_UPI00046CAF3F  V   P A R G K M L I K T D L Q F A V P E G T Y   G R V A P R S G L A L K N F I
UniRef90_J0RY16         I S L Q P G G G C T L V S S L E R V E L P S D   L A A T L R C R S S Y A R R G L L
UniRef90_D7BLW1         F V L H P G E F V L G S T F E E V T L G D D   V A A R L E G K S S L G   R L G I
UniRef90_UPI000371785A  F I I Q P G D F V L A T T V E N V E I S D E L L   G R L E G R S S I G   R L G I
UniRef90_U5J9B9         I V C K A N E T T L V S T G L A F A L P K T H Y L N A K H E R G S T G K       I I
UniRef90_K1ZK61         F V L M P G E S V L A Y T K E K V T L P D N   I C G R L E G R S   R F A R L G L
UniRef90_K1SNM5                               A H I V P R S S T F L K F G I
UniRef90_B8D0W3         I I V P P N S F L L A T T R E Y I K L P   P D I T A F V E G R S S I G   R M G L
UniRef90_F8WQ16         F T L Q P G Q K L T V K T G V Y L G V P Q G W Y   A M V D T R S S   T S K V A L
UniRef90_UPI0002628780  Y E L L P N H F V L A T T C E S I Q I P N N   M A A Y V E G R S S I G   R L G L
UniRef90_F9W7P6           V L L P G A T T N I P L N W K L R L P P G H F   G L L M P L N Q Q A K K G I T
UniRef90_S5Y020         I P P S T F K S V L V P T G I K T A F S D   R Y G M K A N T R S G S A Y H T P I
UniRef90_X5EFK9         F I L H P G E F V L G S T L E F V T V P D N   L A A R L E G K S S L G   R L G L
UniRef90_P11204         I M I P V S D T K I I P T D V K I Q V P P N S F   G W V T G K S S M A K Q G L L
UniRef90_M3X0A8         G V L Q P S G V K V R T G I Y G P L   E K G T V G L I F G R S S L T L K G
UniRef90_UPI00034F9E37  L T P E M G M Q A L   P T G V Y G P L P   S G M M G L L G R S S A T M N G I L
UniRef90_B5Y8K7         L I L Q P G F F L L G T T E R L   M L P N F L V A R V E G R S S L G   R M G I
UniRef90_Q1N6U2         L F I H P G E L V L G S T L E S V E I P D D L V   G W L D G R S S L A   R L G L
UniRef90_J8K1R9                                     R P R G G M T R D T K L
UniRef90_D3FG77         L T I E S L E T K I I D T G V I F E L P H N   I H A Q F M V R S S V A K K   G I
UniRef90_V7EX53         F E F E P G K L I L A W T R E F V E L K P H R I A A R V E G K S S M A   R L G I
UniRef90_A8E2A3         V I P G R L G S N V I S T G I K T S F D P K Q Y G L F I N P R G G M M   K Y P I
UniRef90_K2D6F5         F I V Q P H E F V L G V T L E T I K L P D D L V   A R V E G R S S I G   R L G I
UniRef90_I6ZIB0         V P S R S G A R   I P A G F         M M K I P K Y Y F G K I Q S T
UniRef90_F7DVL9         L T P E E G P I V L   P T G   K F G P P P P G M F F L V I G R A L T T L Q G V V
UniRef90_E8WLY5         I T I A P C E M I L G I T R E R I T L A D T   M A G W L E G R S   R F A R F G L
UniRef90_K2A3I1         F I L H P G S N V L G H S     R D Y F G S K E Y L I Q L S G K S S L A   R L G L
UniRef90_A9U6S3         E S I G P G V S A E I N G R E Y G L Y H E E Y V V L E         P L R T K L
UniRef90_X1M5R4         L I M Q P G D F I L A V T E E E I   I L P S D L M A R L D G R S S L G   R L G I
UniRef90_F0LI21         V V I P P K G Y A L I L T L E R I K L P D D   V M G E M R L R S S L A R E G L I
UniRef90_M9SCB1         V K V P P K T M F F V S T I E R V R M A D D   V C G N L W L R T S W I R K G T I
UniRef90_A8GC41         F F L H P G E L A L A V T L E S V T L P N D L V   G W L D G R S S L A   R L G L
UniRef90_B9KYK0         F I M Q A G D F A L A S T R E Y I E L A D D L V   G R L E G R S S I A   R L G I
UniRef90_F8TC49         I V L E S M S S V T I A I Q Q R Y A C A D K S M V P W I F G R S S M N L R G L I
UniRef90_UPI00041E4C35  F F L H P G E L A L A I T H E S V T L P P N I V   G W L D G R S S L A   R L G L I
UniRef90_G6Y6R8         Y V L H P G R F V L G S T L E W I R M P   T S C A G S I V G K S S L G R H G L I
UniRef90_UPI00046B3270  Y T I P P M E K V L V E T D I Q I A L P S R C         S G L A S K C F T
UniRef90_G0X514         I V I E P G Q C F L A H T V E T F N L P D T   I S G Q F I E R S   T V A R C F L
UniRef90_G4RP41         I A I P P R N F V L L T T E E Y V R M P D D V V G   L A N L R S T L A R Y G L
UniRef90_F6QUP7         L T P E D G   P E V I S T G V T G P P P P G M F F L I I       G R A L T T L Q
UniRef90_X1P9K1         F L L N A G E F V L A S T L E S I T L P D D I V   A R L E G K S S L G   R I G L
UniRef90_E5FRZ9         V F V K C G E R A M V P L G F A L E L P E G   W E G H L A P R S S T F K T W G I
UniRef90_S6BBF2         F V L H P G E L A L G I T L E S I T L P D D L V   G W L D G R S S L A   R L G L
UniRef90_Z5U1T6         F I V Y P H Q V V L A T T L E Y V S L P P N C Y   A D V L S R S S Y T   R L G L
UniRef90_A0MN26         L V L Y P G S Y V F V T T P Y K I A L P K G   I H G V F G R S G N F F K S G V
UniRef90_R6EF28                         M E Q E W V L K C Y P R S G L G F K Y R L
UniRef90_F1A453         F E L E P G Q M C L G I T E E T I D L S S K   Y C G L L E G R S   R F A R L G L
UniRef90_M5EK57             Q P G D M I L A W T R E Y V E L Y H S R I A A R V E G K S S L A   R L G L
UniRef90_W5NUH4         L T P D P     V S L I P K G M A G P L P E       G I V G L V L V C S L L S L Q
UniRef90_Q6Q8I5           P G E V K I I P T A T T I M L P K T T F   G L V I G K S S L A K Q G L D
UniRef90_F4ABH9         I V I E P C S L R M I D T G I A I A C N K A Y F P K F   F D K G G M G S K G I I
UniRef90_R4TP42         V E L G P D D F V L G H T K E V V S I P D N V V   G V V H G R S S W A R V G
UniRef90_W8NRB5         F V I P P K T Y A L V L T L E R I K L P D D V M G D M K L   R S S L A R E G L L
UniRef90_D2VD40         F V L K P G Q T V L G I T E E T V S I S   P S F C G L L E G R S   R F A R M G L
UniRef90_A0A059F4P7       T I E P D T Q G K I S T G I R M E F P N D Y F A F I N F K N D S
UniRef90_R9NSL6         F F L H P G E L A L A V T L E S V T L P D N L V   G W L D G R S S L A   R L G L
UniRef90_UPI00029A8031  F I V P P K T H A L V L T L E R V K L P E D I M G D M K I   R S S L A R E G L L
UniRef90_Q54BK9         F I L E P G H M C L G I T E E T I E L S   P K L C G L L E G R S   R F A R M G L
UniRef90_UPI000273C991  L R P E D G   V Q I I P T G V H G P P P P W T Y   F L I L G R A S S T L K G
UniRef90_Q081H6         F F L H P G E L A L A V T Y E S V T L P A D I V   G W L D G R S S L A   R L G L
UniRef90_A1SSZ3         F F L H P G E L A L A V T Y E N V T L P D D I V   G W L D G R S S L A   R L G L
UniRef90_X2H6A7             L H P G E L A L A V T L E S V T I P N D L V   G W L D G R S S L A   R L G L
UniRef90_K2B2B7         I V I K P G E S Y L V S T V E S V N L P   L N L T A N L W L R S T L Y R S G L I
UniRef90_UPI00037F64F1  L E I I P G E T K L V D L Q I Q C A A Y K I V C D F F M Y P R S S I Y   K T Y L
UniRef90_UPI000367DD4F  I I V E P K K G M Q L E T K E Y V K L P   S F L M A Q M L R S S Y S R K G L I
UniRef90_B9L4Y8         L L L L P G Q A V L G I T E E R L T L P D Y   L C G W I Q G R S   R F A R V G L
UniRef90_E0S747         V D P R C G     A K I P A G F         M M K I P K R Y F G K I Q S T
UniRef90_R5XWP3         F L I N P K E Y V L V S L N E A L N I P E K   I N A H I R P R T R F I R A G
UniRef90_M4HNL1         V P Q G T F K S V L V P T G L K T A F A T S H   G M K L N T R S G S G Y H T P L
UniRef90_D6PHX6         F M L Q S G E F C L A E T L E L F N L P D D I S C D F V L S R A R S G L N H L L
UniRef90_D0I6V0         F F L H P G Q L A L A V T H E V V T L P D D I V   G W L D G R S S L A   R L G L
UniRef90_F8TUY8         F D V L P G E F V L A P S R E V F H L P N   Y I S A E Y K L K S S M A R I A L
UniRef90_U1NVP6         I V         F D R V A S V E K T D R V E P T Y D L E V Q P R G R V I E R G G V
UniRef90_A0A024IHW6     L L H P G A L A L V P T L E W V V L P   G D I G V V T A R S S W A   R E G L
UniRef90_K2C1J4         I K I K P G D F Y L V K T I E K I N L P   L N L S A V I I P R T T T F R S G
UniRef90_Q9E6M6         I R L G A L S S T T I M I Q Q R Y V C M D D S V I P C I F G R S S M N L R G L I
UniRef90_D2EGS1         F V I F P Q E R V L I K I D E K I K M P S N L V   G L C N V R S T F A     R L
UniRef90_UPI000328BE90                P T G M Y G P L P H T   S G L L I G R S S S I I N G
UniRef90_Q2Z077         C V I P P N S F A L A S T V E Y F R I P R N V L T I C L G   K S T Y A R C G I
```
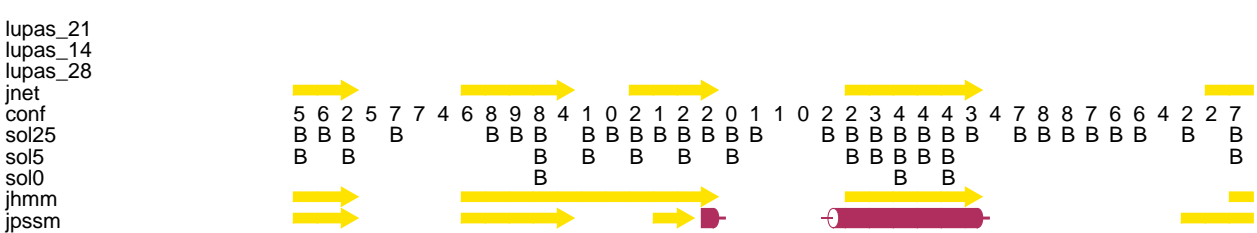
```
                                              90            100           110           120
UniRef90_E8JI64          L T H S T A G F I D P G F S G H V T L E L S N T A T M P I L L Y P G M K I G Q L
UniRef90_T0LUB4            G S F G A V D A G F H G N L T L S F L N A S G S P V T V A R G E R I A Q L
UniRef90_UPI00035031AF   V   T P G V I D Q D Y E G E I K I   M V H S P T T L S T I P V G Q R I A Q L
UniRef90_E1RID8          I G G   G Y V D P G F R G N L T L C L V N M G P E D V P L P A G E R C V Q I
UniRef90_K1QHS7            I A G V I D P D Y R G N V G V V M F N F G A D D F K V K K G D R I A Q L
UniRef90_T0WKK2          A L I N S V G I
UniRef90_K2BQX4          V I H S T A A N I E C G F R G H I A L E L A N M G K M P V A L Y P G M R I C S L
UniRef90_I5AZ20          G V Q I I P V F M N P G Y T G Y M P L T I T N H S G K S V T I K P G C R I A Q L
UniRef90_UPI00037AB275   I V H G T A G L F D P G W R G K A T L E L S N L G R M P V A L Y P G M R I C S F
UniRef90_UPI000375A806     V T Y A G G R I D A G Y R G E I L V C L V N K S D V T V H L R K G D K I V Q M
UniRef90_UPI00034DBB9A   L T H S T A G F I D P G F S G H V S N V A T L P M K L Y P G M K I G Q L
UniRef90_K4FBB6          E H M   Q A G W A D A G W H G Q L T L E F K N M N H H S L L I K P G M R I G Q M
UniRef90_R9LMS8            I A Q R C G V I D S G Y R G E Y M A P V T N L N A K P V I V Y P Y E K I A Q G
UniRef90_UPI00046CAF3F   D V G   A G V V D A D Y R G E M
UniRef90_J0RY16          L G G   G F V D P G F R G Q L T L C L V N M G A D A I P L A Q G D R V V Q M
UniRef90_D7BLW1          L T H S T A G F I D P G F S G H V T L E L S N T A T M P I K L Y P G M K V G Q L
UniRef90_UPI000371785A   V I H S T A A A I D A G W R G H I T L E L A N M G K M P V A L Y A D M R I C S I
UniRef90_U5J9B9          S M S V L A G V I D S G Y R G E V F L A I
UniRef90_K1ZK61          L V H I T A S F M Q P G I S N R Q I L E M Y N A S Q F P L A I H T G T R I C Q F
UniRef90_K1SNM5          I Q A N H C G I I D N S Y S G N D E W K F P A I A L R N T K I H K N D R I C Q F
UniRef90_B8D0W3          F I Q N   A G W V D P G F E G Q I T L E L Y N A N R L P I K L T A G R R I C Q L
UniRef90_F8WQ16          D L L   C R T V D S P Y R G N I R L A L I N L N S E P V V L K N G S E I C Q L
UniRef90_UPI0002628780   Q V Q N   A G F I D A G F E G Q I T L E L E N Q S P F P I I L Q V G V R I C Q I
UniRef90_F9W7P6          V L G   G V I D P D Y H G E I G L P L H N G G K Q D Y V W S V G D P L G R L
UniRef90_S5Y020          I L S N C T G I I E G T Y R G Y L G I L L R N T S M V D F V F S K G K R I
UniRef90_X5EFK9          L T H S T A G F V D P G F T G H I T L E L S N T A N L P I S L Y P G M K I G Q L
UniRef90_P11204          I N G   G I I D E G Y T G E I Q V I C T N I G K S N I K L I E G Q K F A Q L
UniRef90_M3X0A8          I H V H P G V I H C D Y E N E I Q V M K P   A D N P Y T M Q P R D K I A Q L
UniRef90_UPI00034F9E37   V V   P G V I D G D F T G E I K I   M T H S P T G V S V I R A E Q R I A Q L
UniRef90_B5Y8K7          L I H A T A G Y V D P G F C G Q I T L E I S N V N N I P V A L Y P G M R I C Q V
UniRef90_Q1N6U2          M V H V T A G R I D P G W K G Q V V L E F Y N L G K M P L A L R P N M T I C A L
UniRef90_J8K1R9          R V A   F G T V D S G Y R G E V G V I S L N M Q A H V I E R G T R I A Q G
UniRef90_D3FG77          I L A N T I     I D S N Y R G H T F L I I T N A S K M T Q H F S A G D R I A S V
UniRef90_V7EX53          G V H L T A P T I H A G F S G Q I R L E M V N H N T I P V K L K A G M R I C Q L
UniRef90_A8E2A3          T L G N T Q G V V E G E Y R G E V G L P L K N
UniRef90_K2D6F5          I V H S T A G Y V D P G F E G T I T L E I T N I N R M P I A L Y P G M R V C Q F
UniRef90_I6ZIB0          R I K K L G G V V D S D Y R G E I C V L V Y N D T D E D F V Y E K G D E I G E M
UniRef90_F7DVL9          V     H P T L V N N D Y K G E I K I     I I E S P H G P V T I P A G R R L A Q A
UniRef90_E8WLY5          A V H V T A G F M Q P G I S N Q Q V L E I V N L G H K P L A L Y P G T R I C Q F
UniRef90_K2A3I1          V I H N T A G I I N P G H F L N I V F E L S N F N N L P I I L R P G M R I G Q L
UniRef90_A9U6S3          R V A N A P G T V D S G Y I G E V K V I V D N I A Q A E F I I C A G D R I A Q A
UniRef90_X1M5R4          V V H S T A A R F D P G W R G R A V M E L G N L G T L P V A I Y P G M R V C A L
UniRef90_F0LI21            G S F A W V D P G W D G N L T L G I F N G S N E E I E L E Y G E R F V Q I
UniRef90_M9SCB1          S     A F G M V D A G F E G T L T L G S Y N S S D K E L E I P I G E R Y C Q L
UniRef90_A8GC41          M V H V T A H R I D P G W Q G R I V L E F Y N S G K L P L A L R P G M L I G A L
UniRef90_B9KYK0          T V H S T A A L F E P G W A G T A T M E L S N L G R M A V A L Y P G M R I C S F
UniRef90_F8TC49          I S P S R W   M P D S       W L T L T L C N L T E A K A T I K R G D R I A Q L
UniRef90_UPI00041E4C35   M V H V T A H R I D P G W S G N I V L E F F N S G K L P L A L K P M M K I G A L
UniRef90_G6Y6R8          I     E T A P V V H P A F S G S L T L E L A N V G E V P I A L R P G M E I A Q L
UniRef90_UPI00046B3270   D V G T   G V I D E D Y R E N V G A V L F N F G K E K F E V K K C D Q A G C S
UniRef90_G0X514          E H M   Q A G W A D A G W H G Q L T L E F K N M N E Y H L L I K P G M R I G Q M
UniRef90_G4RP41          V I P   P T V V D A G F E G N I T I E V V N E S P N T I V L K P G L R F L H L
UniRef90_F6QUP7          G V V V H P T L V D N D Y T G E I K L I V E S P H G P V T I P A G H R L A Q A
UniRef90_X1P9K1          L I H S T A G Y V D P G W Q G H L T L E L S N V A V A L Y Y K M P I G Q L
UniRef90_E5FRZ9          I Q T N S V G V V D D T Y I G Q W H M P V Y C L Q G K D I E I R K G D K I G Q F
UniRef90_S6BBF2          M V H V T A H R I D P G W S G N I V L E F F N S G K L P L A L R P G M A I G A M
UniRef90_Z5U1T6          S L N T   M I Q P G Y R G C I S L E L F N H G N T P V E L I V G S R I C Q I
UniRef90_A0MN26          D V   F H G V I D S S Y R G P I K V G L K F Y S T G I F N I R N D A V A Q L
UniRef90_R6EF28          Q L N N T V G I I D S D Y E G H M F A K I T N D S N E T V E I K K G D G F M Q G
UniRef90_F1A453          F V H I S A G F M N P G I K N R Q V L E I F N A S S N K L K L H P G T K F C Q F
UniRef90_M5EK57          G I H L T A P T I H A G F M G Q I R L E M V N H N V I P I R L R V G M R V C Q L
UniRef90_W5NUH4          G I S V V P G V V D S D Y T G E I K V L I S L P A K T V Q I S K G Q R I A Q L
UniRef90_Q6Q8I5          I L G   G I I D E G Y R G E I G V I I L N T Q R H T I N L K E K Q K I A Q L
UniRef90_F4ABH9          V   G A G V G D S G Y R D S Y F I P L I N T N L Q K T V V
UniRef90_R4TP42          V N P H L G G Y I D P G Y E G Q I T L E L S N L T Q T P I K L R E G D R F C Q I
UniRef90_W8NRB5            G S F A W V D P G W D G K L T L G I Y N A S E E P V E L S Y G E R F V Q I
UniRef90_D2VD40          A I H I T A G F M Q P G I N N K Q V L E I F N A S P N S L A L Y P G T H L C Q F
UniRef90_A0A059F4P7      V Q T L A G V V D S D Y R G E L I V M L Y N H S D K P F T F K R H E K C A T I
UniRef90_R9NSL6          M V H V T A H R I D P G W Q G R I V L E F Y N S G K L P L A L R P G M L I G A L
UniRef90_UPI00029A8031     G S F A W V D P G W D G N L T L M L F N A S E P V E L R Y G E R F V Q I
UniRef90_Q54BK9          F V H I S A G F M N P G I K N R Q V L E I F N A S S N R L E L V P G T K I C Q F
UniRef90_UPI000273C991     L S V H P S L V D N D Y T G E I K L L V S A L Y G P V H I R Q G L H L A Q A
UniRef90_Q081H6          M V H V T A H R I D P G W Q G K I V L E F F N S G K L P L A L R P G M T I G A L
UniRef90_A1SSZ3          M V H V T A H R I D P G W S G K I P L A L R P E M T I A A L
UniRef90_X2H6A7          M V H V T A H R I D P G W G G Q I V L E F F N S G K L P L A L R P G M T I G A L
UniRef90_K2B2B7          L S G   G N V A P G Y S G K L S F T F F N S G N S T V T I E L G G R I V H I
UniRef90_UPI00037F64F1   R L A N N T G I I D S G Y R G N L M G A F D N I S R I G P T F Q A G
UniRef90_UPI000367DD4F     G S F G V D A G F M K I R F F V Y N S S E E P I E I S D Q K G V F Q M
UniRef90_B9L4Y8          M V H V T A N F I Q P G I R T R Q V L E M N N A G P I P L A I R P G I R I C Q I
UniRef90_E0S747          R I K K L G G V V D S D Y R G E V C V I V Y N D S D E E F V Y E K G D E I G E M
UniRef90_R5XWP3          L Y V S A Q H C N S T Y S G N L K G V F N F L N I P I R I Y K G K K I C Q I
UniRef90_M4HNL1          I L S N S T G I I E G S Y R G Y V G V L L R N T Y Q D N S V V T K G K R V
UniRef90_D6PHX6              A G W C D P G W H A K T L E L K N E R H H A L Y P G L K I G Q M
UniRef90_D0I6V0          M V H V T A H R I D P G W Q G R I V L E F Y N S G R L P L A L R P G M P I G A L
UniRef90_F8TUY8          D H L N   A G W C D A G W N G S V T L E L K N V S N H A I R L H K G D A I G Q M
UniRef90_U1NVP6          F L S N T A G F V D P G Y R G Q I T L E L S N L G A A P V A L S P G M R V S Q L
UniRef90_A0A024IHW6      N I A T   A T I V N P G Y M G I V T L E L S N L G A P P I K L Y P G L R L A Q I
UniRef90_K2C1J4          L F I R T G P I P G Y S G E L T F G L K N E G P I T V E I E M G A R F T H L
UniRef90_Q9E6M6          I I P S R       W L P N S W L T I T I C N L T E M T V M I C G D R I A Q L
UniRef90_D2EGS1          G L A I P P T I V D A G Y E G N L T I M M I G G N V P V K I S K G T R F L H L
UniRef90_UPI000328BE90   M V H V T P G V D N D Y T G E I K I   M A S S P Q N V S T I P S G E R I A Q L
UniRef90_Q2Z077          I V N V T P L E P E W E G H V T L E F S N T T T L P A K I Y A N E G V A Q M
```

```
UniRef90_E8JI64            C F F
UniRef90_T0LUB4            V I
UniRef90_UPI00035031AF     L L I P L V K K E
UniRef90_E1RID8            I M H E V
UniRef90_K1QHS7            I C E K I H F P K L Q E V E
UniRef90_T0WKK2
UniRef90_K2BQX4            S F E E L S S P
UniRef90_I5AZ20
UniRef90_UPI00037AB275     T F E Q L S S P
UniRef90_UPI000375A806     T P L R A S T W V V T V V E N L
UniRef90_UPI00034DBB9A     C M F R L S S P
UniRef90_K4FBB6            V F F Q H E T V
UniRef90_R9LMS8            V L L V M P Q I P S E E I S
UniRef90_UPI00046CAF3F
UniRef90_J0RY16            I L H E V
UniRef90_D7BLW1            C F F Q L S S P
UniRef90_UPI000371785A     S F E Q L S S P
UniRef90_U5J9B9
UniRef90_K1ZK61            I F E
UniRef90_K1SNM5            R L M K M E D V T L E E V E H L
UniRef90_B8D0W3            V L A R M
UniRef90_F8WQ16            V I K R H A T A K L
UniRef90_UPI0002628780     V F V Q M L
UniRef90_F9W7P6            L V L P C P V I K V N
UniRef90_S5Y020
UniRef90_X5EFK9
UniRef90_P11204            I I L Q H
UniRef90_M3X0A8            L I L P Y I E G Q S N P V
UniRef90_UPI00034F9E37     L L L P
UniRef90_B5Y8K7            S F E
UniRef90_Q1N6U2            S F E
UniRef90_J8K1R9            V I A P V I T A N F F E V D K L
UniRef90_D3FG77            M F I D T R T V D
UniRef90_V7EX53            I F E Q
UniRef90_A8E2A3
UniRef90_K2D6F5            A F E
UniRef90_I6ZIB0            V I C K I S M P D I K E
UniRef90_F7DVL9            L P F P M I
UniRef90_E8WLY5            V F E R C L
UniRef90_K2A3I1            T F S Q I
UniRef90_A9U6S3            V I T P V E R A T F E V V D E L
UniRef90_X1M5R4            T F E
UniRef90_F0LI21            I F H R L E E P
UniRef90_M9SCB1            V F Q
UniRef90_A8GC41            S F E P
UniRef90_B9KYK0            T F E Q L S S P A M V P
UniRef90_F8TC49            L L V N Q E A A A L L P T E
UniRef90_UPI00041E4C35     S F E
UniRef90_G6Y6R8            Q V M R
UniRef90_UPI00046B3270     F V N E F F N S E I E E V Q V L
UniRef90_G0X514            V F F Q H E T V
UniRef90_G4RP41            V L V K
UniRef90_F6QUP7            L P L P M V
UniRef90_X1P9K1            S F L R
UniRef90_E5FRZ9            R I M E V M   P E I E
UniRef90_S6BBF2            S F E
UniRef90_Z5U1T6            R I F Q N E T
UniRef90_A0MN26            V L I G Y D S F E M V E V S E
UniRef90_R6EF28            I F V E Y I T V D D D V T D
UniRef90_F1A453            V F M E
UniRef90_M5EK57            I F E Q
UniRef90_W5NUH4            L L L P Y Y Q I R
UniRef90_Q6Q8I5            L I I P C Y H E P L Q Q G E I L
UniRef90_F4ABH9
UniRef90_R4TP42
UniRef90_W8NRB5            A F I R L E
UniRef90_D2VD40            V F M K L E
UniRef90_A0A059F4P7        T F H A I K H K M M V E
UniRef90_R9NSL6            S F E
UniRef90_UPI00029A8031     A F I R L E E P
UniRef90_Q54BK9            V F M E V Y H G R F E
UniRef90_UPI000273C991     L P L P L I
UniRef90_Q081H6            N F E R L S S A
UniRef90_A1SSZ3            N F E
UniRef90_X2H6A7            S F E
UniRef90_K2B2B7            L F Y E V
UniRef90_UPI00037F64F1
UniRef90_UPI000367DD4F     V F M S L D K P A L K E
UniRef90_B9L4Y8            I L E E C V
UniRef90_E0S747            A V C E I I T P N I R E
UniRef90_R5XWP3            I F E E L E
UniRef90_M4HNL1
UniRef90_D6PHX6            V F
UniRef90_D0I6V0            S F E
UniRef90_F8TUY8            V F F K H S P V
UniRef90_U1NVP6            V F
UniRef90_A0A024IHW6        A F
UniRef90_K2C1J4            I F H E I
UniRef90_Q9E6M6            L L V D H E S A T L I P
UniRef90_D2EGS1            V F
UniRef90_UPI000328BE90     I L L P L I N T D
UniRef90_Q2Z077           L F       F E S D E V C E V S
```

Multiple sequence alignment

Position ruler: 1 ... 10 ... 20 ... 30 ... 40

Sequence	Residues
UniRef90_A4FW98	
UniRef90_UPI0003603906	E S
UniRef90_K9ZQT8	Q P K I Y I D P F S P N S L T P S Y M S A S K G E E V L V N Q N S P
UniRef90_V4XSN3	Q L Q P A S V D L R L G E E F L E F Q Y I H P D S E G Y V E E T V V P E D
UniRef90_A4ZX82	D A G Y D I P L P R D
UniRef90_UPI0001904DA6	D E D P V P T K E H F V R F G E E
UniRef90_I3DFP7	K I N G A T I D L R L G N S F R V F R E Y S A P Y I D V S G P R E E
UniRef90_W5NW28	
UniRef90_UPI000368EF50	K I D C A S Y T L S V G P E F V T P T D Q T S D A K S R S L M L A V D Q A
UniRef90_L1KUK5	I K Y T S P V L D A H R P N P T R E T T G P D G H
UniRef90_K2A9B2	F D L R L G E V Y K I K G E A H R K T A E I E L V K S Y K D S
UniRef90_Q9JIA5	V R S N P G N A R L D L C S T V H A T
UniRef90_G2LNZ2	E K P
UniRef90_F4HC40	S S K I N G A T V D V R L G N S F R V F R D H S A A Y D E I I I E D E P
UniRef90_UPI00016C47C2	D V R V D R H F K V F T N S T V D P K N F D P K S F V D V D
UniRef90_N6V0W0	
UniRef90_UPI00036CDF4A	F D L R L S E I Y T I D K R D T P K I A K D D P S K D E D E N
UniRef90_D1C9Z5	Q V G P A S I D L H L D R Q F R V F R P A Q E D D A D Y R E V T S V D D Y
UniRef90_UPI000372758E	S V D I R L G N K F R V F Q D H A A P Y I D L S A D G E A
UniRef90_I0I298	D I R V A D E F R I F T P A T G Q L S V I D P K A I D E D V
UniRef90_H8HI80	V Q P S S I D V R L D C L F R V F R Y T H I D P A K Q Q L V Q P V D E P
UniRef90_D3PPG5	D L R A A R E W K I F A N V F H T I A G L D P K S F V D D G
UniRef90_G8T6I1	D D G
UniRef90_UPI00037DC92E	K S
UniRef90_N2AE81	
UniRef90_G8EY23	I N P A S L D V R L G S G L M I E V A G Q K D L L H V D I S N R T E P
UniRef90_F2RC98	Q V N P N S Y N V R L G G T L L T Y T A H T L D A A T E S I E I G P D G
UniRef90_UPI0003819C3D	E E
UniRef90_R0KYD3	M E V K I E V L E G G R K P V Y E N G I Y K C F V S Q D T E
UniRef90_I7CJB8	
UniRef90_A7ZFS7	D I R V G D E F K I F T N I G G D P K N F D E K N V V D D V

Prediction tracks:

Track	Values
lupas_21	
lupas_14	
lupas_28	
jnet	
conf	9 9 9 8 8 5 1 6 8 8 6 1 0 7 7 7 6 3 1 4 5 0 1 0 5 7 7 7 7 6 5 1 3 0 2 4 6 7 6 3
sol25	B B B B B B B B B B B B B B B B B
sol5	B B B B B
sol0	B B
jhmm	
jpssm	

Multiple sequence alignment (positions 50–80)

Sequence	Alignment
UniRef90_A4FW98	L G T T N E Y V E L P N D V C A Q Y Q G R S S F G R V F L
UniRef90_UPI0003603906	F T L R R G E L A L F H A S Q P M A L P E G V G G F I G G L S H M A R L G L
UniRef90_K9ZQT8	V I I E P G D T T L I T V F E E I R M P K N H F S G L I L S K V S K V S K G
UniRef90_V4XSN3	F I L H P G D F V L G T T R E R V D I P D D L V A H V E G R S S L G R L A I V
UniRef90_A4ZX82	L E L Q P R T F T E V K I R Q I Y N C K T S D V L P C I F G R S S M N A K G L T
UniRef90_UPI0001904DA6	F I L H P H N F V L G T T L E W M R L P A D L A G Y V T G K S S L G R R G L
UniRef90_I3DFP7	V T L H P G A L A L A T T Y E S V K L P A N V I G W L D G R S S L A R L G L
UniRef90_W5NW28	V P T G L F G P Q P L Q T F G L S L G K S S L T S K G
UniRef90_UPI000368EF50	F A I P P G Q F A Y I Q T D E I V K V P R D A L A F I S L R A R I K W K G L V
UniRef90_L1KUK5	V L Q P G E L Y L G H T L E E V G S N T F V P L L F G R S S V G R L G L
UniRef90_K2A9B2	I V F K P G D F Y L V K T I E S F N L P Q N I T A N F K P R S T T F R S G L
UniRef90_Q9JIA5	L T P E V G V Q T L P T R V F G P L P V G I C G F L L G R S S S I V E G L Q I
UniRef90_G2LNZ2	F F L Q P G S L V L F S T F E N I T I P N N L V G W L D G R S S L A R L G L
UniRef90_F4HC40	F F L H P G V L A L A S T Y E S V K L P S N I G W L D G R S S L A R L G L
UniRef90_UPI00016C47C2	C I I P P N S F A L A E T V E Y L E I P R D L C V C V G K S T Y A R C G I
UniRef90_N6V0W0	I L G T T N E Y I E L P N D I T S F Y Q G R S S L G R L F L
UniRef90_UPI00036CDF4A	F V F K P G E Y Y L I K T M E K V N L P V T L S G I I F P R T T L F R S G L
UniRef90_D1C9Z5	F L L L P G Q A I H G V T Q E R I T L P P D I C G W I Q G R S R F A R I G L
UniRef90_UPI000372758E	F F L H P G E L A L S M T H E S V T L P A D I V G W L D G R S S L A R L G L
UniRef90_I0I298	C I I P P N S F A L A R T V E Y F R I P R N V L T I C L G K S T Y A R C G I
UniRef90_H8HI80	F V L H P G E F V L G S T L E L F T L P D N L A G R L E G K S S L G R L G L
UniRef90_D3PPG5	V I I P P N S F V L A R S M E Y I R M P D N V L A I A I G K S T Y A R V
UniRef90_G8T6I1	F V L Y P H V F Y L G V T E E Y T E T H A H V P F L E G K S S T G R L G I
UniRef90_UPI00037DC92E	I K I K P G D F F L V K T I E K I N L P V N L S A I I L P R T T T F R A G
UniRef90_N2AE81	Y T I S P K E Y V L V S L G E T I K V P N N L T V H L R P K T R Y T R L
UniRef90_G8EY23	Y R L T P G E Y V L A E T H E T F K K I P D H I C A Q F A L K S S R A R E G Y E
UniRef90_F2RC98	F E L Q P G Q L Y L G H T I E E V G S D T F V P L L F G R S S I G R L G L
UniRef90_UPI0003819C3D	F V I Y P N E H V L L V T E E Y I K L P N D V M A F V N L R S S F A R L
UniRef90_R0KYD3	I Q P K S G G L V P M G V K I K V P N T H F I N V R G T
UniRef90_I7CJB8	P T G A Y I V R Y G E R I A I P E G H I G F V Y P R S S L M R N S C
UniRef90_A7ZFS7	C I V P P N S F A L A R T I E Y F N M P D N V L A I C L G K S T Y A R C G I

lupas_21
lupas_14
lupas_28
jnet
conf: 5 6 2 5 7 7 4 6 8 9 8 4 1 0 2 1 2 2 0 1 1 0 2 2 3 4 4 4 3 4 7 8 8 7 6 6 4 2 2 7
sol25: B B B B B B B B B B B B B B B B B B B B B B B B B B B B B
sol5: B B B B B B B B B B
sol0: B B B
jhmm
jpssm

```
                         90        100        110        120
UniRef90_A4FW98      Q T H Q T A G W I D S G F K G K I T L E I V A Y   D K P V I L Y K N Q R V G Q L
UniRef90_UPI0003603906 T V H L D T P I V D S G F N G V L T V E M F N A G P S D V V L R P G M P V A K V
UniRef90_K9ZQT8        L S N I S T T I D P D W V G H L V I A V H N F S Q E S I T I N F K D T F C T V
UniRef90_V4XSN3      V H A S L P           Y D E K V F L W T P E G G L G F Y E I G E Q E R V A R A
UniRef90_A4ZX82      V L P T R         W L E G E W L T F L I Y N F T R K T V F L N A G D R V A Q L
UniRef90_UPI0001904DA6 I I E T A A G I Q   P G F A G C L A L E L S N V G E V P I A L Q P G M E I C Q I
UniRef90_I3DFP7      M V H V T A H R I D P G W E G K I V L E F Y N S G K L P L A L R P N M I I G A L
UniRef90_W5NW28        I T V H P G V I D S D Y K G D I Q M M M   S S Q I L W Q F K K G D K I A Q L
UniRef90_UPI000368EF50 N V S G F       H V D P G F N G R L T F A V F N A G P S P I H L R R G E R
UniRef90_L1KUK5      F V E I T A P I G D I G F H G Q W T L M L T     P I R P L R V Y A G M K I G Q I
UniRef90_K2A9B2      F L       R T G N V A P G Y S G P V T F G M K N E G P I P V I I E M G A R
UniRef90_Q9JIA5      Y         P G V I S N D Y E G E I K I   I A A C P R G V I T I P A N Q K I A Q L
UniRef90_G2LNZ2      M V H A T A H R I D P G W K G N I V L E F N A G K L T L V L R P K I K I A T L
UniRef90_F4HC40      M V H V T A H R I D P G W E G R I V L E F Y N S G K L P L A L R P K M V I G A L
UniRef90_UPI00016C47C2 I V N V T P       L E P E W R G R V T I E I S N T T P L P A K I Y A G E G I A Q I
UniRef90_N6V0W0      T S H Q T A G F I D A G F R G K I T L E I V A H   D K P V I L Y P N M R I G Q L
UniRef90_UPI00036CDF4A A L F N       G V V Q P G Y S G E L T F G L C N M G K S N I K I A F G A R V V H I
UniRef90_D1C9Z5      M V H V T A N F M Q P G T R A K Q V L E M N N A G P V P L A I H P G T A I C Q I
UniRef90_UPI000372758E M V H V T A H R I D P G W S G Q I V L E F F N S G K L P L A L R P M M K I G A L
UniRef90_I0I298      I V N V T P       F E P E W E G Y V T I E I S N T T P L P A K I Y A N E G I A Q V
UniRef90_H8HI80      L T H S T A G F I D P G F S G H I T L E L I
UniRef90_D3PPG5      G I V A N I T P L E P G W E G H V T L E F S N T T P L P A K M Y A G E G V V Q L
UniRef90_G8T6I1      D I H A T A G K G D V G F C G N W T L E I S V   K Q P V K I Y K G M P I G Q L
UniRef90_UPI00037DC92E   L F I R T G P I Q P G Y C G E L T F G L K N E G P I T V E I E M G A R F V H V
UniRef90_N2AE81      G L I V S D Q H C N S T Y T G H L R I G L F N A T E Y P I R I H T G F A I A Q L
UniRef90_G8EY23      N L L     A G W I D P G F C S K L T L E L V N R R H Y D L P L Y P G L K I G Q I
UniRef90_F2RC98      F V E I T A P I G D I G F H G Q W T L M L     S P I R P L R V Y P G M R I G Q I
UniRef90_UPI0003819C3D G L F I P P T I V D A G F E G Q L T I E V I   G S E F P V K L R R G T R F L H L
UniRef90_R0KYD3      M F R T L G G V G D S D Y R G P M Y F I V Y N N T C E P M I F K Q G D Q A G H F
UniRef90_I7CJB8        M L N T A V W   D A G Y E G R G E G L L Q V H   H D I E L E R G A R I A Q L
UniRef90_A7ZFS7      I V N V T P       F E P G F K G H I T I E I S N T T P L P A K I Y A N E G I A Q V

lupas_21
lupas_14
lupas_28
jnet                →→    →
conf                 7 4 3 6 7 7 1 0 0 6 7 7 7 7 4 5 8 8 9 9 9 9 8 6 5 8 8 5 1 8 9 7 1 6 8 7 2 6 8 8 9
sol25                B B B B B B B B B B B     B       B B B B B B B B B B             B     B               B B B B   B
sol5                   B     B             B             B     B   B           B             B               B B B   B
sol0                                                                   B     B                                     B     B
jhmm                →→      →              →→→          →→        →→
jpssm               →→                    →→→          →→        →→
```

130

UniRef90_A4FW98	I	F S K T L S P
UniRef90_UPI0003603906	I	L Y Q V
UniRef90_K9ZQT8	V	F L E N K S P S T K E
UniRef90_V4XSN3	V	
UniRef90_A4ZX82	V	L
UniRef90_UPI0001904DA6	F	L H D V
UniRef90_I3DFP7	S	F E
UniRef90_W5NW28	L	L S P Y I
UniRef90_UPI000368EF50		
UniRef90_L1KUK5	M F F	
UniRef90_K2A9B2		F V H A Q F E E V
UniRef90_Q9JIA5	T	L I P
UniRef90_G2LNZ2	S	F E V L S Q P V L
UniRef90_F4HC40	S	F E
UniRef90_UPI00016C47C2	L	F Y K
UniRef90_N6V0W0	I	F F K
UniRef90_UPI00036CDF4A	T	F Q E V L
UniRef90_D1C9Z5	I	L E E C V
UniRef90_UPI000372758E	N	F E
UniRef90_I0I298	I	F F E G E P P E V
UniRef90_H8HI80		
UniRef90_D3PPG5	V	F F E G E R P E V
UniRef90_G8T6I1	I	Y F P V E
UniRef90_UPI00037DC92E	L	F H E I
UniRef90_N2AE81	V	F E E
UniRef90_G8EY23	V	F M K M
UniRef90_F2RC98	M F F	
UniRef90_UPI0003819C3D	I	F A R T L T P
UniRef90_R0KYD3	V	I V K I R T P P L E
UniRef90_I7CJB8	V	F A E
UniRef90_A7ZFS7	L	F I E

lupas_21
lupas_14
lupas_28
jnet
conf   9 9 8 6 3 2 1 1 3 9 9 8 5 5 9 9
sol25   B B B   B B   B   B   B
sol5   B B   B
sol0   B
jhmm
jpssm