

1                    10                    20                    30                    40

QUERY	S P L E K V C L I G C F S T G Y G S A V K V A K V T Q G S T C A V F G L G V
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QUERY	50	60	70	80
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UniRef90_G7CBY3	G S G A I Q G A R V A G A E H	I V A I D V E S K R E K A M Q F G A T H F V T S S		
UniRef90_N0DZC2	G N A A I Q G G K V A G A T T	I V A V D V D D R K L E Q A K F G A T H T I N S P		
UniRef90_UPI0003640F2D	G I N A V Q G A R I G G A R N	I A V D V P V F E K A M E L G A T H A V S D P		
UniRef90_U3R3L7	G L A T A V N S A A I A G A G R	I A I D V R P A K E L A R K F G A T D V I D A P		
UniRef90_L0J6Q8	G S G A I Q G A R L A G A E K	I V V D I V E S K R D K A F Q F G A T H F A P		
UniRef90_R7SBS4	G L S I L Q G C K A K R C R	I F A V D T N P K K E E W A K K F G A T D F V N P		
UniRef90_W7QZC4	G L N V I Q G A K L S G A A K	I A I D I N E E R I E Q A K F G A T H G V I A P		
UniRef90_J1ZR91	G N A A I A G A S V A G A R R	I A I D D D R K L D G A T R F G A T H T V N S P		
UniRef90_J3MN28	G L A V A Q G A R M R G A K	I G V D I N A D K F E I G K R L G I T D F V N P		
UniRef90_L7K4H3	G L S A L Q G A R I A G A A E L	I V V D I N D G K E A W A Y K F G A T H F A P		
UniRef90_V7B9M5	G L A V A E G A R L C G A T K	I G V D I V P Q P G R Q E L L A R G F G A T H F A G P		
UniRef90_UPI0001890AF6	G L A V A E G A R L C G A T R	I G V D I V P N P E K Y E I G K K F G L T D F H V P H G S P		
UniRef90_A0A024U2X4	G L A V I Q A A K K A G A N R	I F A I D P N T S K F A M A Q E L G A T D C I D P		
UniRef90_F2A557	G M A A T T M A A K I A G C A T	I V I D I N D E R L E L S R E L L G A T H T I N A P		
UniRef90_W0PEJ9	G L N A V M A A R I S G A E	I G D I N E S K F S L A R E L L G A T H T L S A P		
UniRef90_J2TFG1	G L A A I I G A T M A K A G R	I A I D I N P A K F E I A R Q L G A T D F I N P		
UniRef90_UPI00029A550F	G M S A L I A A K L G P R M	I A V D V T V E K L A M A K L G A T H T I N A P		
UniRef90_R5EZX6	G M S A I M A A H L C P C K N	I A V G G N E E S L V L A K E L G A T H T I N R S P		
UniRef90_B7S306	G I N S V Q G A V H C E A S R	I A L D L D E K L E L A R Q F G A T H T V N S P		
UniRef90_W5TPS5	G Q S V I Q G A H I A G A A T V	I A V D V P M A G R E A S V G A T H T V D P P		
UniRef90_W7S963	G M A A L L A A R A A G A A R	I V A V D I V A T K R D L A A R L G A N H V L V G P		
UniRef90_I6T4X4	G L A A I I G A R M A K A S R	I A I D I N P D K F D K A R K L G A T D L V N P		
UniRef90_V4J4Z1	G L S A L L A A K L S Q P T K	I A I A V D V N P D K L A A L K Q G A T H C I N S P		
UniRef90_UPI0003EBC68C	G L A A V M G C K A A G A K M	I A V D I N P D K F E K A R E F G A T D F V N P		
UniRef90_C1BC51	G M N A L Q G A R I A G A R M	I M A V D P V E F K R T K S R E F G A T H T A S S		
UniRef90_UPI00037E32E5	G L A S M M A G K I S G C T K	I V A V D I V P E R L D L A K E L G A T H V V N S S		
UniRef90_UPI0003B30847	G M A A I Q G A Q L A G A T T	I A V D I D D A K L E Q A K T L G A T H T I N S S P		
UniRef90_C2SNE6	G L S G L M A A K I A G C T T	I A I D I H D S R E L L A K E L G A T H T I N G P		
UniRef90_H5TZY4	G D A A I A G A R I A G A T K	I A I D R D P A K L Q W A T E L G A T H T I N G P		
UniRef90_H3E6G5	G L A V I M G A K A V G A K R	I V A D L L E K K F D A A R A F G A T D C V S P		
UniRef90_D2AYW6	G L S V I Q G A R I S G A T T	I L A I D P L E S K H E L A K K V G A T H A I T P		
UniRef90_G2INX8	G L S A V M A R L V G A R R	I V A V D I N Q E R L D L A L E L G A T D V R A G		
UniRef90_C4X945	G L S A I M A A K I T G C S Q	I A I V D I N P A S R L A L A G E L G A T H Q I N G P		
UniRef90_UPI00035F7318	G I N A V Q G A A H H A G A K Y	I V A V D P V F K R D T L A L K F G A T H V F A S		

QUERY	90	100	110	120
UniRef90_V8NJM6	Q D Y K K P   Q E V L T E M S N G G   V D F S F E   V I G R L   D T M V T A   L S C C Q			
UniRef90_M7B4H8	Q D Y K K P   Q E V V L E M T G H G   V D Y A F E   V V G C L   E T L T A A   L A S C C H			
UniRef90_UPI000350CBF9	Q D F K K P   Q E A L V E L T D G G   V D Y S F E   C I G N V G   M R A A L E S C C H			
UniRef90_W5N335	R D F Q K P   Q E V L T E M T G Y G   V D Y S F E   C I G N V T L   M R S A L E S C C V			
UniRef90_UPI000344503D	N D H S R P   Q E M L I E M T N G G   V D Y S F E   C I G N V T L   M R S A L E S C C V			
UniRef90_F7BAG0	Q D F K K P   Q E V L F D M T G A G   V E F C F   V I G N P   E T V E A A   L A L C H			
UniRef90_Q43300	L D Y K K P   Q D V V L I E M T D N T I   D F S F E   V I G R L   D T V T A A   L L S C N			
UniRef90_DOLH69	L D H A K P   Q E V I A E K T D G G   G V D Y S F E   C I G N V K   A M I Q A F E S C H			
UniRef90_R4GBP0	K E V D D V   V I A H I V D I T G G G   A D Y S F E   C I G N V E   V M R Q A L E E C C H			
UniRef90_UPI0002628E7F	L D F K K P   N E V L F D M T D G G   V D Y S F E   V I G R T   D T T M M A A M T S C N			
UniRef90_H2S2S1	K D Y D L P   H Q F I V D L T D G G   V D Y S F E   C V G N V E   L M R S A L E E C C H			
UniRef90_Q0C4Q4	K D H D K P   S Q V L S E M T N G G   V D Y S F E   C V G N V A   V M R D A L E E S C V			
UniRef90_G7J5N1	K N V S D V V   A H I V E L T G G G   A D Y S F E   C D T G N T T   V M R Q A L E E C C H			
UniRef90_Q96533	K D H D K P   Q Q V I A E M T N G G   V D R A V E   C T G S I   Q A M I S A F E E C V H			
UniRef90_F6YVG3	R H F K K P   Q Q V V V E M T G A G   A D Y S F E   C I G N V S   V M R A A L E E C C H			
UniRef90_R4GCE1	D D F K K P   N E V L V E I T G L   G V D Y T F E   A I G L V I E   T V T A A L L A S S H			
UniRef90_F8GIM6	T A V P N I V   D A V V Q L T D G G   A D Y S F E   C I G N T K   I M R Q A L E E C T H			
UniRef90_L9KKU4	R N L K K P   Q Q V V V D M T G G G   V D F A F E   A I G L T D   T M V I R C   R A A L			
UniRef90_UPI00039CC12B	N E V D G D L   V G H L V E L T G G G   A D Y S F E   C I G N V N   V M R Q A L E E C A H			
UniRef90_B2IE9	K K I G T D I   V P Y L V D L T K   G G A D Y T F D C T   G N V K T   M R A A L E E A C H			
UniRef90_J9JZE0	L K Y E K P   Q D V L I E M T D G G   L D Y T F E   C I G N V K T   M R A A L E E A C H			
UniRef90_UPI000374BE4D	R N E E N V V   K T I I T K L T E G G   A D Y A F E   C V G L G E   I A A Q A Y G   V L R			
UniRef90_UPI00046B1660	R T L H K P   Q D I I I E L T D G G   V D F A F E   C V G E S E   V M T A V   D C T T			
UniRef90_C5BMW6	K D Y D S V V D   H L V Q M T G G G   V D Y S F E   C I G N V N   V M R Q A L E E C C H			
UniRef90_A0A037ZMY8	E D V K G D M V A H   L V E L T G G G   A D Y T F D A T   G N V D   V M R T A L E E A A H			
UniRef90_UPI0001BF6B5B	K D H D K P   Q Q V L I E M T D G G   W G I D H T F E   C I G N V H   V M R A A L E E S A H			
UniRef90_UPI0003C8CB47	R N L K K P   V Q Q V V V D M T G G G   V D F A F E   A I G L T D   T M I A A W D S C Q			
UniRef90_A0A022Q707	N E H D E P   Q Q V I N R I I T D G G   G A D Y T F E   C V G D T G M   V T T A L Q S C C C			
UniRef90_D2VLW4	N N V E N V V   Q T I I I D T L D G G   A D Y S F E   C V G N V R   L M R Q A L E E C C H			
UniRef90_M7YWH5	K A C G K P   V H E V I R E   L T D G G   V D Y S F E   C S G N V I D   V L R E A F V S T H			
UniRef90_UPI00042B5A5A	A T C G E K K V E V I K E M T D G G   A D Y C   F E C I G L A S   L M E D A F N S N R			
UniRef90_H2APT6	M T D L K D G E T I L I S M T D G G   G L D Y T F D C T   G N V H   V M R N A L E A C H			
UniRef90_D7PPJ3	K D H D K P   V Q Q V L A E M T N G G   V D R S V E   C T G N I   N A M I Q A F E E C V X			
UniRef90_D3TLQ9	N D I E D P   Q Q N Y L L E K Y D G G   F D Y T F E   C I G N V N T M R A A L E A T H			
UniRef90_F6Q9D4	K D N D K P   Q E V I R D M T N G G   V D F A F E   C S G N I   E T K T A F E S T Y			
UniRef90_A0A033UEE2	G D D D V V V   E Q V K D Y V K G G   V E Y A F E   T G V V P   P A M E V A Y K   I T K			
UniRef90_L1IV10	K D Y P D K P   Q Q V I T E S G F   G I D Y T F E   A I G R V E   T M R S A L E E C A H			
UniRef90_S7P3D6	K D S T K P   I S E V L S E M T G N T   V G Y S F E   V I G R L   D T M I D A L A S C H			
UniRef90_R0F672	A C G E K K I S E V I K E M T G V G   V D Y S F E   C V G L H S   L T E A F N S T R			
UniRef90_W6MSW9	A T L P E G V T   V L I I E M T D G G   C D Y T F D C T   G N V Q   V M R N A L E A C H			
UniRef90_D7PPJ2	K D H D K P   V Q Q V L A E X X X X X X X R S V E   C T G N I   N A M I Q A F E E C V H			
UniRef90_L9WQQ9	D D A D G V V   D A V R E   L T G G   V D Y A L E   E T T G V P   D V A E Q A T D   V L T			
UniRef90_B6TD57	K E E E K P   V H Q A I A E M T D G G   A D Y C   F E C I G L A A L M N D A F R S S R			
UniRef90_UPI0004226776	A E E N A E E K L K E   L T G G F   G V N Y A I D C T G N T N A A E S A W K G T R R			
UniRef90_M5Y2R0	A N C E N N S V E V I K E M T G G   G A D Y C   F E C V G G L I T   L M Q E A Y A C C R			
UniRef90_UPI00042B1C3A	K D L G V P   V H E R I G A M T D G G   V D Y S F E   C A G N L E   V L R E A F L S T H			
UniRef90_A8Y120	K D H E K P   I Q Q V I V E   M T E W G   C D Y T F E   C I G N T A   V M R A A L E E C A H			
UniRef90_M4BR47	R P   I Q E V L V E L T E E G F   G G L D Y T F E   C I G R P   E T M M R A A L E E C C H			
UniRef90_G3PVW9	K D H S E P   V Q R V L T Q M T R G G   V D Y A M E   C A G S P F   F M G A A L E S T S			
UniRef90_B8BT05	S K L D K P   V Q A H I V   D M T K W G   C D Y T F D C T   G I T A   V M R A A L E C A H			
UniRef90_P0CL53	A R L R K T V   Q D E L I   D M T D G G   C D Y T F D C T   G N V S   V M R A A L E E A C H			
UniRef90_F2RIT6	G R E D F A   D R V R Q L T E G R G   V E I A I E   A I G L P   R T I   E S A Y E V L A			
UniRef90_M4E8H5	M T C G N K R   V E V I N E M T G G G   G A D Y C   F E C V G S S S   V Q E A Y A C C R			
UniRef90_R8B119	S E V E D G A R A V K K   L T G G   V D Y A F E   C V G G A G P   V V E Q A Y K C L G			
UniRef90_A0A031JE44	R E V D A V   K A I K E   T G G G   V N F T L E S S G R P   E V L R Q A V D I A L S			
UniRef90_UPI0002B44138	R S G D K S   S E V I N E M T D G G   A D Y C   F E C V G V A S   L V E E A F S C C R			
UniRef90_UPI0003717160	V T S D P   V A L V K E   C G G   V D Y A F E   A L G R E S T   L Q Q A W G T V Q G			
UniRef90_G7CBY3	V E E A T A L V A E   L T R G V   M A D S V I L T   V G V R G T   M I E E G L N M T			
UniRef90_N0DZC2	K T E D A V   E K I R E   Y T G G F   G A D V V V   E A V G R P   E T Y E Q A F F A R D			
UniRef90_UPI0003640F2D	V D E A W T I V A E   L T R G Q   L A D I C   V I T T D   V A E G D Y   C P A   L S L V G			
UniRef90_U3R3L7	G N A D V P   D A V R T L   T G G G   V H H A F E   A I G L K Q T T E Q   A F A M L			
UniRef90_L0J6Q8	T S M P E A T A L V A E   L T R G V   M A D S A L I T   V G V V E   P M I N S A L D I V			
UniRef90_R7SBS4	K P D G K T   I T Q Y L I   D E T D G G   C D Y T F Y   D A T G N V D   V M R S A L E A C H			
UniRef90_W7QZC4	K R D D I D F N Q V K   A L N G G R G   A D Y A F E   C T A   P A   L G S A P   K L I R			
UniRef90_J1ZR91	R G T D P   V E A V R G L   T G G   H G A D V V I D A V   G R P   E T Y T Q G F S M R D			
UniRef90_J3MN28	N D T K T V   S E V I K E M T G G   D Y C   F E C I G S A S   V M A E A F Q S S R			
UniRef90_L7K4H3	D D D P R   Q A L T D D   P G F D V V I D A V   A R S T T   T T A A W R A A R			
UniRef90_V7B9M5	E S E D K S V   S Q I I I E M T G G G   A D Y C   F E C A G K A S   L M E E A Y T S C R			
UniRef90_UPI0001890AF6	G C E C E N K S A Q V   V I I I E M T D G G   A D Y C   F E C V G N A S   M H E A Y A S C R K			
UniRef90_A0A024U2X4	T A S N V P   I Q Q V L V   E K T K W G   V D Y T Y D C T G N T   E V M R A A L E A S H			
UniRef90_F2A557	R K L D S V   A A I R K I   V P A G V   D F S   L E C T S S P R   V F R Q A V L D C L G			
UniRef90_W0PEJ9	T S A D L   V T Q   V K D   L T N G G   V D F A F E   V S G S K A   A M Q S A V A L T R			
UniRef90_J2TFG1	K D Y D R P   I Q D V I I   E M T E G G   V D Y S F E   C I G N V H   L M R A A L E E C C H			
UniRef90_UPI00029A550F	L V Q D P   V A A I Q A L T   E M T E G G   V E Y S I   E A S G Q T R   T I E Q A F E S V K			
UniRef90_R5EZX6	K K C D C   I V S E I K K I   T E G G   A D Y A I D T S G V   P D F   V K K A L A C V K			
UniRef90_B7S306	T D Q N A A Q Q V   V I N L   S E G R G   V D Y L F V T   V G A K S A I   E Q S L G M L A			
UniRef90_W5TPS5	G D G D P   V A Q V R A L   T G G G   G A D Y T F E   V V G R P   E V L N Q A I D M A R			
UniRef90_W7S963	G P   D V V I E E L   R E L T G G G   A D K V I D T T G S E   H V L A Q A Y H A T R			
UniRef90_I6T4X4	N N H A K P   I Q E V I I   D I T N G G   V D Y S F E   C I G N V E   V M R A A L E E C C H			
UniRef90_V4J4Z1	L E V D P   V T E I Y R L   T E Q V G   Q V D Y S L E   A G G T T Q T   E Q A F E S V R			
UniRef90_UPI0003EBC68C	K D Y D E P   I S Q V L   M E M T G G G   V D Y S L E   C V G N D V   E C M			
UniRef90_C1BC51	V D E A W N V   V S E L T R G Q   L A D V   C V I T T D   V D V A E G A Y M T P   A L S L V G			
UniRef90_UPI00037E32E5	N E V D P   V A K I K   E I T N G G   V N W T I   D T T G   P T V   K S S I   S S L			
UniRef90_UPI0003B30847	K N Q D P   V E T I R E Y   T D G F   G A D L V V E   A V G H P   E T Y K Q A F Y A R D			
UniRef90_C2SNE6	A L N E D P   V A K I K   E I T N G G   V N Y S F E T   T G V N T   V T L Q S   I Q C   L R			
UniRef90_H5TZY4	A E V D D V V T A V Q D   L T D G F   G F D Y G F   E A V G K S A   A M T A W Q A T R			
UniRef90_H3E6G5	K E C P   E G F   Q A W L V E   K F D   G G F   D Y T F E   C V G R V E T M R Q A   E E A H			
UniRef90_D2AYW6	D Q   L M D A V G S L   T G G R G   F D Y G F   E A V G K S A   A M T A W Q A T R			
UniRef90_G2INX8	D G E N   V A Q Q I R A L   T G R G   G M D Y T   L N T T V A V H   T M A L E E C L S			
UniRef90_C4X945	K E Q D A V   A V I K Q I T G K G A   H Y A V E T T G V S A   V L Q A V H A V K			
UniRef90_UPI00035F7318	A E   A A A E K I T E L S W G Q G A D Q A   I C V G T V D   E V V T S A F S A			

130            140            150            160

QUERY	E A Y G V S V I V G V P P D S Q N L S M N P M L L L S G R T W K G A I F G G F K		
UniRef90_V8NJM6	M G C G M C V V I V G M P P L G T K F S L D P M L L I T G R T I K G S F I F G G W K		
UniRef90_M7B4H8	K G W G V S V I V G V A A S G Q E I S T R P F Q L V T G R T W K G T A F G G W K		
UniRef90_UPI000350CBF9	M S T G V C V C V V G E A P S G S V V P M D P L L F S G R T C K G T L I G G W K		
UniRef90_W5N335	K G W G V C V I V G V T E L N D I S T R P M Q L L N G R T W K G S L F G G W K		
UniRef90_UPI000344503D	E S H G V C V V I V G V F L A G V R L N I S G L L F S G R S L K G T I F G G W K		
UniRef90_F7BAG0	D A Y G V C V V I V G V P P G S Q T I S I D P L L L L T G R T W K G A V F G G F K		
UniRef90_Q43300	D G W G V I A V L V G V P H S D A V F Q T S P L N F L T E R T L K G T F Y G N Y K		
UniRef90_DOLH69	K G W G T S I I I G V A G A G E E I C T R P F Q L V T G R N W R G S A F G G A R		
UniRef90_R4GBP0	I N Y G T S V I I V G V P P S A S E I T F S P G L I F S G R N W K G S L F G G W K		
UniRef90_UPI0002628E7F	K G W G Q S I I I G V A G S Q E I S T R P F Q L V T G R I W R G S A F G G V K		
UniRef90_H2S21	K G W G M S V V V G W T D K D N F S A R P I Q L I V A G R T W K G S L F G G F K		
UniRef90_Q0C4Q4	R G W G T S V V I I G V A E S G K E I S T R P F Q L V T G R N W R G T A F G G A K		
UniRef90_G7J5N1	D G W G V I A V L V G V P N K D D A F Q T H P M N L L N E R T L K G T F Y G N Y K		
UniRef90_Q96533	K G W G T S V V I V G V A A S G Q E I S T R P F Q L V T G R V W K G T A F G G F K		
UniRef90_F6YVG3	L S Y G V C V V V G V A P F K A R L A F N P M L F L S G R T L K G G S S G E W K		
UniRef90_R4GCE1	M A H G V C V V V G E P P A G S H L S V D P V L L I T G R K L L G C C M G G F R		
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UniRef90_W5N335	S L D S V	P Q L V E D Y M A K K
UniRef90_UPI000344503D	S R E S I	P K L V S D Y M A K K
UniRef90_F7BAG0	S K D D V	P K I V S D V L S K K
UniRef90_Q43300	P R S D L	P G L V E M Y   L A K K
UniRef90_DOLH69	G R R D V	P K I V D W Y M D G K
UniRef90_R4GBP0	S K D S V	P R L V S D F M Q K K
UniRef90_UPI0002628E7F	G R S Q L	P G Y V N   L Y L Q G
UniRef90_H2S2S1	S K D G V	P Q M V K A Y   L D K K
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UniRef90_G7J5N1	P R T D L	P N V V E K Y M K G E
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UniRef90_D2VLW4	S R D D V	P K L I E D Y M N G
UniRef90_M7YWH5	G K S Q L	P P L L V D Q   C M Q G E
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UniRef90_D7PPJ3	P R T D L	P N V V E   L Y M K K E
UniRef90_D3TLQ9	S G S D V	P K L V E E Y M R
UniRef90_F6Q9D4	G R D D I	P K L V G D Y M A N K
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UniRef90_H3E6G5	V R R D F	P F F A E   L Y K A G K
UniRef90_D2AYW6	P R T F L	P M L I D Y W K Q G R
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1            10            20            30            40

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

50      60      70      80

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90                    100                    110                    120

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UniRef90_UPI000381CD4B	R G E P V V E R I Q A I T G F G V D Y S I D T T A N L K V M R Q A V D V L A		
UniRef90_UPI00037E4D3D	D K E D R V A E Q V K G M T A G R G A D Y A F E C T A I P A L G A A P L A M V R		
UniRef90_C9YXA0	S R T D A V E A I R D L T G G F G A D V V V D A V G R P E T F R Q A F Y A R D		
UniRef90_W5TB78	R A G S V D T V A A V R E L T Q G G F G V D Y S F E A V G L A T V E Q A F A M L G		
UniRef90_E3IZ96	M A E A T D L A R G F T N G Q Q G A D A A I V C V G V T R P E H I A A G V A A I R		
UniRef90_U2J5L3	K K E D V T T R L K E I A P K G F D Y G F D T T G I P E V I Q N S L A T L A R		
UniRef90_UPI00034C2B49	G D G A V E A V R E L T G G G A D K V I D T T G S A A V L A Q A Y A A T R		
UniRef90_N1QNB4	A K D L K E G E N I L I E M T D G G C D Y T F D C T G N V H V M R S A L E A C H		
UniRef90_F4ATD3	V D F L Q Q M R D L V R E M T D G R G A D Y A F E C T A I P A L G S A P L A L I R		
UniRef90_ES644	K E I P L R D R L L E L S G G G L D Y T F E C I G N T N C M R D A L E T C H		
UniRef90_D6ZH77	K K E D P V E A V R R I T G G G V D K S F E A I G F T E T T M K Q C W D M L A		
UniRef90_X0MN95	E E L A D A K G R I T A G E G F D Y V F E V V G K S A T A R T A Y E A T R		
UniRef90_M3DZJ6	S K F D K P I Q E V I V E M T D G G V D Y S F E C I G N V D V M R S A L E E C C H		
UniRef90_UPI00045E664F	R T G D V V E A T R A L T Q G R G A D V V L E S A G S P I A F R A T V E A V		
UniRef90_UPI000365F1AC	S Q Q K A T K A V Y G L T G G R G A D V V F V T V G A K S A L E Q G F K L L G		
UniRef90_S5USV2	T E G V R D V L P T G A D H V F E C V G R V E L V H R A V D L L D		
UniRef90_R9XVE6	K D H S K P I Q E V L V E M T D G G V D Y S F		
UniRef90_I0S3I2	A E V D V V S A V R D L T G G I G V D H A I E V V G T P V T □ R A A Y D A T R		
UniRef90_H5UKS8	S D I A E A A T L L Q D L T W G A M A D V V V I S I D M H G S A L A P A M S L L		
UniRef90_L8A1W3	R E D D A V S A V L D L T D G I G V D Y A F E A I G R P E T M A D A Y N M T R		
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UniRef90_UPI0003636224	R D K E V V E K I K L A A T D G G V D Y A F E T A G A V I P A M E V A Y A I T R		
UniRef90_UPI000378BC0B	T D G A P W D A A K A A M G R G A D A V F V T V G A A R A R A Y D E A P R Y L A		
UniRef90_H5X3Z0	A D A A A A H D F V V E A T W G Q L A D H A I C T P G T E D V V N A A V Q V T G		
UniRef90_UPI00036C5DE9	E D A A R L I A E A S G D G V D V A I E A V G S A G V I A S C L E Q V T		
UniRef90_UPI000414C099	A T E D S V D V V K S L T G G R G V D V V I E A A G K A D A Q R L A L E L S R		
UniRef90_X0RAV6	H D A A Y S F I K Q T T W G R L A N H A I I T V T D H T A E I T N Q A M S I I G		
UniRef90_W9H2M8	G A P D V E A R I K E L T G G G V D Y A F E M A G S A P A L E M A Y R I T R		
UniRef90_G7CEG9	M A E A T A L V G D L T R G V M A D S A I L T V G L V E G P M I G E C I D I		
UniRef90_O9331	N D Y K E P I H E V L A K M S D G G L D Y T F E C I G N T K V M		
UniRef90_Q8WNN3	Q D Y K K P I Q E V L K E M I W R V D F S F E V I G R L D T M		
UniRef90_M3V9U3	A E E A Q E K V T E L T W G Q G A D A A L I L V G T V D V P V V Q A A T A V		
UniRef90_Q1AV61	A E T D A V K A V K E I T G G G G A D F S L E T T A V P A V L R Q A I D A L G		
UniRef90_UPI00037C0E86	G A D N A V E Q L R E L T G G G V D H A L E M V G S A R A L E F A Y R V T R		
UniRef90_A9UXC5	H D H E D P I Q Q V L I Q E T K W G I D Y T F D C T G N T D C M R A A L E S S H		
UniRef90_V4TBQ5	D D E P N I S E L V K G I T H G M G V D Y C F E C T G V P S L L S E A L E T T K		
UniRef90_U5H698	S T E D V Q A R I K E I T Q G E M L D Y A V E A S G V K A C M Y A A W S F L A R		
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UniRef90_S2W127	G D S N V I E Q I F A A T D G R G V D I K S F E A L G I V P T M E T A I A A T R		
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UniRef90_K9NGU9	R D G D A A K Q V M E L T R G G V V H H A F E C I G L K Q T A E Q A F A M L A		
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UniRef90_I2N0C8	A E A A V R D V L P T G A D H V F E C V G R P P L I R T A I D L L		
UniRef90_N4V811	S D M A Q V T E R I K E A A E G L G S T V S I D T S A Y P P L L A A Q L D G T R		
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UniRef90_UPI00047E9EC5	V A E A L P Y I H E R T E W Q G Q T D A T I T V D R A M G D I I A E A F R T V A		
UniRef90_M2ZA62	A D A D E A M T L V E S I T N G R L A D R A V I T V G V G E G K L I Q G M Q A V		
UniRef90_K7T2H3	Q D Y D R P I Q D V I V E L T D G G V D F S F E C I G N V N V M R S A L E C C H		
UniRef90_UPI00035EC4A9	S A V D P V A A L R T L V P E G L D Y V F D A I G K I A T T E Q A I A A L G		
UniRef90_UPI0004449C7D	S T L P E G I Q D Y L V E I T D G G L D F T D G T G N V H V M R A A L E A C H		
UniRef90_A9NRL9	S K V N V V D T I K E I T G G R G V D I A V E A L G K P E T F M Q T A L S V M		
UniRef90_W1JXN7	R Q T D P V E T I M R I T G S G L N F T L D T T G L P A V I R N A V E S L G		
UniRef90_UPI0004788BC1	N D Y D K P V Q V L V E M T K W G V D H T F E C I G N V N V M R S A L E S A H		
UniRef90_A0A059A193	U N D Y D K P V Q V L V E M T K W G V D H T F E C I G N V N V M R S A L E S A H		
UniRef90_A9SM2	S K L P E G E D A V K A L T D G G G A D Y T F E C T G N V H V M R A A L E A T K		
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UniRef90_D8IYV5	I G E A A D F A R T V T D G Q G A D K A I V T V G I T A G E H I A Q A F D A I R		
UniRef90_W0P9R9	R D P D A V E K V R A L T T R G G V D Y A F E M A G S V Q A M E A A Y R M T R		
UniRef90_UPI00034B9C20	T D P D I V P R E K I K E L T T R G G V D Y A F E M A G S V Q A M E A A Y R M T R		
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UniRef90_R4Z2S7	S D T T A R E V R K L T S G R G A D V A V E C V G R A L S I R T A W D S T R		
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UniRef90_M2YRV2	A E G V D V V A V R V R E L T G G L G A D V V V D A A G S E Q T W R Q A F Y A R A		
UniRef90_A6FPP8	M A E A A E I A R S V T N G N G A D K A I I T A G L V T E E I I S E T F D A V V G		
UniRef90_S7N4P2	S D P K P W R A A K A A M G R G A D A V L V T V G A A A V Y D A A P R Y L A		
UniRef90_A3SSE2	E D F K K P I H E V L K E M S G G G V D F S F E V V G R G L D T M L A A L E S C H		
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130            140            150            160

A F G S	L I I	V G V T P E G Q N L S F D P N I L F F G R Q I	L S G S L G G F K
D D W G V	A V L V G V P S K D A I F K T N P F N S L D E R T L	E G T F L G T T N	
L A G T V V L V G V P T P D M R L D M P L V D F F S H G G A L	K S S W Y G D C L		
K N G R C V V T A M G H M A D M D V K L N T F L M M L Q K D L	K G N I F G G C N		
K G G T C V V T A V A N M A S S D V T L N S M L T L L Q K N L	Q G T I F G G G N		
T K G S F V I I G G P P Q G Y E M K F D Y V Q H L F R G I K	V F G C V E G D S V		
K G T V V L T T G L N K L T E Q N V Q L P G A I M L F K K T	V K G T L F G D C N		
P R G T C G L V G A S K M G D E L A L D A V A V M S G G R V	V R G V V E G D A D		
N A G V A V Q V S G I	E E I T V D M R L F E W D K I Y I N P L Y Q G C R		
L A G T A V L V G V P T P E L K L E L P L L D V F G R G G A L	K S S W Y G D C L		
P G G T A T V V G L V P D S Q P I S L R A S E L F L L E K R L	Q G A L M G S N Q		
K A G T C V L V G L G R A D E D L G I P V S D L V L F Q K R I	Q G S L F G A S S		
S H G K M G I V G V A K R P L E L E M N S F V A T G L Q I I G I V E G D S V	G		
P G G T T V V T V G L P H P D R T L S I P A V T L A A Q E R T L	R G S Y I G S G V		
K G W G E S I I I G V A A A G Q E I A T R P F Q L V T G R V	W K G C A F G G V K		
N A G T A V Q V S G I	E E Q R I I D F N C L F E W D K I Y L N P L Y G K C N		
K G W G V S T I I G V A A A G Q S E I S T R P F Q L V T G R T	W K G S A F G G W K		
Q G G T A Y C I G L A K P D A T I S I D P I N L L F M Q R G F K G V W M G A T N	W M G A T N		
R G G T L C V V G A G A M D D T F Q V I N M F E L L F F D E K R I L P S L Y G G A D	R G G T L C V V G A G A M D D T F Q V I N M F E L L F F D E K R I L P S L Y G G A D		
K G W G E S I I I G V A A A G Q E I A T R P F Q L V T G R V	W R G S A F G G V K		
R P G G E V I W L G K I D V T T D V S F R W G S L M A E K R I I R R V S Y G G A R	R P G G E V I W L G K I D V T T D V S F R W G S L M A E K R I I R R V S Y G G A R		
R G G T L V V V G M T A N G V K I E F D S C K F A S I E Q R L L G S K M G S T R	R G G T L V V V G M T A N G V K I E F D S C K F A S I E Q R L L G S K M G S T R		
R H G Q A V L L G M P P A G A E A S F V V S A M F L D K A I L G C R Y G S S R	R H G Q A V L L G M P P A G A E A S F V V S A M F L D K A I L G C R Y G S S R		
R G G T V V T I V G A A D I E E A V T F S A L S L M A D G K T I	R G S V Y G A S D		
G K G G T C V Q V S V G D P T E S A V D L R L I D L T R K T I	T G S W Y G N A N		
K A G T T V V I V G I A A P H E T V E I N A F S L P S Q S K T I	T G S W L G Q G N		
V G G G L C T I I G V N I D G D K G L N I S A V E L L M G R T I	T G T S F G G W K		
R G G T T V V T T G L P H P E R H F S F P Q V T L A A E E R T I	K G S Y I G S C V		
Q G G R V V M V G M P A V G A V S H Y E A T D V A A A S Q S L	V G S K M G D T V		
K A G K V V T V T A V G K L E E K A V H V P A M L I G Y Q R Q I	R G A L F G D S N		
R G A V V S V G L P H P S A Q L T V P A L Q F Q A G G K R L	L G S Y M G D A V		
R A G T V V V Y S G L D H S G T E V T L P Q I P M T V Q S R Q L	L S T Q N G N V R		
K V G S V V V V A T G R H G E N Q L E M N T Q S L K F Q Q R I	Q G V M F G N C N		
R G G T T V V S S G L A N P T K M M S I P A V S L V G E E R T L	K G S Y I G G G V		
I R K G G A V V L T G I A D V T P T L P M A M F T L F Q K R I	L L G S L Y G E A N		
I G K G G R V V V I T G L A D P T K L T V Q V D L T L N Q K T I	M G S L F G S M N		
P L G T C V G I V G A R A R L G T E A A F D M N D V L V P G K T I	T R G I V E G D S V		
R G G T T V V T V G L P A S S Q N L S T P V W H L V A E E R T L	K G S Y I G S C V		
R G W G K S C V I G V A A A G H E I S T R P F Q L V T G R W W G G T A F G G Y K	V G K G K V I V I G V G V D A M V P L N V I A L A C G G R I L K G T T F G G I K		
V G K G K V I V I G V G V D A M V P L N V I A L A C G G R I L K G T T F G G I K	H G K L C Q I G V F P K G T E V S L D I N A T Q V R H L T F I G N V E G A S H		
K A G T C V V T G L G K M E D V G L P I L L E L T L Y Q K R I Q G S L F G A S A D	K A G T C V V T G L G K M E D V G L P I L L E L T L Y Q K R I Q G S L F G A S A D		
Q G G V Y V A V G V F K P E M E W T I N P L N E F F V H R R H I H A V Y M G N T D	Q G G V Y V A V G V F K P E M E W T I N P L N E F F V H R R H I H A V Y M G N T D		
P T G T A C L V G I A P E G T E L T L P A S D F F F G E K R L I	G S Y M G S G Q		
R G W G V S T I I I G V A A A G Q E I S T R P F Q L V T G R R W I G S A F G G A R	R G W G V S T I I I G V A A A G Q E I S T R P F Q L V T G R R W I G S A F G G A R		
R G G K I L Q V G L A K Q E D K W D I S M P V H M N S G K Q I I G C V Q G D A V	R G G K I L Q V G L A K Q E D K W D I S M P V H M N S G K Q I I G C V Q G D A V		
R G G T A T V I G M L K P G L K I E L D P L Q L L H E R R I	Q G S L F G S N R		
K G G T C V I T G M S P Q T L T S I D I N M Q D F L L M N K T I	C G T V L L G S M N		
D R G G Q A I I L L G M T P P S A E T F A P G M F L D K S I I L G C R Y G T S R	T R G I V E G D S V		
Y M G K V I Q V G T G M P D G N I S I H M Q S F M V S G K Q Y F G A V Q G H V K	Y M G K V I Q V G T G M P D G N I S I H M Q S F M V S G K Q Y F G A V Q G H V K		
S L G T C A F V G T A P P G A T G G I V M L E A M T R G L I T	T R G V L Q G D S T		
K V G T G T V V F I G A G G V E K S G E L N Y I P L L C G R T V K G S I Y G G V R	K V G T G T V V F I G A G G V E K S G E L N Y I P L L C G R T V K G S I Y G G V R		
R G G A A V F I G L P P A T S E L T L P A V A F V G E S K S A I G S Y M G S S N	R G G A A V F I G L P P A T S E L T L P A V A F V G E S K S A I G S Y M G S S N		
K S G S C V L V V A L G P D T E I I P I H P Q E L L Q T M S R S L K G V M F G D C N	V R K G G G V I V C T S A A P A L Q T E I S L D L L M S G K R F Q G A L F G S C A		
V R K G G G V I V C T S A A P A L Q T E I S L D L L M S G K R F Q G A L F G S C A	K G W G E S V I I G V A G A G E E L A T R P F Q L V T G R V W R G S A F G G V K		
Q G G A A V I V G L P P T G S T A R F D P L A L A E A D Q R I L G S N Y G S V V	Q G G A A V I V G L P P T G S T A R F D P L A L A E A D Q R I L G S N Y G S V V		
K G W G V S T I V I G V A A A G Q E I S T R P F Q L V T G R V W R G T A F G G V K	K G W G V S T I V I G V A A A G Q E I S T R P F Q L V T G R V W R G T A F G G V K		
D G G K A V M I G L A A S G A K A E I D I T R L V R R Q I K I L G S Y G G R	D G G K A V M I G L A A S G A K A E I D I T R L V R R Q I K I L G S Y G G R		
P R G T C G I L G A S R P D A E I V L N E T H F M S G G R R L I G I V E G N S D	P R G T C G I L G A S R P D A E I V L N E T H F M S G G R R L I G I V E G N S D		
R G G G	R G G G		
E A W G L A T M I G V A G K G E T L D I V P R F L I T G R R V T G S S F G G V R	E A W G L A T M I G V A G K G E T L D I V P R F L I T G R R V T G S S F G G V R		
V G K G K A V V L G A G P T H V L E I N F M G L M M G R T L K G T I F G G L K	V G K G K A V V L G A G P T H V L E I N F M G L M M G R T L K G T I F G G L K		
D G G R A V V M I G L A P W G A T A D I E I T R L V R R Q I R V Q G I I V G S R E	D G G R A V V M I G L A P W G A T A D I E I T R L V R R Q I R V Q G I I V G S R E		
R F G G H I S L I G V L S G R T G E I D I A P V L M Q N I R V Q G I I V G S R E	R F G G H I S L I G V L S G R T G E I D I A P V L M Q N I R V Q G I I V G S R E		
I G C G T T V V M L G I H S S P K L L P L H P M E L F S G R K V V A S I F G G F K	I G C G T T V V M L G I H S S P K L L P L H P M E L F S G R K V V A S I F G G F K		
K A G T V V V V T G I G D M S G K I P I N P W M L T M M Q K R I Q G S L F G S S N	K A G T V V V V T G I G D M S G K I P I N P W M L T M M Q K R I Q G S L F G S S N		
R G G M T V T A G L P A P G Q H W A L Q Q V S L V A E E R T V K G S Y I G S C V	R G G M T V T A G L P A P G Q H W A L Q Q V S L V A E E R T V K G S Y I G S C V		
K G G E I I G V G L A G S G D L Y S D H A Q L V A E E R T V K G S Y I G S C V	R P G G T T V M V G S P P P G A E A A V P A G A L F F A S R R L M G C Q G G D A S		
K G G E I I G V G L A G S G D L Y S D H A Q L V A E E R T V K G S Y I G S C V	K A G T V V V L T G L G N I T E A G A P I L G D L T L M Q K R L Q G S L F G E S N		
R G G R T T V V G I G G K D Q Q V T F N A L E I F H W G R T L S G C V Y G N C D	R G G R T T V V G I G G K D Q Q V T F N A L E I F H W G R T L S G C V Y G N C D		
T G K G G T V V V T A M V D E D A K L N M F M L S M M N K E I K G T V F G S A N	T G K G G T V V V T A M V D E D A K L N M F M L S M M N K E I K G T V F G S A N		
L G G T F V L V A R P D A S M R L E L P L L D A F L R N G T Y R T S W Y G D C L	L G G T F V L V A R P D A S M R L E L P L L D A F L R N G T Y R T S W Y G D C L		
K A G T M V I T G L N Q L A N R N I V L P A V L T L W N K S I K G S L F G E C S	K A G T M V I T G L N Q L A N R N I V L P A V L T L W N K S I K G S L F G E C S		
G G G K V I M V G M P P S G A T A E Y E P V S F A Y T G Q S L I G S K M G E V V	G G G K V I M V G M P P S G A T A E Y E P V S F A Y T G Q S L I G S K M G E V V		
E A Y G V S V I V G V P P D S K N F S V N P M L L L G G R T W T G T V F G G F K	E A Y G V S V I V G V P P D S K N F S V N P M L L L G G R T W T G T V F G G F K		
A G G R V V M V G M P H I G D G A T Y D P G T F A A M G Q G T V V G S K M G D V V	A G G R V V M V G M P H I G D G A T Y D P G T F A A M G Q G T V V G S K M G D V V		
K G G Q T I V V V G M G D F Q A M D V K L N L F D L L M Q K K V Q G A I F G G A G	K G G Q T I V V V G M G D F Q A M D V K L N L F D L L M Q K K V Q G A I F G G A G		
R A G G H I S V I G I L T G V A G E F P I V T A L V K Q L R L Q G V L V G N R R	R A G G H I S V I G I L T G V A G E F P I V T A L V K Q L R L Q G V L V G N R R		
A G G G V V L V G M P A T G A L A A F D P G T I A N L N Q R V L G S K M G T V R	A G G G V V L V G M P A T G A L A A F D P G T I A N L N Q R V L G S K M G T V R		
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UniRef90_E4WJ11	A R V D I P N L L N L Y R A G
UniRef90_I4BPM2	P H F D I P Q L L S M Y K A G R
UniRef90_F9XPU1	P E K F I P E M I A Y Y R E G K
UniRef90_UPI00036D72E8	P T T D I P K I L G M Y Q S G
UniRef90_UPI000381CD4B	P D T F I P E L I D L H L A G R
UniRef90_UPI00037E4D3D	P E I D F P K L F D L Y Q K G
UniRef90_C9YXA0	P S R D F P A L I D L Y L Q G R
UniRef90_W5TB78	F P T D I P P G Y V R Y Y E Q G R
UniRef90_E3IZ96	P S K D I P A M L A L Y Q Q G R
UniRef90_U2J5L3	P N V F I P R L V D M Y M N G Q
UniRef90_UPI00034C2B49	P A R D I P P A Y I A L Y R R G
UniRef90_N1QNB4	G R S Q M G G L V Q D Y M D N K
UniRef90_F4ATD3	P Q V D F P A L L D L Y C S G Q
UniRef90_ESS644	S R E S V P K L V E D Y L R K K
UniRef90_D6ZH77	P K H D I P P Y Y A D L A V D G R
UniRef90_X0MN95	V L R S Y E R A I A L W R A G R
UniRef90_M3DZJ6	G R T E L P G M V K D F M N G
UniRef90_UPI00045E664F	P A R D F P F L A R A A L A G R
UniRef90_UPI000365F1AC	L T T D I P P W Y I S L Y Q Q D R
UniRef90_S5USV2	P Q R D I P P Y A E L Y R Q G R
UniRef90_R9XVE6	
UniRef90_I0S3I2	P A R D I P P V L V E L A L R G R
UniRef90_H5UKS8	P R S D I P P M L L R L Y M D G K
UniRef90_L8A1W3	P P V D Y P K L L D L Y A A G K
UniRef90_UPI0003C83EE0	G M K S V P K L A A D Y K N K K
UniRef90_UPI0003636224	P Q R D I P P R Y I E L F K Q N R
UniRef90_UPI000378BC0B	I R R D I P P W L A D L Y L Q G R
UniRef90_H5X3Z0	P L Y D I P P R L L D L Y R A G
UniRef90_UPI00036C5DE9	P A R D I P P Q Y L A F W R E G R
UniRef90_UPI000414C099	M R R D L P P R L I T L L E R G
UniRef90_X0RAV6	P L A D I P P R L A D Q Y K R G
UniRef90_W9H2M8	P K R D I P P R Y I R L F K K G K
UniRef90_G7CEG9	P R A D I P P R L L S L Y R E G K
UniRef90_O9331	
UniRef90_Q8WNN3	
UniRef90_M3V9U3	P Q Y D I V R L L R L Y D A G E
UniRef90_Q1AV61	P D V F I P R L V K L H A Q G R
UniRef90_UPI00037C0E86	P R R D I I G R F V A L Y R Q G K
UniRef90_A9UXC5	S R S E V P K L V E S S M K G E
UniRef90_V4TBQ5	T K S D L P T L L D K C K N K E
UniRef90_U5H698	P P V F I P P Q L I E L R K A G
UniRef90_E9T4L4	P S A D I P P W M V E M Y K A G K
UniRef90_S2W127	I K T D I P P Q Y V E F Y Q Q G R
UniRef90_UPI0002FABA48	A R E D I I A Q F A R L Y Q Q G R
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UniRef90_V9DDC0	P Q E Y I A K M I A W F K A G E
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UniRef90_K5BIX7	P R S D V P M L L E L Y R T G Q
UniRef90_I2N0C8	P Q H D I A L Y A D L Y A R G E
UniRef90_N4V811	T R D Y I I P Q M I N W W R D G K
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UniRef90_E5XQX2	P Q E D I P P F L I G L W K Q G
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UniRef90_M2ZA62	P R N D I P P M L L D L Y M R G
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UniRef90_UPI0004449C7D	G R T E L P P G L V E D Y L N G
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UniRef90_W1JXN7	P A V F I P P E L I D L Y R S G R
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UniRef90_UPI0002B4CB59	G R T Q L P P H F A K Q C T Q G
UniRef90_W8HMQ5	P F A D I P P R Q I R M Y Q N G Q
UniRef90_D8IYV5	P V R D I P P R Y I G L F Q A G K
UniRef90_W0P9R9	P A R D L P P L Y V D Y F Q T G R
UniRef90_UPI00034B9C20	P H R D L P P R L V D L Y R A G R
UniRef90_UPI00026259DC	P R R D I P P N L L R M Y Q A G Q
UniRef90_UPI0003C75DF3	P D R D L P P V L A D H V R A G R
UniRef90_R4Z2S7	P R N Q L P P N L L A M Y Q A G K
UniRef90_C6WMW5	P S R D F P P L V E L F L Q D R
UniRef90_M2YRV2	P T R D I P P H L L N L Y Q T G E
UniRef90_A6FPP8	I S R D I P P W M I D M Y G Q G R
UniRef90_S7N4P2	S K D S V P K L V T D F M A K K
UniRef90_A3SSE2	I Q R D I P P W M V D L Y A Q G R
UniRef90_G7H732	P R T Q V P K L L N E Y R A G
UniRef90_I4Y150	Q Q Q D M V R A I D
UniRef90_A8TQB2	L E R D V P P A L E L Y R A G R
UniRef90_I3CYA0	P H L D I P P R Y T R L L D T G R
UniRef90_W9BXQ8	M F E A M N R A I A L H K
UniRef90_D7PPI5	P R T D
UniRef90_W7KXP8	P R V D M P R L L E M V R L G K
UniRef90_A0A023X0E5	T F R E M N R A I S L
UniRef90_Q9FYZ0	
UniRef90_UPI00036C8DF5	P Q D F I P P R L V H L W R Q G K

1            10            20            30            40

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UniRef90_S7ZS13	A S L L G C A V L T G G G A V L N A G A P K P G Q T V A V V G M G G V	
UniRef90_A6V9N0	P F P S A A I V G C G V M T G Y G S V V N A A K V K A G S S V V V L G T G G V	
UniRef90_A0A010NCU5	P L R E A A L L G C G V A T G W G S A V E I G D T H T G D T V V V I G I G G V	
UniRef90_W9ARN2	P F D I G A L L G C A V T T G V G A V V N T A G V R P G E K A A V I G C G G V	
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UniRef90_UPI0003617FAD	A P L E K V C L L G C G V P T G L Q G A V W N T A K V E S G S S I V A V F G L G T V	
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UniRef90_C7ZHP5	D E Q V L F L S D I L P T G Y Q A V V N G N V G P G S S V A I F G A G P V	
UniRef90_B8KQH5	T P L E L F A P L G C G F Q T G A G S I I N V L N V Q P G S S V A I S G V G S V	
UniRef90_L2TIZ8	A P L E L L G P L G C G I Q T G A G A V L N S L K P R A G S S I V I F G A G S V	
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UniRef90_M2WJ63	P I E L M G P L G C G I Q T G A G A V L R V L R P R G S S I V V F G A G A V	
UniRef90_A0A016PXR3	E A G T L S C S A L T A W N A L Y G L K A V L P G D W V L T Q G T G G V	
UniRef90_D2C3B3	E E A A T L P C A A L T A Y N A L T D G S P I R C G D T V L I Q G T G G V	
UniRef90_UPI000366307B	E E A A T L T T A G L T A W R A L V V D G G L K A G D T V L V L G T G G V	
UniRef90_V2XKC8	P L Q E A S I I A D A I S T P Y H A V K N R A Q V K P G D T V V V F G C G G V	
UniRef90_Q565X2	D E A A T L S C A G I T A W N A L F V D D G G L R P G A T V V L L G T G G V	
UniRef90_I2DTU3	P A I A C V F G C A F L T G G G A L N V L K P G P E D S V A V V G L G G V	
UniRef90_I7IXR0	L R R L C P L A C G V P T G Y G S A V N I S G I T K G T N V A I W G L G T L	
UniRef90_T1L2G1	P L A S S A L L S C A I P T G Y Y G S V A N R S N M R A G D T L V V I G V G G I	
UniRef90_H8INN1	E D V L F L S D I L P T G Y Y Q G A E M G N I Q P G D T V V V F F G C G P V	
UniRef90_S9PN53	F N E A A T L T C A G V T A W T A L F E S G P R P P G E T V L V Q G T G G V	
UniRef90_A9GJH8	P L E A A A L L G C G V A T G W G S A T A I G G T K V G D T V V V V G V G G V	
UniRef90_Q938F2	E A S T L S C A A L T S W N A L Y G L K P L K P G Q V V L V Q G T G G V	
UniRef90_B6H484	M V V Y G A G A V	
UniRef90_UPI00037E7117	A P L E T M A L V G C A V A T G V G A V M N T A A V P A G A T V V V I G C G G V	
UniRef90_UPI0003B69AE6	A P L A L V G P L G C G I Q T G A G A V L N S L D V A P G S S L V V V A G A G S V	
UniRef90_C1BB88	E E A A T I T T A G L T A W R A L V V E G G L K A G D T V L L L G T G G V	
UniRef90_F5ZDE5	P P E V I A A V L G C A V L T G G G A V I N A A K P E P G E S I V V V G L G G V	
UniRef90_UPI0004798F54	Q A S T L T C A G L T A W Q A L A E A T V T R P G D T V V V I G T G G V	
UniRef90_Q0K3W0	Q Q A T T L T T A G L T A W R A L L I Y N G G L K A G D S V L V L G T G G V	
UniRef90_Q5P8T0	D D K V L F L S D I L P T G W Q A A E Y A Q I E P G D T V A V W G C G P V	
UniRef90_W1S1A6	L R L V G P L G C G I Q T G A G A V L N S L K P D A G S T I A V F G T G A V	
UniRef90_R3WE12	D E S L L F L S D V L P T A Y W S V I N A G V K P G D T V I V L L G C G P V	
UniRef90_UPI00026CDC1	E E A A T I T T A G L T A W R A L V V D G D C L K P G D T V I V L L G C G P V	
UniRef90_C3DLPL3	D E A A T L S C V G T T T W N T L F S D G G L L P G A T V V L L G T G G M	
UniRef90_J2U4N3	D T E A A T L P C A A L T A W Y S L V E R G N L Q R G E T V L V Q G T G G V	
UniRef90_B9XD11	D D E A A S L P C A A L T A W F A L V E K G G L T A D Q T V L I Q G T G G V	
UniRef90_UPI0003B341DF	P M D R V C L L S C G V S V S W N V A N V S K G S S V A I F G L G T V	
UniRef90_K7U2E9	E A S T L S C A A L T A W N S L Y G L K P L Q P G Q V V L T Q G T G G V	
UniRef90_S3CCT2	D A Q A S T L P C A G L T A W T A L I E H G Q L R A G Q T V V L L Q G T G G V	
UniRef90_UPI000303B702	C G V V T G V G V A V L N V A R V E P G S S V L V V V G C G G V	
UniRef90_UPI00036DD3B6	D D A L V M S D I L P T S Y E I G V L P S H I K P G D T V C I V G A G P I	
UniRef90_K4PT95	E A S T L T T A G L T A W R A L V S D G N L K A G E T I V I L L G T G G V	
UniRef90_V4HUG0	D E Q V L F L T D I L P T S Y W G A E I G G V K P G D T V V V L G C G P V	
UniRef90_UPI0003FD22E8	D E Q V L F L S D I F P T G Y M A A E N A D I E P G D T V A V W G C G P V	
UniRef90_E8RVH1	P F E V A C L V G C M L T T G Y G A A V H A E G V S P G E D I A V I G I G I V	
UniRef90_G7GSQ7	P A D I A A V L G C A V L T G G G A V L N A A K P G P E D S V M V V G L G G V	
UniRef90_UPI000302816C	E A A T L P C C A A V T A W H G L I T K G N L T E D H T V L L L G T G G V	
UniRef90_UPI000346A506	E A A T L P C A G L T A W F A L V E R G K V K P G D S V L V V Q G T G G V	
UniRef90_L0LFM4	D E Q V L F L S D V L G T G W F A A V A A E V P G K T V A V V G D G A V	
UniRef90_A0A022L940	UniRef90_K9XXV0	D E Q V L F L T D I F P T G Y M A A E N A D I E P G D T V A V W G C G P V
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		50	60	70	80
UniRef90_M2QFZ2	S	I F A L Q [L] A V A S G A T V	I A T S S S D E K L [K] I A Q K L   G A T H L V N Y		
UniRef90_UPI0003A65744	G L N V I Q G A K L A G A V R I	V A V D A N P A K E E V A R Q F G A T D F V D A			
UniRef90_S7ZS13	G L S A L M A A K A I G V E N I	L A V D L F D S K L E L A T T L G A S H T L N A			
UniRef90_A6V9N0	G L A A V M A A R V A G C G H	V A V D I K K D N R L A L A K Q V G A T H C L N P			
UniRef90_A0A010NCU5	G L S I I I M S L H L A G A T P I	I A I D V T D E A L E L A R S F G A T H T F K A			
UniRef90_W9ARN2	G M A A M L T A L A H D D V R V I	A V D R L P E K L S R A R E G A H E T Y T P			
UniRef90_F4L0K8	G L N V I Q G A R I A G A G K I	I A I D V N P A R L E M A M E Y G A T H S I L A			
UniRef90_H6MV38	G I N S I Q G A A A A G A G R Y V	V V A I D P V P F K L Q M A E K L G A T H T F A S			
UniRef90_UPI000476EADF	G L S I I I A G L H L V G A N P I	V A I D V S D E K L E A A S A F G A T T L I R A			
UniRef90_I3UEX9	G L S A L I A A V A S G A R R I	V A V D L S D D K L A L A K T L G A T H C I N P			
UniRef90_UPI0003062C58	G L S A V M A A K V A R C G T I	I A V D M H P D R L R L A E E L G A T H T L Q A			
UniRef90_D3L7H7	G L L A A M M A G I I V G C T K V I	V I A V D V I V P S R D L D L A K E V G A T D V V N S			
UniRef90_A3THD6	G I S A I I M A A A L A G A H H P V I	A V D T V E S K L D S A R A V G A T H G V L A			
UniRef90_UPI0003A89FFB	G G A A V V A G A R L A G A R E V I	A V D L D E G K L A L A R G L G A T Q L V N A			
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UniRef90_U3QZQW2	G L A A V V M A A R V V W G C T T I	I A V D I V P E R L S L A Q E L G A T H V I N S			
UniRef90_S8BJT9	G L A A V V I A A K N Q K C K V I	G V D R I E S R L A L A K S L G A T H V I N T			
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UniRef90_J3AKR6	G L S A I I M A A N A I G C G T I	I A V D V H A N R L E L A K E L G A T H V I N A			
UniRef90_H2JJ76	G L L S I I K W A A F H G A K R I	I A V D Y V N V Y L E H A K Q Y G A E V I N F E			
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UniRef90_S7Q956	S I F A L Q [L] A K A S G A T V	I A T S S S D A K L K V A K E L G A D H L I N Y			
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UniRef90_C6I114	S L F A L Q F A K M A G A R V I	V I A T S S S D E K L L S R E K I E R I R S L G P D H A I D T T			
UniRef90_A0A059A4D2	G L S V A V Q Q A K L R G A S Q V I	G V D D I N P E K G E K A K D F G V D M Y L N P			
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UniRef90_G6E805	S I F A L Q F A K L A G A T V	I S T S S S D D K L K L R L Q E M G A D H I I N Y			
UniRef90_R0CG11	S I F A L Q F A K S M G A T V	I A T S S S D E K L L A R A Q A L G A D F T I N Y			
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UniRef90_C0RZG5	G L S V I I Q G A V K N K A G K I	V V D V N D D K K E S W A R K F G A T D F V N P			
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UniRef90_B2GHB0	G M A A L L T A L S L E E G P V I	G V D A N P E K L A R A T E L G A T A V H S P			
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UniRef90_E6V708	G L M A A S A R L L G A E R I	F M V D E H P Y R L A F A Q A T Y G V D P I N F			
UniRef90_C7ZHP5	G L S A I I M A A K F R Q A A I I	I A I D I N T Q R L E L A K A L G A T H T I L G			
UniRef90_B8KQH5	G L S A V V M A A N L V G C G T I	I A V D P V A S R R S L A L E L G A T A V I D P			
UniRef90_L2TI28	G L L A V V L A A K H L G A Q R I	I A R S R H P D R Q A L K F G A T D I V T E S			
UniRef90_UPI000255E7FB	UniRef90_M2WJ63	I A T S S S T E K A K R L R E L G A T M S I N S			
UniRef90_A0A016PXR3	G M G A V V L A A V V A E C A R I	V V D I P V E S R R D L A L S L G A T D A V D A Y			
UniRef90_D2C3B3	S I S G L Q F A K A A G A R V I	ATT T S S A A K A E M L K K L G A D H V I N Y			
UniRef90_UPI000366307B	S I F A L Q [L] A K A A G A S V	A T T S S T E K A K R L R E L G A D Q V I N Y			
UniRef90_V2XKC8	S M F A L Q F A R M M G A R V I	A T T S S S N E K L K L R Q L G V A H T I N Y			
UniRef90_Q565X2	S I F A L Q F A V V V C G A T V	L T S S S D E K L L E L G K Y G A K H T I N Y			
UniRef90_I2DTU3	G I N A V V Q M A S A A G G Y V	A V D I N P R K L E E W A R E F G A A K T V D A			
UniRef90_I7XR0	S I V A L Q L I A H A A G L R T I	V A S S S D A K L L E R A R A L G A D A T I N Y			
UniRef90_T1L2G1	G M A A V L V A V A K L G I K E L	G V D L N S D K F K V A Q K L D F F G C T K V Y S P			
UniRef90_H8INN1	G L A A G L G A S H R E A S M I	I G V D L N S D K F K V A Q K L D F F G C T H F V N P			
UniRef90_S9PN53	G T G A I Q Q G A R I N G A A Q I	V A V D P V D F K Q K S A L Q F G A T H S V A T			
UniRef90_A9GJH8	G I F A Q K S A W L M G A G R V I	A V D H V P Y R L E F A R K Y S Q V E T L N F			
UniRef90_Q938F2	S L F A A Q L A R A A G L R V L	S L F A A Q L A R A A G L R V L A T S S S A A K I E R L R L A L G V T E A I D Y			
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UniRef90_F5ZDE5	G L A A V V L A A V V R E V G T I	V V E P H E S R R E L A L S L G A T H H A V D P			
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UniRef90_UPI00026CDDC1	G M A A L L T A V S L Q I G T G D V I	G V D A V P D K L E R A M A L L G A T A V Y S P			
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UniRef90_Q5P8T0	S I F A L Q F A K A M G A T V	I A T S S S D E K L L E H A R A L L G A S H T I N Y			
UniRef90_W1S1A6	G L F A V V Q S A F L M G M A E R V I	A I D H F P H R L E L A R R F G A E T I I N F E			
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UniRef90_C3DLP3	G L M T Q K F A A W M Q G A K R V I	A V D Y I D Y R I N Y A K K I N N V E V F E F			
UniRef90_J2U4N3	S V F S L Q I V Q A K A A G M R A I	I T S S S D D K L L E R A R A L G A D A T I N Y			
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UniRef90_UPI000303B702	A L F G L Q L A A A H G A R T I	V I S G D A G G K L E R A L A M G A T H G I L R			
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UniRef90_K4PT95	G L S A L L T A Q Y S P A K I	M V D L S Q K R L K E A S K K F G A T H T I L S			
UniRef90_V4HUG0	S L A A L Q I I G K M F G A K V I	V T S S S D E K L L Q S A K A L G A D H I I N Y			
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UniRef90_G7GSQ7	G A A A I I S G V A V S G A G E R I	I A I D Y V P E R L A L A L A S D G R T E I D F S			
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UniRef90_UPI000346A506	S I F A L Q F A K I H G A K V I	I T S S S D E K L L E R A R K V A L G A D E I I N Y			
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UniRef90_K9FX72	G M A A M L A A R S Q G V E T I	A V D I V D A K L E L A K S L G A S H T L N T			

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90            100            110            120

K K T P A W D E E V L R [REDACTED] T N G R G V D Q V I E I G G A G T L Q R S M N A V R  
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 K E T K D L A Q A V H K I F P E G V D Q V L D T T G V A S V M Q A S I K A L G  
 K T D D L T A L L G E L T Q G R G A D Y A V E A A G N T G V M Q S A I A C L  
 N S D T A R H V K E V T D M G A D F A F E A I G R P A S I A E M P G Y L K  
 E E A A G V K A E V V I E A V G H P A A L E T A V V G L T A  
 D K A D Q A A R V V K T M T G G R G A D Y A F E C T A I P E L G A A P L A M V R  
 I E E A A P V L G E I T T W G K M A N T T V I T V G E I F G D I I I A P A L S L T G  
 D Q E D P V E A V L A A T T G G G A D Y A F E A I G R A Q T I E A L P R M V A  
 K A I K D N S E L I A Q A G G C V D Y G F D M A G A V Q A F E T A Y T L T K  
 G E S V A E R I R E L T D G G T E Y A V D T T G V V A A I F G D N V D A L A  
 K N E N V V D A I K K I T N G R G V D Y A V D T T G V Q S V M T D S I K A L  
 G D D A V E Q I R D L T R G G V A V A I E A A G H P A A L S T A Y A A T R  
 A K T D P V E A I R A L T G G N G A D V V I D A V G R P E T F E Q G F Y A R D  
 T E P D A M A R L R E L T R G G V R Y A I E T A G S E V A L A A A Y A A T R  
 A D G D T I A Q I A A L S G G E G V Q Y S E C T G I P R V V R L A V D C L R  
 T E M S Q I T Q E I Q Q A S D G L G A T I C I D T S A Y P P L V A A Q V D A T R  
 A V L V D L T D G G V D Y S F E C I G N V S V M R A A L E C C H  
 R N V D P V E E I K K I T N G G V N Y A A E T A G R P G V L R Q A V I D A L T  
 E H D N T G E Y I K E L T H G G A D V V I D C V G M D G K M T K F E M I E T  
 S A E A I R L V Q G L T R G A M A E R V I V T P G V L H A E I T M T G A L A L T G  
 K Q T P D W E K E V L R I T E G R G V D H V V E V G G P G T L M K S L A S V R Y  
 P S M A Q A T E L V R E L T R G R V M A D A A I L T V G V A H G D Q I A P L L G L  
 T Q N P H W E A E V L E L T C G R G V D H V V E V G G A E T L P R S L S A T R H  
 K D Y D E P H E V I K R I T D G G A D Y S F E C A G  
 G P D A V P A I R D L T G G G A E K V I D T T G V V A V L E Q A Y A A T R  
 R G T G V D M A T A L R S V T P G T C T H V L D T S P S V H V L D Q C L Q A L R  
 R K F P E W G Q M A K E L T D G R G V D H V V E I G G S G S E A C R H G G H A  
 G R D T D W A A K V I E Y T N G R G V D N V I E V G G P D T L G Q S I Q A C  
 K T N P D W D Q V V L E L T E G V G A H H I L D N V G V E E I G R C F N C A A T  
 R D Q P E W G D A V L Q A T G G R G A D I V V E V G G P G T L P Q S I R A C  
 N S A D V V A E V K A H A P S G V N Y A V D C T G A A K V I E T M M E C L A  
 Q D F S K P I Q E V L V D M T D G G V D F S F E C I G N V Q V M R A A L E A C H  
 R K D L N W G E T A R A L T G G R G V D H I I E V G G P A T L E Q S M I A I R V  
 K T Q P N W E K E V A R I T R L R G V D H V I E V G G M G T L E R S V K S V  
 V T Q D A R G E I L K I T T G G K G V D V A F E A L G R P E T W T T A L D V L K  
 S S G S S T N A E K I K L A T Y P K G I D Y I L D T S G R A P P L L Q D S V K A L A  
 R D N P E W G K E V R H I T N G R G V D H V I E V G G P G T L P Q S I T A C  
 T K G G K S I Q E E L I E M T D G G G C D Y T F D C T G N V G V M R A A L E A C H  
 M K E D V V D K I K E I T G G M G V D I A V E A L G K P K T F L Q T T Q S V K  
 R D H K K P V Q E V L I E M T N A H  
 R D P D A V D Q V K S L S S G G V H L A A E F A G V M P A L D L A I D V T R  
 E E L A E N G V R A Q V V I E A A G H P R A F E T A V A A T A  
 K K D T N W G E T A K N L T T G K G V D H V V E V G G P G T M K Q S M L A V K P  
 R D I D D P A G A I V E R T D F R G V D A V S I D A V G F E A K G S A Q A I A A T  
 S D Q H L A E R V R D I C Q P S N G V Q S A L D C S G A I T V V G K L V D S L A  
 Q P E D P L A R V S Q L T T T G A D F S L E C T G K P D V L R A A V E C L I  
 R G D D G V V A K I K E L T E G L G A H S V I E P V G T Q E S M M Q A I R S T R  
 A T V D V R D A V M S A T G G R G V D V A F E A L G L P Q T F E T A L S V L A  
 A T P D L A K H L R R L T G G A G V D H V I E V G G P G T I A E S L R A I  
 K E T K N W G E E A K R L T G G A G V D H V I E V G G P G T I E Q A F E C V R  
 R E E P R W G D R V R D L F N G Q G V D R I V E V G G P G T I E Q A F E C V R  
 K E E P E W G K K V N A L T N G H G V D H I V E V G G P G T L P Q S I E A I  
 K K I P D W E K E V M K I T K G R G V D H T L E V G G P G T F A K S M Q S T R  
 S K V D R V S K E I K K L T G G G A D I A M E V I G N P R T I E Q A F E C V R  
 R A I P D W Q H E V L R L T G G D G A D L V V E V G G R D T L P R S V A A T K  
 U n i R e f 9 0 \_ I 7 I X R 0  
 U n i R e f 9 0 \_ T 1 L 2 G 1  
 U n i R e f 9 0 \_ H 8 I N N 1  
 U n i R e f 9 0 \_ S 9 P N 5 3  
 U n i R e f 9 0 \_ A 9 G J H 8  
 U n i R e f 9 0 \_ Q 9 3 8 F 2  
 U n i R e f 9 0 \_ B 6 H 4 8 4  
 U n i R e f 9 0 \_ U P I 0 0 0 3 7 E 7 1 1 7  
 U n i R e f 9 0 \_ U P I 0 0 0 3 B 6 9 A E 6  
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 U n i R e f 9 0 \_ J 2 U 4 N 3  
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 U n i R e f 9 0 \_ U P I 0 0 0 3 B 3 4 1 D F  
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 U n i R e f 9 0 \_ U P I 0 0 0 3 6 D D 3 B 6  
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 U n i R e f 9 0 \_ V 4 H U G 0  
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 U n i R e f 9 0 \_ E 8 R V H 1  
 U n i R e f 9 0 \_ G 7 G S Q 7  
 U n i R e f 9 0 \_ U P I 0 0 0 3 0 2 8 1 6 C  
 U n i R e f 9 0 \_ U P I 0 0 0 3 4 6 A 5 0 6  
 U n i R e f 9 0 \_ L 0 L F M 4  
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 U n i R e f 9 0 \_ K 9 F X 7 2

90            100            110            120

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

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130            140            150            160

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

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

R G G R T V T A A L P N P S D R L S L A A A R L V A E E R A L M G S Y V G S C V  
 P G G T T V V T V G L P S P D A R S T I A P L G L T A E A R T I V G S Y I G S A V  
 E G V I T V I G F L G G V Q A E N T P T T L D T L T H L C T V R G I L V G S R Q  
 R R G G V V S V P G V Y A G F I H G F M F G D A F E K G L T F K M G Q T H  
 T R G R A V S V G A P A P G T R V G V D F V F S H L N Y G R E Y R G S H Q G D S V  
 P S G V C G I I G A A P L G T E V S L N M T T M A T R T I K G I V E G E S D  
 P G C H V G Y V G V P H E V E L P D L E L F F S G V H L H G P G P  
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 I G G I I T I V G W I G G E E E T G P S F P Q I I L A G M A I V R G I V V G S R D  
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 K I G G H I S I L I G V L T G R Q G D I P T A K L M A K Q A R L Q G L I V G S R R  
 F G G W I H I I G V L A M E T S S T N F I I S A I W R G L N F R G I Q V G S  
 V G G R L C V I V G Y T H E A I S I V A G K I M F K E L E I V G S L I G C R  
 I G G T V S V I I G G L I S S F G G P E L G L L S I I G G L R R L H G L M V G S R A  
 P G Q T T C T I G L P H P D A T L E I K P F Q L T A Q A R R L V G S Y I L G S A I  
 K C T S R A A L V G L P V P G A E L A I P I T T F L T G V T V T G G L Y G G F K  
 K G G T C V L T G M T S Q L T R S V K I D Q D F I L T N K T L A G T I F G S C N  
 R K G G T I S I I G V Y G P P F N L I P I G T A M N K G I T M R M N Q C N  
 K T G G V V S L I G L L S G V G S Q I D P M P I L F R A I R V E G T V V G S R Q  
 A K A G Q V V V T A M G D A T K N E V T L N L T L L Q K R V Q G A I F G G V G  
 E G V I S V I G F I G G V D P K T Q P T V L E T L T H I C T V R G V Y V G S K A  
 P L I G T C A I V G V I T P E V K L D I H N D L M A E G K S M I G V I E G D S I  
 L G G T A V I V G L P P S G A V A S F E P L L A E N L R I L G C N Y G S V T  
 V R G A L G L I I G V P A D P A T T I P V G M M S T L F G H T I R G I V E G D A D  
 R V G G S I I I G V L T G K G D I P T A T L M R K Q I R L T G V I V G S N K  
 V G G R T V T V G L P A P T A E A V I K P L G L T A E A R T I I I G S Y I L G S A V  
 A Q G G R I S V I G N L Q G D E L R A S V Y P V L H G R V T V Q G I G V S H R R  
 R I G G H I A I L I G V L T G G A G G V V P T A A L M K R Q Q R L Q G L I V G N R R  
 R K G G R V S M P A V Y G G F V D K F P L G A F M E K G L T K T G Q T H  
 N S G T F I P I A V T K S N F E L N T F F D L V F G N K K M E G V L I G N T I  
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810 P L P S L L T L S D V Y L T G Y H A A H M G S V S P G K T V T V I G D G A V  
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830 A A P L T C A G V T T Y K A L V K V G G V R P A Q R V A I F G V G G G L  
840 P P E V A A V A L L G C A V L T G G G A V V N A G K P V E G Q D V M I V G L G G V  
850 D E K L V L L A D V V P T A Y W S V D N A G V K D G D T V V V L G C G P V  
860 P P A V A A V L L G C A V L T G G G A V V N A G K P V E G Q D V M I V G L G G V  
870 D E K L V L L S D I L P T A W Q A V K N A D I K P G S V A I F G A G P V  
880 L L T L L S D V M S T G W H A A T C A G V V E A G M T V A V V G D G A V  
890 L A A S T L P C A G L T A W F A L V E R G R L K A G E T V V L V Q G T G G V

50            60            70            80

UniRef90_C7ZFT8	S I F G L Q F A K A A G G A N V I A T T S S A E K A E F L K L G A D H V I N Y
UniRef90_UPI0004124C71	G Q M A M Q C A Y A A M G A E R V I A I D R L D Y R L A N A A R Y S G A D I I N Y
UniRef90_C7PI13	G I M A A K C A W L F G A G R V I V I D H L E Y R L D F V R K Y A Q C E A Y N F
UniRef90_L9Y1B1	G Q F A I Q S A W M L G A D R V I A I D R V P E R L E M A M D H G N A E I I D F
UniRef90_A7ESP3	S I F A L Q F A K A G G A T V I A T T S S D A K A E T L K L G A D H V I N Y
UniRef90_B6JZE8	S I F A L Q F A V I A A G G A N V I T V T S S S K E K L E F A K K L G A R R L I N Y
UniRef90_M2NAY2	S M T G L M L A K A A G A I T I I T S S S D E K L K M A K E Q Y G A D H L I N Y
UniRef90_UPI00037C8152	G L A A L L L T A Q F Y S P A Q L I V V D L S E A R L E A A K R F G A T E T I C S
UniRef90_W9C362	G L S A V M G A V L Q G C S T I V A E P K P E R R A M A L E L G A T H V I D P
UniRef90_UPI000367B39D	G L M G V L S A K Q M G A G R I V I A M S R H K T R Q D L A L E Y Y G A T H V I I S E
UniRef90_B4WM17	G L F A M K S A W M L G A G R V I A I D H V P E R L R L A R S Y A N V E T I D S
UniRef90_J4P8W6	S V W G L Q L A K A A G L R A I V I A T S S S D E K L A R L K V M G A D H V I N Y
UniRef90_H5TEB4	S I F A L Q F A K M M G A K V I V I A M S R H E S R Q Q L A L E F G A A D I V A E
UniRef90_A0A022MCX6	G L C A V I A A K E R G A E R V I V I A M S R H E S R Q Q L A L E F G A A D I V A E
UniRef90_A1RR49	G L S A V V Q V A K A V G A R V I V I A V G R N P D K L K V A A E L G A E V V N T R
UniRef90_A0A031JQ74	G L F A V V Q S A F L L G A E R V I V I A I D H F P K R L E L A R R F G A E T I N F E
UniRef90_L0MCH5	G L A A V V M A A K L R N A D A I V I A L D R L E T R L R Y A G E L G A T
UniRef90_UPI0003B57056	G L C A I I A A K R L R G A T T I V I A M S R H P E R Q A L A Q R F G A T H V V A
UniRef90_Q0K0F8	S V F A L Q F A K T R G A A V I V I A T S S S E G K L E R L R I A L G A D H V I H Y
UniRef90_W3ABB9	G L S A I I M A K A I A G C K N I V I G I D L H E R L E L A K E L L G A T A T I K S S
UniRef90_L7KFJ2	G L W M V Q Q G A R L L A G A D R I V I A A D P D E S R R S A L L Q L G A T H G L R A
UniRef90_UPI0002E70E6A	G L S A V V M A A R I I A G A G T I V I A L D I N D A R I A L A L K L G A T H G L R A
UniRef90_C4RYC9	S L F A I Q L A K A M G A R V I V I A T T S S E A K S A Q L K A L G A D E V I N Y
UniRef90_S9TAJ2	S V L A A Q F A H A A G G C R V I V I A T S D D V K K L S K L V S M G V V D C V S Y
UniRef90_Q1ARJ5	G L A S M L T A R L Y P S R I V I A I D L A D S R L E Q A R R F G A D T T I N N
UniRef90_F7Q0R0	G L L T Q K C A A Y M G A G R I V I A V D H V D Y R L N H A K T S N G V E V V N F
UniRef90_Z5X7V4	S L F A V V Q F A H A L G A E V I V I A T T S S S D E K L K I G S A L G A A H L I N Y
UniRef90_W2R4Z2	S I F G L Q L A K A A G A T T I V I T S S S D E K L Q F V K E K F G F E Y T F N Y
UniRef90_V4QS63	G L F A V V Q S A L L M G A A R V I V I A I D H Y P N R L A L A R K L G A D V I D Y
UniRef90_UPI00031DDDC5	G L C A V V L A A K T L G A E Q V I V I A F S R H E D R A A L A R E F G A D V I A
UniRef90_I4C0T4	G L J A A I I M A A R I V G A N P I V I L G V D I K P A R L Q I A L E L G A T H V I D N
UniRef90_UPI00036CFA69	G Q M A I I R S A F I L L G A E R V I V I A I D T V P E R L A L A R V S G A L T L D F
UniRef90_Q9XD58	G L S A V V M A A V I R G C Q Q I V I I T E P H A A R R A L A L E L G A T A V I D
UniRef90_UPI0003B72337	S I F A L Q F A K S F G A K V I Y A T S S S P A K L E R L K K L G A D A T I D Y
UniRef90_W4HI06	S I Y A L Q I A R A M G A R V I V I A V F A T T S S D Q K A E R L R E L G A H A V V N Y
UniRef90_W4DRH6	G L L T Q K F A W M K G A S R V I V I A V D Y I D Y R L Q H A K L T N Q V E T V N F
UniRef90_F5SKF8	G L L T Q R F A W L K G A E R V I V I A V D Y I G Y R L E H E R K A I N R T E T V D F
UniRef90_F5YX29	G M A A V L T V L A H D G V D V I A I D Q L P E K L A A A S G L G V Q R T Y T P
UniRef90_I4W4Y2	G L A A I I M A A Q V C G C A T L I A I D Q V E A R L D T A R E L G A T H V I N T
UniRef90_K3WQT6	S I T G L M F A K A A G A T T I V I T S S S D E K L R M V Q T K F G A D H T I N Y
UniRef90_E8PAY9	S I L S A A C A K M L G A E K I V I F M V D H N E Y R L N Y A A A T Y D A I P V N F
UniRef90_V8RCV9	G L F A I I S A K L I M G A G R V F A I V I D G L E D R L A R A Q A L G A E C I N F E
UniRef90_H0HYC6	A L F G L Q I I A A A H G A D V I V I V V S G D D D K L E R A K A L G A R H G I N
UniRef90_S3PEZ2	G L A A M M A A K I S G C S T I V I A V D I H D A R L Q L A E E L G A T H V I N S
UniRef90_B0R896	G L C G V L A A Q R L G A E R V I V I A M G H H E D R E L L A A E F G A T D T I S A
UniRef90_M7UND7	S L F A I Q F A K A A G A T V I V I A T T S S P A K V Q Q L K D L G A D H V I N Y
UniRef90_UPI000225E918	S I F A L R I A K A V G A R V I V I I T S S S D E K L A R A R E E L G A D H T I N Y
UniRef90_X8CHJ1	G M N A I I Q G A R I I A G A L T I V I A V D P V I A F K R E Q A A R F G A T H T A
UniRef90_L9X3X5	G L S A L H I A S A L A H P I V I A V D V R E D K L E R A R E E L G A T D T V N A
UniRef90_I2GFR4	G L M A Q K S A W L Q G A G R V I V I A I D P L N Y R L E R A R R V V N N V E T L N P
UniRef90_X8AGB7	R R I V I A V D T D N T K L E W A R G F G A T H T V N A
UniRef90_E9UW93	G L C G V L A A A Q L G A E R V I V I V A M S R H E A R Q E I A K K F G A T D I V A A
UniRef90_U2Y5R6	G V N A L Q G A K L L A G A T V M I V I A V D M N P A K E D V A R S F G A D A F L V A
UniRef90_UPI000288636F	G L L T Q K F A W Q K G A K R V I V I A V D Y I V N Y R L A H A H R T N G V E T F N F
UniRef90_A0A038GDH0	S I F A A Q I I A T A L G A N V I V I A T S S K D E N L Q A V K A L G A V A G V N Y
UniRef90_I0K6E7	G Q M A M Q S A W L M G A G R V I V I C I D R E P A R L E L A R Q H C K A E I I D F
UniRef90_UPI0004699640	G L M A Q K A A W I N G N G A S R V I V I A I D P L D Y R L E K A K A V V N N V D T L N P
UniRef90_UPI0003474F87	G L M A Q K F A K L L G A K R V I V I G V D N V E H R L Q H A K V Q Y N Q V E I Y N F
UniRef90_E4N0E3	G L C G V L A A H R L G A G R I V I A L G R H E G R T A I A R S F G A T D V V P
UniRef90_H6RSD5	G A H A V V Q L L R L A G A A P I V I A V D P V I A P R Q A R Q R A L E F G A D L A L D P
UniRef90_J3A1N8	G L C G V L A A R R L G A E R V I V I A L G H H E D R L D I A E E F G A T D L V T D
UniRef90_L2GC10	S L F A V V Q F A K A V G A R V I V I A T T S S D E K E A L L K R L G A D H H I I N Y
UniRef90_G7M0K8	G L I A Q K F C W L S G A E R V I V I A V D Y I D Y R L E H A R R Y R N K V E T V N F
UniRef90_X0PWG7	G M S A V V M G A K N A G A A Q I V I A V D P V I A S K R E E A L L G A F G A T H T A
UniRef90_Q2G8E8	S V F A L Q L A K A A G A R V I V I I A T S S S D E K L R L R S L G A D E T I N Y
UniRef90_UPI0003663F23	G L M T Q Q F A W D R G A S R V I V I A V D Y I Q N R L E H S K K I L N K T E V F D F
UniRef90_UPI000225DE72	G L F A I Q S A I V M G A S K V I V I A I D H Y P N R L A L A K Q L G A E V I D F R
UniRef90_W4QFX4	G L M T Q Q F A W D R G A S R V I V I A V D Y I Q N R L E H S K K I L N K T E V F D F
UniRef90_UPI00037BD6D7	G L C G V I G A K L L G A K R V I V I I A M S K Y P D R Q A L A K E F G A T D I I E E Y
UniRef90_B1M9J5	G L M A Q Q S A R L L M G A E R V I V I A I D R F F P E R L R M A R E E H A G S E T L D Y
UniRef90_U2CY39	G L M A V A G A K L L R G A A R I V I F A V G T R P D C V A L A K E Y Y G A T D I I S Y
UniRef90_R1EW2C	G F G A V V M A A K V L L G C R A I V I A V D R V A S R L A R A R E E L G A T H V V N T
UniRef90_D9XD53	G L S A V V M A A K A L T P A T R I V I A V D R V A E R L C L A A E L L G A T H T V D T
UniRef90_UPI00041E85F7	A L F G L Q I I A K A T G A E V I V I V T S S G P E K L E R A L L G A D H H G V K
UniRef90_UPI00034B3928	G H L A V V Q Y A R V F G A Q V I V I G V D V E P A K E L E L A R D L G A D R A V D A
UniRef90_E6WK26	S L F A L Q Y A K A A G A R V I V I I L S S S D A K L E R A K A L G A D E G I N Y
UniRef90_D3E9V2	G L L T Q K F A W L K G A K R V I V I A I D H V D Y R L A H A S R T N H V E T Y N F
UniRef90_H3GSZ2	S I T G V Q L A K A A G A V T I V I V T S S S D E K L F V K E K F G V D H A I N Y
UniRef90_UPI000255C6D4	G L S A T Q I I A T A I G A N V I V I A V D I A D D K L E F A K V G A V A T V N S
UniRef90_UPI0003773DF2	G Q H A V V Q I I A K L L A G A S P I V I A V D P R G D Q R E L A Q Q H G A D E V V D
UniRef90_UPI0002FEE4C5	S L F A L Q G F A K A L L G A R V I V I A T T G G P B G K A V R L R G L G A D E V I D Y
UniRef90_K9UGF3	G Q F G I R S A F M L G A E R V I V I A I D R V P E R L Q M A K D G G A E V L N Y E
UniRef90_D3NTH2	G Q M A I I R S A Y I L L G A E R V I V I G L D F S D R L R A A Q M K A G A E T I L D H S
UniRef90_UPI00035D040B	G L S A V V L A A K Q M G A E Q I V I I L M G R H T A R T D L G R E F G A T D V V A
UniRef90_UPI00035D4E49	G L G A I I M A A K A A G A G R I V I I A V D I L K P G R L Q T A L E S G A T H A V D A
UniRef90_U0EF74	G H M A V V Q Y A R I I A G A F G V T I A I D I D E D D K L E L A T L G A D H T V N S
UniRef90_M1NUC2	G M A A V I T A A A A L G V K E I V I V G I D L Q E S K R D M A L E L G A S S V M S P
UniRef90_UPI00030F07C6	G L L A Q K F S W L K G A K R V I V I A V D Y I D Y R L Q H A K R T N N V E I V N F
UniRef90_UPI000479E9E7	G M A A L L T A V S L A A G Q I V I I G V D A N P A K L T R A R E L L G A T S V Y S P
UniRef90_A0A023VD53	G L L T A C A R L I N G A E Q I V I F I I D H N D Y R L E F F R Q R Y G A I P I N F D
UniRef90_UPI00041B644C	G L C G V L A A A E M G A E R V I V I A M S R H E P R Q L A R E E F G A T D L I A E
UniRef90_B8IMH9	A L F G L Q I I A K L H G A E V F V I T S G K T D K L D R V R A L G A D Q A I D

	90	100	110	120
UniRef90_C7ZFT8	K E D V N W G E T A R N L T P N K R G V D H I	L Q A G G P G T M P Q S L K A V R		
UniRef90_UPI0004124C71	E D T D V L E E L K E A T G G R G P D C C I	D A V G M E A H T T G I E H V Y C		
UniRef90_C7PI13	R S M T D P V F V F L K K I T D W F G A D V C I	D A V G S D A G N H W A I N S V		
UniRef90_L9Y1B1	E N D D V Y D R L M D M T G G R G P D R C I	D A V G T E A H		
UniRef90_A7ESP3	R T T P E W G A H A R S L T E Q S I V S H V I	E V A G A N S M A Q S L N A V R F		
UniRef90_B6JZE8	R E T P Q W G Q K A L E L T N N E G Y H H V V E	V V G G K K T F K Q S L Q C L A P		
UniRef90_M2NAY2	K T N P N W A A E A N K I T E G R G V D I F E N	G G G S T Q E Q S V E C V A		
UniRef90_UPI00037C8152	A N L D D I K E K I N A L T D N R G V D V A I E	C V G Y P A T F D I C Q K I I A		
UniRef90_W9C362	S A H S L A D C V R A I A L H G V D Y A F D T T	G L S H V I E A T V P C L A		
UniRef90_UPI000367B39D	R G D A G V A R V K E L T Q G I G A D A V L E	C V G T K E S M Q Q A L S I A R		
UniRef90_B4WM7	F D A D Q V Y E Q L M E M T D G M G P A C I	D A V G M E A H G S Q Q I V K C C		
UniRef90_J4P8W6	R D T P E W Q D E A L R L T A G E G A H V V E	V G G E G T L A R S V A A A R		
UniRef90_H5TEB4	K T E P N W G A R A K V L N G G I G V D H V V E	I G G G E T L E Q S L A A V		
UniRef90_A0A022MCX6	R G E E G V A R I K E L T G G I L G A D S V L E	C V G T A Q A M R Q A L H S A R		
UniRef90_A1RR49	E G D P V K A V V R D L T E G R G A D V V V E A	V G N D D T Q M A V D M A A		
UniRef90_A0A031JQ74	E S D T Y E A L M L M T G G I G P D A V I D	A V G L E T H A I R Q A I I A C		
UniRef90_L0MCH5	Q T L S D A R Q I A Q L P V L D A V I D T T G	E Q G L I Q A A W Q R L R		
UniRef90_UPI0003B57056	E R G D E G I T R V Q E L T G G I G A D R V L E	C V G T K E S M D Q A I R S T		
UniRef90_Q0KOF8	K A E P D W G R A A R Q W T G G R G V D H I V D	D L G G A D L L N Q S I E A C		
UniRef90_W3ABB9	G K D V N I A E Q I K E I T G S G V H V L D	T T G V D S V I A Q A I D S L D		
UniRef90_L7KFJ2	G A V D V V G C I K D L T A G I G V D Y G F D	A G G T S G A V V D A F R A T S		
UniRef90_UPI0002E70E6A	D A D S Y T G H A T A A G C P A G F D Y I D	T T G I T D L V N Q A I L A L A		
UniRef90_C4RYC9	V Q H P E W S S E E V L R L T S G Q G V N L V V E	V V G G P G T L N Q S I R S I		
UniRef90_S9TAJ2	R E N P K W G E T V R K M T T E R G V D L V V D	V A G P S S L N E S I A C A R R		
UniRef90_Q1ARJ5	S A Q D A V E M V M E L T G G L G A D V V M E A	V G P A T F E L C T G L V R		
UniRef90_F7Q0R0	N D Y K N T G E Y I K E I T N G G A D A V I D	C V G L S G K M I E I A S Q A V		
UniRef90_Z5X7V4	L D T P D W E H E V K R I T T G G R G A D L V V D	L G G P E T T L A H S V I R A A R		
UniRef90_W2R4Z2	R K T P E W A A E A N R F T N G R G V D H V I V E	T G G S G T I A Q S M E A I K P		
UniRef90_V4QS63	K Q T H V L E A L M E M S G G L G P D A V I D	A V G M E S H G F A P D T M A V		
UniRef90_UPI00031DDDC5	E R G E E G A A K V K E L T N G Y G A H G V C	E A V G T Q E S M D Q A L A S V R		
UniRef90_I4C0T4	R H E D V A A Q V T D I T G S G L D Y V I E T T	G N F K M N Q L A I E V L		
UniRef90_UPI00036CFA69	H E E D I Y D R L M E L T H G R G A D G C I	D A V G T E A D A M A S A D S M I		
UniRef90_Q9XD58	Q I S E D V E Q L F K G F L P A G V N Y A F D	T S G I G A L E T A Y R C L A		
UniRef90_UPI0003B72337	R A D P N W G E A I S Q L S G G G V D H V I D	V G G A A T L D Q S I S A V K V		
UniRef90_W4H106	S E D E T W G E T I A G M T G G R G V D H V V E	V G G P A T L A Q S I S A C		
UniRef90_W4DRH6	E Q T K D V E L N L K E I T R G G A D V V I D	C V G L D A K K F R I A S E V V		
UniRef90_F5SKF8	T R M E N V G S Y L K E M T Q G G A D V V I D	C V G L M D G K M I Q I A S Q A V		
UniRef90_F5YX29	Q Q A L L D A G V R A P M V I E A V G H P A	A L Q T A I E L T A		
UniRef90_I4W4Y2	R Q A G N L G E A I R A I A P R G V D A I V D	A A G V N A L I G A A I G G L A I		
UniRef90_K3WQT6	K T T P D W A A E V L K I T D G R G V D F I L	E N G G S T I K Q S I D A I T P		
UniRef90_E8PAY9	D E V D A A E F I I Q N T D N Y R G V D A V I	G F E A K G S R Q C L A A V		
UniRef90_V8RCV9	K E D P V E T I A R L L T A E I G V D R V I E	A V G I D A N H S H H G H H P		
UniRef90_H0HYC6	R K K E D D W V E A I Y R L T G D R G A D H I	L I V G G A H L G R A L Q A A A V		
UniRef90_S3PEZ2	R S T D V L E K I K E R I E I T N Q V G V N Y S	V T G V E S V M K L S L D V L A		
UniRef90_B0R896	R G D D A I E R A R D L T H G G A N H V M E	C V G A A S A M D S A I A I A R		
UniRef90_M7UND7	R E V T N W G E E A K K L T G L R E V D H V V E	I G G G G T M A Q S I K S I R		
UniRef90_UPI000225E918	K A T T D D W G D E A F D W S G G G V D H V V E	V G G P G T V N Q A I S A I		
UniRef90_X8CHJ1	A T I D Q A W A L V S D L T R G K L A D V C	V L T T D V A E Y I G E A L S L V G		
UniRef90_L9X3X5	A E A D N P A S E V K A L A D G G A D V S I	D A G L I A E T C R N S I G S L G		
UniRef90_I2GFR4	H D V D V V E A I R S M T E G R G A D V C	V G M E A E R T E T Q C F R A V		
UniRef90_X8AGB7	R E S D V V R A I Q D L T D G F G A N V V I	D A V G R P E T W E Q A F Y A R D		
UniRef90_E9UW93	R G K E G E A A V R E L T G G I G A D Y V L E	C V G T D Q S F K T A S K V A R		
UniRef90_U2Y5R6	Q R G E D A A A F A A R M R E A F P I D V I	E C C G A P T A V E A S M L G V		
UniRef90_UPI000288636F	L E T D D L N H H L K E M T G G G A D V D C	V G L D A K K F R M A A D V V		
UniRef90_A0A038GDH0	R T H P E W A E E V L K L T D G K G V D L L L	D V A G G D G I N Q S I A A T		
UniRef90_I0K6E7	S K V D V L Q A L K E M T A G R G V D C I	D A V G T E A V V D D S F Q Y Y M D		
UniRef90_UPI0004699640	H K V D V V E A I R A M T G G R G A D V C	D A V G F E P E R S D M C F E A V		
UniRef90_UPI0003474F87	D H E K E I L G K L L R E T T H G G A D I V I	D C V G M		
UniRef90_E4N0E3	E R G E A A V E A V R E L T G G Q Q A H A V L E	A V G T E E S M R T A L S I A		
UniRef90_H6RSD5	A D D I A T R V R E L T G G A G L A F A F D	F D A G V V A A V R E Q A V R C L E		
UniRef90_J3A1N8	R G D D A I E R V E E L T G G G G V N H V L E	C V G A A S A M E T A V G I C R		
UniRef90_L2GC10	R N T T N W G V A A K R L T G G V G V D L V E	I A G N S T L K Q S V A S L K L		
UniRef90_G7M0K8	E A H E N V G E Y L K E I T H G G A D V V I	D C V G M D G K M T P M A T Q A V		
UniRef90_X0PWG7	A D V D Q A T E L V R G L T R N R M A E A A I	I T V G V M N G A M L G P V S A L		
UniRef90_Q2G8E8	K T Q T A W G M K A L D L T A G I G V D C V	V I G G A G T L D Q S M M A T		
UniRef90_UPI0003663F23	K K I K E I G S Y L H E E T D G G A D V V I	D C V G M D G T V P P N K K F G S		
UniRef90_UPI000225DE72	K T N V R E A L M E M S G G I G V D A V I D	A V G M E S H		
UniRef90_W4QFX4	T Q Y E D M G E V L K I D T T K G G A D V V I	D C V G M D G K P I Q I A T K A V		
UniRef90_UPI00037BD6D7	R G D E A V L E R V M E M T D G A G V D A I L	C V G T E Q S V D T A I K I A R		
UniRef90_B1M9J5	T Q V H S V L E A L K E M T G G R G P D A C I	D A V G M E A H		
UniRef90_U2CY39	K D G N I A K Q V L E L T S G R G T D A T I	I A G G N A E T F A L A V A M T R		
UniRef90_R1EW2C	K K G W E G I V E A V R A V V P E G V D G	V V V Q A S M R V L A		
UniRef90_D9XD53	S R T D L A E A L T G I T G G Q Q A D G V V E	T S T G N V G V L R Q G V D A L A		
UniRef90_UPI00041E85F7	R L T E D W V E R V Y A L T G D H G A D H I	E L I A G G A G L Q S L K A V A		
UniRef90_UPI00034B3928	S S G D A A A Q I Q E L G G A D V A V V L A A	S A S V F E Q A F A S L		
UniRef90_E6WK26	R H T P D D W D Q R V R E L T D G L G A D L V L	E A V G G A T F		
UniRef90_D3E9V2	E K I P E I E N Y I L E I T K G G A D V V I	D C V G L D A K R F R M A V R M V		
UniRef90_H3GSZ2	R T T P N W A E E V R R F T N G E G A D Y V I	E I G G A G T I E Q S I K A T A S		
UniRef90_UPI000255C6D4	K K E N A P E A I K E L T H G G A Q V G I D A L	G I Q A T M L N S V L C L D		
UniRef90_UPI0003773DF2	T G E P D V A A A V R V R A N G G R G V D V A A	D F A G R A V S T E A A F A S L T		
UniRef90_UPI0002FEE4C5	R A T P D W A A E V V R R L T S G R G A D R V D	V A G		
UniRef90_K9UGF3	E I E V G E A L K E M T G G R G P D S V M D A	V G M E A H G M		
UniRef90_D3NTH2	R V D V F D A L Q A M T G G R G P D V C I	D A V G M V I A D R P A V P R Q M C		
UniRef90_UPI00035D040B	E R G E E G I A K V M D L T R G L G S H V L E	A V G H M P A Y E Q S Y G I V		
UniRef90_UPI00035D4E49	S T D D L V A A V R D H G G S V I D F S F D T	T S I T E V I S A A I R V L A		
UniRef90_U0EF74	L T E D P V E A I Q K L I E A E A S G K R F A A	V P S V F D Q A F R S L		
UniRef90_M1NUC2	E S E K N I G N H L K E I T K G G A D I V I	D C V G M D G K M I V I A A Q A V		
UniRef90_UPI00030F07C6	E Q E I I G I A K V M D L T R G L G S H V L E	A A G H P K A F E A A V E A T A		
UniRef90_UPI000479E9E7	K N D D P A K W I I D N T A G H R G V D A V I	D A V G F E A K G S R Q C I A A V		
UniRef90_A0A023VD53	R G D D G V V A K I M E L T E G V G A D A V E	C V G T N D S M L Q A L A S A R		
UniRef90_UPI00041B644C	R T A G D W V E A V Y R L T G D R G I D H I L	E V G G A H L A R S L E A V		
UniRef90_B8IMH9				

130            140            150            160

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UniRef90_C7PI13	K K G G I V S I V G V Y G P T D N L V P I G N V V N K G I T I R A N Q A S
UniRef90_L9Y1B1	
UniRef90_A7ESP3	E G V I S I I G F L S G E A E E K E P S F L Q A L T K N C I V R G V A V V G S R E
UniRef90_B6JZE8	G G V I T S I G F I A S E G E N F D E F I S M L L H K G A T I R G I F V G S T T
UniRef90_M2NAY2	R G G I I A V I G F L S P A K E M P D V A S L V L G K G C I V R G I N V G A K Q
UniRef90_UPI00037C8152	I G G H V S
UniRef90_W9C362	A H A S F G V G V P P R F E D T I S L A I N R L V S A G I T V M G I I E G D V Q
UniRef90_UPI000367B39D	P G S M I G Y V G V P H G V Q L E G Q S L F F S Q V G M L G G P A P
UniRef90_B4WM17	R K G G N I S V P G V Y T G F L N M F P M G P A M N K G L N W K M G Q T H
UniRef90_J4P8W6	M G G T I L A V I G G V S G F A A V P V A P L A I A G S K R L Q G I F V G S R R
UniRef90_H5TEB4	R I G G Q I S L I G I L S G Q T C E L N L V N A F T T Q Q V R L Q G V L V G S R T
UniRef90_A0A022MCX6	P G G S V G F V G M P H G V A V D G Q E L F F S H V G L R G G P A P
UniRef90_A1RR49	L G G R V V L V G L M P V G H K T P L G L A R V V R G G I Q I V G S Y G A R
UniRef90_A0A031JQ74	R K G G R V S M P A V Y G G F V D K F P L G A L M E K G L T R T G Q T H
UniRef90_L0MCH5	R G G T L A L L T G G G V V K F S H D R R I L S V I Q G D A V
UniRef90_UPI0003B57056	R P G G M V G Y V G A P N G G P E L P V R P L F N R N V G V V N G G I A P
UniRef90_Q0KOF8	R T G G S I A L V G L L A G T A G R V D T G R I M A R Q L R L Q G V V V G S R T
UniRef90_W3ABB9	T F G K I V T V V T D F N L S I P L E A L A L K G G S I V G T S Q G D A I
UniRef90_L7KFJ2	L A G G V V V L L T S L E S T S A T V T P L F D L A L R G R D V R S A Q S G R T S
UniRef90_UPI0002E70E6A	P R G E I A L V G A Y P P G T P V A S D P A H I M S G G R V I R G V V E G S A D
UniRef90_C4RYC9	C I G G E L A L I G F V A R D A V A I D F F S L F K S A A R F R V I S V G S R E
UniRef90_S9TAJ2	H G T I V A I G V L T M Q F P P E G M D Y A T L M Q K V H L R G L L V G
UniRef90_Q1ARJ5	P G G H V A N I G V H G A P A T L H L E R L W A R D V T I T T G L V
UniRef90_F7Q0R0	R K G G N V S L V G V Y G A R Y N N F P L G D F F S R N I T L K M G Q C P
UniRef90_Z5X7V4	M G G T V A V I L G V L T G F D A A P I P V A D L M L N N I R V I G I T V G S V L
UniRef90_W2R4Z2	G G Q I A V I G F F R A K Q E E M P D V A G M V L N K G C T V R G V Q I G S K Q
UniRef90_V4QS63	R K G G R V S I P G V Y G G F L D K F P T G A L M E K G L Q V K T G Q T H
UniRef90_UPI00031DDDC5	P G G Y V G F V G V V S H D Q T L D G S D L F G R E I H L E G G P A P
UniRef90_I4C0T4	N P G G T V A L L T G E S G T S L P E G R K T L G I I Q G E A I
UniRef90_UPI00036CFA69	D R V K T A L F M G T D R P H V L R Q A I Q C C R N F G V S I V G V Y G G Q T P
UniRef90_Q9XD58	P R A T F G L V G V P Q D W E Q K L P T L A E M V Q S G I I F K G I I E G D S D
UniRef90_UPI0003B72337	G G S L I I I G I L G G L V A E I N L A K L M M K Q Q Q I R P I A V G S R A
UniRef90_W4HI06	R I G G H H M A L I G V L T G R A G E I P T A K L M A K H Q V L Q G L I V G S R A
UniRef90_W4DRH6	R K F G T I Q L I G V Y G L N Y N M F P L G H L F E R N I T L K M G Q A P
UniRef90_F5SKF8	R K G G V V Q V Q L V G V Y G A R Y N A F P L G D F F S R N V T L R M G Q A P
UniRef90_F5YX29	P G G R T I T V G L P P P D A R I S V S P L G L V A E G R S L I G S Y L G S A V
UniRef90_I4W4Y2	L G H V A L V A V P S A A G K P L E L P W L T F L L A G Q S V Q G Y I E G N A I
UniRef90_K3WQT6	G G V I A V I G F L A Q A A E D M P D V A T L A L V K Q C V R G I A V G S K Q
UniRef90_E8PAY9	R R G G V V S V P G V Y V A G P I H G F L F G D A F D K G L T F K M G Q T H
UniRef90_V8RCV9	A Q W G T I S I I G V Y P A G F D S F P I G E A M M N K N V R I N M G N C H
UniRef90_H0HYC6	F G R V S L I G V L E G F E I S G H F A P L A L K H L T V E G I Q V G H R K
UniRef90_S3PEZ2	I R G V A A P I A V T N Q N I T I N T L T D L A L A S K K M I G V L I M G A T V
UniRef90_B0R896	P G G T V G Y V G V P Y G V E D G G L D V F T M F S D N I T I R G G V A P
UniRef90_M7UND7	I D G V I S V I G W L S K A D E K E P S F L E T V S K V F T V R G L F V G S R A
UniRef90_UPI000225E918	R P G G H I H L I G V L T G Q K G E V E T A A L M R K M G R L Q G L T V G S R A
UniRef90_X8CHJ1	K R G R V V V V T A I G H P D D S M S M G S L S L E T L Y E K Q I R G A L Y G S S N
UniRef90_L9X3X5	K R G H H V Q V T T G E E G G E V S L P V D A M T M Q E I D F H G S F G M
UniRef90_I2GFR4	R R G G I V T V V G V Y G T P F D N Y P L G R I F D K G L T V R Y G Q S Q
UniRef90_X8AGB7	L A G T V V V L V G V P T P Q M R I D M P L L D F F S H G G A L K K S S W Y G D C L
UniRef90_E9UW93	P G A T V G F V G V P H D V N L P V N A L F R T N V G L K G G M A P
UniRef90_U2Y5R6	K R G G R V V V L I G M T A P G A T T P L P L D K V L S G C D I V A T M N G G A R
UniRef90_UPI000288636F	R K G G T I Q V T G V Y V G L Y N M F P L G D L F S R N I T V K L G Q A P
UniRef90_A0A038GDH0	K A G G R I A Q I G F L T G Q T S A L N L M P M I F R Q T T F R G I A V A P R S
UniRef90_I0K6E7	K A K Q Y V R I E S D R P L V L R Q M I I A A K K G G N L S I V G V Y M G Q L H
UniRef90_UPI0004699640	R R M G T V S I M G V Y G S T Y D N F P L H R M F D K G I T I K Q G Q A P
UniRef90_UPI0003474F87	
UniRef90_E4N0E3	R D G G A V G Y V G V P H H G G S A G V D I G Q M F N R N V R L V G G V A P
UniRef90_H6RSD5	R D G A L V L V G L T D Q P L S I R N G T Q F S Y F G Q R I I L G H Y G S E P G
UniRef90_J3A1N8	P G G T V G Y V G V P H G L D G G L D L Y P F G D N V S L R G G V A P
UniRef90_L2GC10	D G T V V V T A G F A G G D G Q G Q G L P T L L D T W L S I R G V W V G S R L
UniRef90_G7M0K8	R K G G M I Q V T G V Y V G G R Y N A F P L G D I F N R N I N I R T G Q A P
UniRef90_X0PWG7	V K G G N V V M T S V S R F D D N Q A T L P L F A M S A K S L L G V V M G Q T R
UniRef90_Q2G8E8	R V G G H I A L I G V L A G F A G P V Q T A L L M A K N L R V Q G L T V A S R A
UniRef90_UPI0003663F23	E H F G T V Q L T G V Y G T E A N N F P L G D F F S R N V S L K M G Q A P
UniRef90_UPI000225DE72	R K G G T V Q L T G V Y V G G I Y N M F P L G P F F S R N I T L K M G Q A P
UniRef90_W4QFX4	P G A V I G R V G I P Q K E D M N T N Q L F F K N I G L R G G I A S V
UniRef90_UPI00037BD6D7	
UniRef90_B1M9J5	F G G G N I A N I N Y F T G S E Y L P I P T T L A F M A G K T I K G D L C E G G R
UniRef90_U2CY39	W G G Q V V V L I A Q G P Q D G L Q I P Y Q D L Q M V S G K V N F V T M G E A D
UniRef90_R1EW2C	A R G T L V V V G A P P F G T E V A L D V N G L L G G K R I V G L T L G D S E
UniRef90_D9XD53	P D G R I S V I G V L E G F E V S G P V A P P L L K S P V V Q G I S V G H R R
UniRef90_UPI00041E85F7	K R G G R L V C V A L P A D G T M S I P I F D T V L K G I S I I G S I V G
UniRef90_UPI00034B3928	
UniRef90_E6WK26	R K Y G T I Q L T G V Y G L I Y N A F P L G E L F E R N I T L K M G L A P
UniRef90_D3E9V2	G G M I A V I G Y L A D I E Q E N M P N V P L L L I Q G C V L R G V Q A G S K Q
UniRef90_H3GSZ2	K R G R H V Q I G M T S F G D G G M M N I P L N E M V S R E I Q F S G S F M
UniRef90_UPI000255C6D4	K L G R A V I V G L G S E S I T L P P S V T F A M R Q V S L M G S G G F
UniRef90_UPI0003773DF2	L A G T I A C V G F V G R T A E P L D P R A L F A S G A T V R A V A V G S R A
UniRef90_UPI0002FEE4C5	
UniRef90_K9UGF3	R K G G T L S I V G I H G G S I D S F P M G A A M H K G L T F R M G R Q N
UniRef90_D3NTH2	R P G G V I S R V G V G P Q Y E A A P V G F G S L F G K N V T L N G G P A P
UniRef90_UPI00035D040B	R P G S A V L V V G G S G E V R V T A Y E L A G K H V T F V Y E G S A V
UniRef90_UPI00035D4E49	R R G G R L V C V S M P A H G V P I P I F D T V V G G I S V L G S I V G
UniRef90_U0EF74	E P G G M T C T V G L P A P G Q K L E I D P L Q I T S Q R H L V G S Y L G S A V
UniRef90_M1NUC2	R K G G T I Q I T G V Y G S R Y N A F P L G D I F Q R N V N I K T G Q A P
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UniRef90_A0A023VD53	P G A T V G Y V G V P H G I E P I R Q M F N R N V G L R G G M A P
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UniRef90_L9Y1B1	
UniRef90_A7ESP3	L F E D M N R A   I D
UniRef90_B6JZE8	Q Y E D M L K C I E
UniRef90_M2NAY2	L T D D L V A F V
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UniRef90_W9C362	P D D F   P H M A A   L Y Q Q G R
UniRef90_UPI000367B39D	V R R F   L P K L I D M I L E R K
UniRef90_B4WM17	M Q K Y M Q P L M E K V E Q G
UniRef90_J4P8W6	M L E D V A R F V E E
UniRef90_H5TEB4	Q Q Q E M I K A I E
UniRef90_A0A022MCX6	V R R Y   L P D L I D R V L T G
UniRef90_A1RR49	P R   V D L P A V V D M V K R G
UniRef90_A0A031JQ74	V Q K Y   L P A L L A A V L E D K
UniRef90_L0MCH5	P Q Q F I P Y L I E Q W R N G R
UniRef90_UPI0003B57056	V R G Y   L E E L L P D V R S G
UniRef90_Q0KOF8	D Q I L E M I R A I E
UniRef90_W3ABB9	P Q K F   P E M I S Y Y K K G Q
UniRef90_L7KFJ2	F T R D I P   L Y T R W L E T G Q
UniRef90_UPI0002E70E6A	P A S F   L P Q L I A Y Y R Q G
UniRef90_C4RYC9	D F E Q M N Q A L
UniRef90_S9TAJ2	P R K D F E E   L L D L C A A N Q
UniRef90_Q1ARJ5	D T Y S T P T   L L R L V A E G R
UniRef90_F7Q0R0	V H S Y   V D P L M N L V K E K K
UniRef90_Z5X7V4	S F   V E L C E L I
UniRef90_W2R4Z2	L T E E   L V R V V
UniRef90_V4QS63	V Q H Y   I S E L L K R I E D G E
UniRef90_UPI00031DDDC5	V R R F   L P E L I E R I Q A G E
UniRef90_I4C0T4	P Q R F I P K L I R L Y R K G Q
UniRef90_UPI00036CFA69	V Q R Y   L P M L M E R I Q N G
UniRef90_Q9XD58	P Q Q S I P E L I A L Y Q A G R
UniRef90_UPI0003B72337	M Q   L R M V E A I E
UniRef90_W4HI06	H Q A D M V R
UniRef90_W4DRH6	V I H Y M P E   L Y K M I K E N K
UniRef90_F5SKF8	V L H Y M P Q   L Y R M I E G G
UniRef90_F5YX29	P A R D   P R F   V A L W R A G K
UniRef90_I4W4Y2	S E V F   I P Q   L I D L Y L Q G R
UniRef90_K3WQT6	L L E D L V R F   V
UniRef90_E8PAY9	V H Q Y   L P Q   L L E L I E R G E
UniRef90_V8RCV9	H R K Y   I P K L I E M T L A G R
UniRef90_H0HYC6	S L E D F V R A   I D
UniRef90_S3PEZ2	P Q L S I   P K M I E Y F K N G
UniRef90_B0R896	V R A Y A E E   L M A D V L Q G
UniRef90_M7UND7	M F E E M
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	90	100	110	120
UniRef90_W5Y157	E E	A E T S G K R F S A V V E A A G H P N A L E T A Y K L T		
UniRef90_R7YFY5	K E N P N W G E T A K S L T P G K E G V T H I I E V G G P N T L K Q S L K A V K			
UniRef90_UPI00047B3A06	S T E G D A A D I V Q E K F G G A H A A V V T A V S K V A F N S A V N A V R			
UniRef90_W11P11	T R Q D L A A I L N K L T G G F G V D V A I E C V G I P A T F K I C Q D I I			
UniRef90_UPI0003808E4E	E R G E E G I A R T T R E L L T G G D G T H A V L E C V G T A Q A L E T F G G V V R			
UniRef90_D7D2B9	L R E D P V A T I R E K V G G V H A A I S V A V T K K A F E Q A Y Q S V			
UniRef90_V5XLA2	D D V N Q A G D D L Y E L A H G G A D V I I D C V G M D G S P I Q M A A K A V			
UniRef90_M5GFD7	T R V G N V G R A I R E I T T G M G V V H Y S V E T T A K E Q A Q L A A I K C V R			
UniRef90_R1G9J4	K A T P D W A R E V Q R I T G G R G A D H I V E V G G G			
UniRef90_M0A1V3	S N A D P V E Y I A S N T D G G V D V S F E V A G V E A S F N A A I E S T V			
UniRef90_UPI00047D22EB	V E D P M Q A L K E L T G G I G V D R V I D A V G I P E Q H P S G N W Q P			
UniRef90_U5LH11	E Q Y E N V G S H L K E I L T H G G A D V I D A V G M D G K M T D M			
UniRef90_B9TF54	R E Q P D W S G A V R E A S N G G V D L V V E V G G L A T L P I S I G S L R Y			
UniRef90_D7CFH3	E R G E E G I E R V R E L T G G D G T H T V L E C V G T L P A L Q T S L G V V R			
UniRef90_A9WCQ5	R G D E A I E M L K E L T D G L G V H S T I E A V G T Q E S M M Q A I R A T R			
UniRef90_F3NX43	H E T D P V A A V R E L T G G G A D K S I A L G I S D T L H N A V N S L R			
UniRef90_M7D5T8	T E E P L K E T A K K L T K G K G V D V I Y D P V G G E F T E Q A L R A M A			
UniRef90_U7P7H4	N P V E A I L A M T G G E G V D V A M E A V G I P E T F D V C Q Q I			
UniRef90_S2VIV8	S D I N S G E W I Q K E V G G V D I A V V T A V S Q V A F G Q A V D A M K			
UniRef90_V9DL25	K Q K D V V S E I Y R L E P Q G V D C I D A A A F R Y T P N E T L R A V			
UniRef90_B2B6A5	K E T E D W G E A A K K Y T P G E K V D M V D V A G N S S L V Q S L A A V R			
UniRef90_Q4P5B9	K G L D T A A F A A K V K E D S R G A S L A I E A S G S P I A M R N V I M A L A			
UniRef90_I0JY10	N D S Q H L E K L N K E G D I D C A V F A P S N A I A Q Q A I S L V K			
UniRef90_E3E948	E S Q E N V G N Y L K E I T K G G A D V V I D C S G M S G K M S P I A T Q A V			
UniRef90_W4PZJ8	T E F P D M G E H L K E I T Q G G G A D V V I D C V G M			
UniRef90_M1YWR3	R R T P D W D Q A V L E W T N G R G A D H V V D V G G A S T L N R S I A A C R			
UniRef90_UPI00040676DF	K T H P N V S E A I L E I T K G G A H V S V D A L G N K I T C Y N S I S C L R			
UniRef90_W7T3Z6	E R G E E A V A R A K E L T N G D G A P H V L E C V G T L G A Y E T A L G V V R			
UniRef90_UPI00036A6F64	U N I D P V A K A K E V T N D L G L D A V V I T A V S K T P F N Q A I D V			
UniRef90_Q0FY37	A G T D L V S R I Q D L T G G G A R F T F D T T G N V A V I G T A V A A L			
UniRef90_S8HRQ4	K Q T N V T E A L M E M T G G I G P D A V I D A V G M E S H G F S E A I F A C			
UniRef90_J8TUN7	R G D E A I V K R V L D L T N Q A G A D A V L E C V G I P Q N P D M N T T N N L F			
UniRef90_S6FG13	E E Y E D L G S H I K E M T S G V D A V I D C V G M D G K P I K I A M N A V			
UniRef90_UPI00047B4282	L N E D P V A K A K E V T N D L G L D A V V I T A V S K T P F N Q A I D V			
UniRef90_N8WNL4	R G D Q G V A R I K E L T G G I G A D S V L E C V G T E E S M M Q A I R S T R			
UniRef90_W9Y509	G K E D A I Q K I L E I T D G R G V D C A I E A V G V E P T W N I C Q H V V K			
UniRef90_UPI000477FED0	K T H P R W A A E V Q R I T N G R G A D H V V D V G G A G T I E Q S E A V A W G			
UniRef90_J1RZJ0	R E N P V E T L T Q R L L T G G I G A D S V L E C V G T G A A L R D A L D M T R			
UniRef90_B1VHY8	K H A D P A E A V Q E F T D G G A H G V L V T A V H P Q A F G Q A V G M A R			
UniRef90_V5I570	D E V P D M G E R A K R I T T D G R G V D L A I E C S G H P S A I R E G L S L L T			
UniRef90_W9X212	K T D S V E G E V K R K L T N G F G A H A V I V T V G S D A A Y D Q A L K L L R			
UniRef90_M7XH09	S S P S L V A D I H A A T G G M G A H Y A V E C T G V A R V L R S A W E A V R			
UniRef90_S9PFR7	Q Q P D V R E Q V L H W T D G R G L D V A L D L A G A A P V R E Q A Q S V L A			
UniRef90_UPI00041513C1	L E D P V Q T I R D L T G G I G V D R A I D A V G V D A R P Q Q G Q A Q W			
UniRef90_V3NGB0	D D D N D A A E K I I E Q T A G R G V D A V I D A V G F E A K G S T Q C I A A V			
UniRef90_A0A009R2G7	K D Y D Q P I Q Q V I V E M T G W G V D H S F E C I G N V N V M R S A L E C A H			
UniRef90_M7NJ03	R D S N E T G D Y L K E L T S G G A D V V I D C V G M			A V D T A T K
UniRef90_S4FMS0	R G D D A I K E I M V L T D A G A D A V L E C V G T Q Q			
UniRef90_B1LY84	R G D D A I K E I M V L T D A G A D A V L E C V G T Q Q			
UniRef90_G2R139	M N E D V F E R I K E L T K G Q G A D G V I D C V G M			
UniRef90_UPI0003B665DD	T S S S D L V Q E V K Q A T P E G G L G P H A I V L L L A V A E K P F H Q A T E Y V			
UniRef90_M5C662	N D T P E W G K R A E E L S N G G V N R V V E V V G P A S F H Q S I Q A V A P			
UniRef90_Q54UL7	R D A P E W S K V M E L T G G K G V D Q V L E V G G Q G T L I Q S I K S V E R			
UniRef90_Q9KBU5	K T H N E W E K E V M K L L T N D Q G V N H V L D V G D Y I N R S I R C S			
UniRef90_K0IK15	S T I D D V G T H I K E I T K G G A D S V I D C V G M D G K P I N I A S Q A V			
UniRef90_Q8Y1R5	A T T R N I R D E V L E L T D G R G I D V V D T V G A E N T I A D S V R M L A			
UniRef90_UPI0001FFE2E1	E R G E E A I E R V R A L T T G G H G V H S V L E C V G T D Q S M Q T A A N I A R			
UniRef90_UPI00037EEA4D	D G N H V E A V Q E L T G G G A T V T F D F V A E Q G Q A E L D A W A			
UniRef90_D2S4S1	N V E D P V E T L T K S L T G G A G V D R A I D A V G V P S Q A L E W A V Q A L			
UniRef90_W9XFZ6	S S T D V L A E L R E V T G G R G P D V C I E A V G M E A H S S G I Q G A Y C			
UniRef90_Q8EVU7	L K V D N M V A E I I R R I T G G G G T D A A V D C T G A V P V I N D M V G A L G			
UniRef90_A9ATQ3	R N V D V V Q E V N R I T D G R M L D S A I E C L G S Q S T F E Q			
UniRef90_UPI00046A8E45	E E D P V D T V L R L T T G G I G V D R V I D A V G V D A M R A Q W A V R A V			
UniRef90_UPI00037CCA9	R G D E A V Q R V L E L T D G A G A D A V L E C V G A T S A E Q A G Q V A R			
UniRef90_G2YF79	F A A D P A E A I Q E Q I G G A H G V L V T A V H P D A F G Q A I G M T R			
UniRef90_UPI000376CE78	T N K E G L T K R V K E L T E T G R G A D C V I E G V G H A D A L R T G F D L L R			
UniRef90_A0A031FTR5	R E D P V E A I R E L T T G G I G V D R V I D A V G V D A R E A Q R G P A V N			
UniRef90_D2QRCC1	R G E D G V A K V L E I T T G G E G A H V L E A V G H M P A Y E Q A Y G I V			
UniRef90_E3ITT4	R E M K D P V L F L K K A T D Y F G A D V C I D A V G C D A T A L H W A I N S V			
UniRef90_A0A010YHS2	T D T A T V L K E T I Q D T E P T G Y D Y I F E C V G H P A L I R A A I D A L A			
UniRef90_U2PM59	R E V D D I P A A I I A D L T D G R G A D G V V E A V G M E A H			
UniRef90_U1GJR9	R G D E A V A R V M A L T D G A G A D A V L E C V G T E Q S V D T A V K V G R			
UniRef90_R9V501	T D R E G L D R R V K E L T N G R G A D T V I E V V G L S A A L Q T A F E L L R			
UniRef90_UPI00029AC298	A Y D D D P A D S I V R H T A G R G V D A V I D A V G F E A K G S T Q S I A A V			
UniRef90_UPI00047D15FA	A E Y D D I V V H M K K V T D H L G A D V A I D A V G A E A D G N N W A I D S V			
UniRef90_D1BGR5	R G D E G V A K L L E L S D G G A D A V L E C V G T D A			
UniRef90_UPI00022604BD	R E V D S V P D A V R A L T H G R G T D S V I D A V G M E A H			
UniRef90_D6S4Z4	L E T P D V A S R V R E L T T G E G A D A V F E L L G T Q A A M S S A L N M L R			
UniRef90_B4WD89	R G D E G V K Q I R K L T N G A G A D A V L E C V G			
UniRef90_B7G307	N Q T G D W E E A V L A I T T G D R G A D H I L E V I G G S H L A S S V R L A			
UniRef90_UPI00036A36FB	T D S S T V A K A V H Q A T Y G A G A D V I F E C V G R R E T T M D A C V G W D G			
UniRef90_UPI0003B6E3D9	T K G D V A A E V Q R D V G G V H G V L V T A V S P A A F D Q G I L A L L R			
UniRef90_D5P4A5	M N E D P G K V L M E K L N G V E A A I S V A P S K A F E Q A Y S T V K			
UniRef90_C5D9N6	T A V D S V H E T L R E M T G G R G P D A C I D A V G M E G H			
UniRef90_K5X9I5	K E E D P V Q K L V E L T D G G V D V A F E V T G V P A V L Q Q A I D S T T			
UniRef90_F3SC05	R K N P D W D K E V L K L T N G V G V D H I L E V G G F G T L P R S L N A V R			
UniRef90_J1E7V1	R Q D T Q W G Q T A W D L T G G K G V D H I I E V G G A A T L E Q S M A A I			
UniRef90_UPI0003467A6B	R A T P A W D E E V R K L T A G H G A D L V V E T V G A T T I A R S L Q A A			
UniRef90_UPI00034CAFDF	R G E E G V A K V L E L T G G A G V D A L E C V G T H			
UniRef90_X5LTW6	R T E D V A A R V Q E L G G A D A I G V A V S N A A F E A A Y G A L			
UniRef90_UPI0003778915	R G D E A V V A K I R E L T T G G D G T H A V I E C V G T E P S V A T A L D A V R			
UniRef90_C2D0H5	E R G D D A V K K V M A L T N G D G A D A V L E C V G T E			

UniRef90\_W5Y157  
 UniRef90\_R7YFY5  
 UniRef90\_UPI00047B3A06  
 UniRef90\_W11P11  
 UniRef90\_UPI0003808E4E  
 UniRef90\_D7D2B9  
 UniRef90\_V5XLA2  
 UniRef90\_M5GFD7  
 UniRef90\_R1G9J4  
 UniRef90\_M0A1V3  
 UniRef90\_UPI00047D22EB  
 UniRef90\_U5LH11  
 UniRef90\_B9TF54  
 UniRef90\_D7CFH3  
 UniRef90\_A9WCQ5  
 UniRef90\_F3NX43  
 UniRef90\_M7D5T8  
 UniRef90\_U7P7H4  
 UniRef90\_S2V1V8  
 UniRef90\_V9DL25  
 UniRef90\_B2B6A5  
 UniRef90\_Q4P5B9  
 UniRef90\_I0JY10  
 UniRef90\_E3E948  
 UniRef90\_W4PZJ8  
 UniRef90\_M1YWR3  
 UniRef90\_UPI00040676DF  
 UniRef90\_W7T3Z6  
 UniRef90\_UPI00036A6F64  
 UniRef90\_Q0FY37  
 UniRef90\_S8HRQ4  
 UniRef90\_J8TUN7  
 UniRef90\_S6FG13  
 UniRef90\_UPI00047B4282  
 UniRef90\_N8WNL4  
 UniRef90\_W9Y509  
 UniRef90\_UPI000477FED0  
 UniRef90\_J1RZJ0  
 UniRef90\_B1VHY8  
 UniRef90\_V5I570  
 UniRef90\_W9X212  
 UniRef90\_M7XH09  
 UniRef90\_S9PFR7  
 UniRef90\_UPI00041513C1  
 UniRef90\_V3NGB0  
 UniRef90\_A0A009R2G7  
 UniRef90\_M7NJ03  
 UniRef90\_S4FMS0  
 UniRef90\_B1LY84  
 UniRef90\_G2R139  
 UniRef90\_UPI0003B665DD  
 UniRef90\_M5C662  
 UniRef90\_Q54UL7  
 UniRef90\_Q9KBU5  
 UniRef90\_K0IK15  
 UniRef90\_Q8Y1R5  
 UniRef90\_UPI0001FFE2E1  
 UniRef90\_UPI00037EEA4D  
 UniRef90\_D2S4S1  
 UniRef90\_W9XFZ6  
 UniRef90\_Q8EVU7  
 UniRef90\_A9ATQ3  
 UniRef90\_UPI00046A8E45  
 UniRef90\_UPI00037CCAF9  
 UniRef90\_G2YF79  
 UniRef90\_UPI000376CE78  
 UniRef90\_A0A031FTR5  
 UniRef90\_D2QRC1  
 UniRef90\_E3ITT4  
 UniRef90\_A0A010YHS2  
 UniRef90\_U2PM59  
 UniRef90\_U1GJR9  
 UniRef90\_R9V501  
 UniRef90\_UPI00029AC298  
 UniRef90\_UPI00047D15FA  
 UniRef90\_D1BGR5  
 UniRef90\_UPI00022604BD  
 UniRef90\_D6S4Z4  
 UniRef90\_B4WD89  
 UniRef90\_B7G307  
 UniRef90\_UPI00036A36FB  
 UniRef90\_UPI0003B6E3D9  
 UniRef90\_D5P4A5  
 UniRef90\_C5D9N6  
 UniRef90\_K5X9I5  
 UniRef90\_F3SC05  
 UniRef90\_J1E7V1  
 UniRef90\_UPI0003467A6B  
 UniRef90\_UPI00034CAFDF  
 UniRef90\_X5LTW6  
 UniRef90\_UPI0003778915  
 UniRef90\_C2D0H5

130            140            150            160

Detailed description: This figure displays a multiple sequence alignment of UniRef90 proteins. The sequences are represented as horizontal lines of colored boxes, where each box corresponds to a single amino acid residue. The color of the box indicates the conservation of that residue across the set of proteins. A color key at the top right shows a gradient from dark gray/black (high conservation) through light gray to white (low conservation). The alignment is centered around positions 130, 140, 150, and 160. Above these positions, the sequence starts with 'A P G G L T V T V G L P A P G S S I T L D P L I M T S E R R I H G S Y L G S S V' and ends with 'R K G G R L V L V G F V P D G F P A P I F D T V L N G V T I K G S I V G'. The alignment shows a high degree of conservation in the first half of the sequence, particularly in the N-terminal region, while the C-terminal region exhibits greater variation.

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UniRef90_W5Y157	P S K D I P V Y E Q L W R E G K
UniRef90_R7FYF5	Q F E E M N R A I E
UniRef90_UPI00047B3A06	D L E E
UniRef90_W1IP11	N T S S T P M L L K S V Q S G R
UniRef90_UPI0003808E4E	A R Q Y I P E L L P D V L A G K
UniRef90_D7D2B9	T R K D M Q E A L D F A A R G K
UniRef90_V5XLA2	V V H I M P K I Y D M I A E G
UniRef90_M5GFD7	T P E F I P H M V A E Y R A G R
UniRef90_R1G9J4	
UniRef90_M0A1V3	S D E E Y G M V I D M I A D G R
UniRef90_UPI00047D22EB	H R K Y I P K L L E L V R A
UniRef90_U5LH11	
UniRef90_B9TF54	D F A D M L R A I E
UniRef90_D7CFH3	A R A Y I E E L L P D I L E G R
UniRef90_A9WCQ5	V R R F I P E L I N L I W Q
UniRef90_F3NX43	E F R Y L L N Q V A A G K
UniRef90_M7D5T8	S A Q N M M D L M K L F S E G K
UniRef90_U7P7H4	S T N T I P V L M R A V E S G
UniRef90_S2VIV8	P L D D I N D M I D E M L A G K
UniRef90_V9DL25	V Q K Y W H Q L L E K I E S G E
UniRef90_B2B6A5	Q Y R N L V R F V E
UniRef90_Q4P5B9	P Q V T I P F L V S K I E A G E
UniRef90_I0JY10	P R E E M K E V L R L A A E G K
UniRef90_E3E948	V I H Y M P Y M Y E L I D T G K
UniRef90_W4PZJ8	
UniRef90_M1YWR3	M F E A M N R A I A L
UniRef90_UPI00040676DF	A Y P E M M Q M I L E E K
UniRef90_W7T3Z6	A R A Y I E E L L P D V L S G
UniRef90_UPI00036A6F64	P Q V M I P R L I E L W R A G R
UniRef90_Q0FY37	V Q R Y L N Q L L R L I E E D K
UniRef90_S8HRQ4	V L D D I Q K A Y E
UniRef90_J8TUN7	V V H Y M P L L F K M I T S G E
UniRef90_S6FG13	T R E D L K E A F Q F A A D G K
UniRef90_UPI00047B4282	V R R Y I P D L I K L V W D R K
UniRef90_N8WNL4	
UniRef90_W9Y509	
UniRef90_UPI000477FED0	H R K N I P K L I E L T L A G K
UniRef90_J1RZJ0	A R A Y I P E L L P D V L S G R
UniRef90_B1VHY8	T R Q D I A E A L D F Y A R G
UniRef90_V5I570	P R D Y F
UniRef90_W9X212	Q E M D E L L E M A V K G E
UniRef90_M7XH09	P P E F I P R L M K L H A D G E
UniRef90_S9PFR7	E H L P Q L V K L T R L G R
UniRef90_UPI00041513C1	H R Q Y I P M L I D L V R S G
UniRef90_V3NGB0	V H A W L G E L L P L I E K G
UniRef90_A0A009R2G7	
UniRef90_M7NJ03	T T H D K N A L L D A V L R G E
UniRef90_S4FMS0	
UniRef90_B1LY84	
UniRef90_G2R139	R Q D T Q E A L D F F Q R G
UniRef90_UPI0003B665DD	M F E S M N R A I A A H Q
UniRef90_M5C662	
UniRef90_Q54UL7	P K D S F Q E M I
UniRef90_Q9KBU5	I I H Y M P T L Y Q M I K D
UniRef90_K0IK15	E L K E V I E L A S
UniRef90_Q8Y1R5	V R A Y I D D L L P D V L D G K
UniRef90_UPI0001FFE2E1	D L A E L M V L A Q A G K
UniRef90_UPI00037EEA4D	H R K Y I P Q L I D M V Q S G
UniRef90_D2S4S1	Q R Y M P R I L D H M A R G E
UniRef90_W9XFZ6	S R K F I P F L A D L Y M Q N R
UniRef90_Q8EVU7	
UniRef90_A9ATQ3	H R T I T P Q L I E L V R S G
UniRef90_UPI00046A8E45	T T H D R A V L L D A V L K G E
UniRef90_UPI00037CCAF9	T R K D M E E A L D F Y A R G
UniRef90_G2YF79	V R S V F P Q A M E
UniRef90_UPI000376CE78	
UniRef90_A0A031FTR5	V R A Y L E G A I P Q V L D G
UniRef90_D2QRC1	V K R L L P K L I D H I M S G R
UniRef90_E3ITT4	P Q R D I R R Y V D L Y R G R R
UniRef90_A0A010YHS2	
UniRef90_U2PM59	T T Y D R A V L L D A V L N G
UniRef90_U1GJR9	V R S I F P Q A L E K L Q Q K Q
UniRef90_R9V501	V Q R Y L P E L L A H I E A G R
UniRef90_UPI00029AC298	V K R Q W P R L F E H I R N G
UniRef90_UPI00047D15FA	
UniRef90_D1BGR5	
UniRef90_UPI00022604BD	T L D D L Y E A I E L L A R G
UniRef90_D6S4Z4	
UniRef90_B4WD89	A L E R L V R A V D
UniRef90_B7G307	D L K E A L E Y V S S G K
UniRef90_UPI00036A36FB	T R Q D L Q E A L D F A A A G K
UniRef90_UPI0003B6E3D9	T R K D L Q E C L E L A A N G K
UniRef90_D5P4A5	
UniRef90_C5D9N6	Y R D I F P A V M E L M K R G
UniRef90_K5X9I5	Q F K D M N R L I S
UniRef90_F3SC05	D Q Q A M V R A F D
UniRef90_J1E7V1	
UniRef90_UPI0003467A6B	T R E D L A E V F R L H R R G Q
UniRef90_UPI00034CAFDF	A R A Y I E E L M P D V L D G
UniRef90_X5LTW6	G F A S L L D L A A S G R
UniRef90_UPI0003778915	
UniRef90_C2D0H5	

1                    10                    20                    30                    40

UniRef90_V5SB25	P D D Q A L F   L G D I L P T G W Q A A V   Q C D   E R T D T V A V W G C G P V	
UniRef90_G0PZS4	D D R F V Y L S D V L P T A W Q A V Q Y A D I P P G G S V T V L G L G P I	
UniRef90_A8MD91	A S P L C P C A G L T P Y R A L V R K A Q V K P S E Y V A V I G A G G G	
UniRef90_Q4FQ53	D E Q V L M C P D I M S T G F K G A E N A N I K I G D I V A I F A Q Q G P I	
UniRef90_M0FAD0	E E G A C L S C A G L T A W R S L V E D G G L S A G E T V L A L G T G G V	
UniRef90_R6EMT3	D A A L M T V D M M S T G F Y G V E M A D V Q L G D S V V V F G I G P V	
UniRef90_C7ZJZ5	F A E A S T L T G A P L T S W N A L Y G L R P L R A G E T V L V Q G T G G V	
UniRef90_UP10003481EC6	E A A T L P I A G L T A W N A L R Y G N L Q A D N T V L L H G T G G V	
UniRef90_H0S373	F G A A A P V L C A G V T V Y K G L K E T E V R P G E W V A I S G V G G L	
UniRef90_A6UDU5	E E A A T L P C A C A L T A Y N A L M G P V P L K G G D Y V L V L G T G G V	
UniRef90_F8P8X2	E V A P V L C A G V T V Y K G L K M T D T P G Q W V V I S G I G G L	
UniRef90_UP10002EB292A	D A L I M L S D I L P T A Y E V G V L N G K V K E G D S V A I V G L G P I	
UniRef90_W1Q8Q4	A D F D A S A A L T L A G S T A M H M L T N R T A V H P N D W V L V M G S S G V	
UniRef90_B9XIS6	E A A A L G C R Y V T A F H A L A H R A D L A A G D W V A V H G C G G L	
UniRef90_L0K1U3		
UniRef90_D5UMP5		
UniRef90_E8TX01	E A A A L G V N H L T A W R M L F S K A R L Q P W E T V L V F G I G G G	
UniRef90_G3XQ16	C T G V T A W N A P F G A L P L K P G Q N V L F Q G T G G V	
UniRef90_R8BXV5	D E E V A P V L C G G V T A Y K A I K C C G V V P Q G Q W V A V S G G G G G	
UniRef90_B5HNA6	F A T A A S L G C R F A T A F R A V V Q Q G R A T A G E W V A V H G C G G V	
UniRef90_I8TAB2	D A E A A T L P F A G V V A A W R T I H E Q G A I G H G D T V V I Q G T G G V	
UniRef90_W7SVL3	A C G L S T G A G A V V L N V L R P H V G S A L V V Y G A G S V	
UniRef90_W4NFY7	M L S D I F P T G Y H A T V L A G V E P G D S V V I Y G A G P V	
UniRef90_A3YE39	F E Q G A G L I T A H A T A H H G L K Q R A N L K K G E T T L L V T G A S G G	
UniRef90_M2MUQ1	D E E V S C L P I A A M T A W M A I N G M R P F G Q S E T V L I Q G T G G V	
UniRef90_X0M2Q2	P D E E L V P L S D V I M C T G W H A A V S A D V R P G S T V V V V G D G A V	
UniRef90_W9GDT1	V A P I L C A G V T T Y K G L K E T E A R P G E W V V I S G V G G L	
UniRef90_UP10004657C3F	D E Q V L F L S D I F P T G F M A A D F C D I K G G E T T V A I W G C G P V	
UniRef90_Q2A00	D E Q V L F L T D I F P T G Y Q A A E Q C G I P G R D V V A V F G A G P V	
UniRef90_A0A016QL32	E E G A T L L A C A G L T A W T A L D C M K T M P K D G V V L L Q G T G G I	
UniRef90_K3VQU7	D E Q V L M C P D I M S T G F K G A E N A N I K I G D T V V V F A Q G P I	
UniRef90_A1W4V9	D E Q V L M C P D I M S T G F S G A E A A N I K I G D V V A V F A Q Q G P I	
UniRef90_U0Z249	E A A P I I C A G V T T Y K G I K E T G A R P G Q W V I S G V G G L	
UniRef90_K0WFN8		
UniRef90_Q9XHT2		
UniRef90_S6B8K6		
UniRef90_I1CNK8	P D E K A L Y L S D I V P T S Y H A V W Q A G V K E G E T I G V V W G L G P I	
UniRef90_U2A7E4	S P D E R Y L Y L S D V V P T A W Q A V E Y A D V P P G G T V V V L G L G P I	
UniRef90_UP10003B5DC8D	A M L S D I F P T G Y H G A E L A G V R P G S S V A V F G G G P V	
UniRef90_D0LF54	V A A L A D A G L T A Y H A A A K V A R M R P G E V C V I I G A G G L	
UniRef90_Q70HX6	P V E L L G P L G C G F L T G A G A V L N T F A A G P G D T L V V L G A G A	
UniRef90_H2JKG7	A A A L G C R F A T A F R A V V Q Q G R V A A G E W V A V H G C G G V	
UniRef90_D7GGN1	L A D L L T L S D V Y P T G T H A V V K A G L D A Y S S V V V I G D G A V	
UniRef90_Q5LS79	P P H V A A G L G C R V T T A W Q A L V G R A E L R P G E W L A V F G G G G V	
UniRef90_H2K1T6	D E Q V L F L S D I L P T G Y M G A D M C D I Q E G D V V A V W G A G P V	
UniRef90_J4HWN8	D E G A G L S I T W P T S Y E A I L V G R A Q L K P G E W V L V T A A A G G	
UniRef90_X8IZM0	E Q A A A I P C A G M T A F N V L F D Y G S T T P N S T V L V L G S G G V	
UniRef90_V5XQS3	T L L A D V I M A T G Y H A A V S A E V K E G D T V V V I G D G A V	
UniRef90_A6FLR4	P D Q R F V Y L S D V L P T A W Q S V A Y A D V R P G G T V T V L G L G P I	
UniRef90_UP100037F0687	E T A A F P L A G M T A Y H H M L V Q K A G V R P E H T V L V Y G S S G V	
UniRef90_H1XQZ9	F E E A A C L P T A W L T A Y S M L F G K A D L R P G S T V L V Q G A G G G	
UniRef90_UP100034D64CA	F A P I F C A G V T V Y K G L K E T Q V K P G Q W V I S G V G G L	
UniRef90_M2XWA9	P D D L V A P I L C G G V T A Y K A I K V S E A V P G R W M V I S G A G G G	
UniRef90_E6S7J3	V A A L A D A G L T A Y H A V A K A A R V R P G D T A V A I G A G G L	
UniRef90_W9WMQ0	P F D A A A G L T I V Y G T S Y H A L K Q R A E I K P G E T L L V L G A A G G	
UniRef90_G6A089	P Q E T L V L M A D I F P T G Y F G A K N A F R M L D G M T V V V I G C G P V	
UniRef90_Q0AP48	D E Q V L M C P D I M S T G F A G A E S A G I K I G D T V A I F A Q G P I	
UniRef90_C7ZC84	E A L V M L S D I F P T G F E C G V L N G R V Q P G N S V A I V G A G P I	
UniRef90_W7QDV3	L E D I C P I L C A G L T V Y K G L K E S G V R P G Q Y V A I V G A G G G	
UniRef90_C6BNY1	D A E A A S L T C A G V V I A W K T L A D P A P V L P G E T V L T V G T G S V	
UniRef90_F9FY13	F D E I A P I L C A G V T V Y K G I R V T D T R P G Q W A I S G I G G L	
UniRef90_UP100036FD7B1	L D E A A A L G T S W L T A Y S L L F A S A N V K P G D T V L I Q G A G G G	
UniRef90_A3P8L2	A M L S D I F P T G W H G T E L A G M Q P G D R V V V F G A G P V	
UniRef90_R6PC49	F S K A V A L P L Q G G L S A Y H I L K T M G R L E K G E S V L I H A A G G V	
UniRef90_UP10003795DEE	D E A A A P M Q C G G A T V W N A L R A Y N A Q P I E T V G I M G V G G L	
UniRef90_UP10003414747	A V L N S L V T L A D V I M A T G Y H A A A S A E V K S G D T V V V M G D G A V	
UniRef90_W3WSI5	M L S D I F P T G W H A T E L A G L Q P G E S V V I Y G C G P V	
UniRef90_B9XQN3	L E A I S P V L C A G I T V Y K A L K E S G V K P G Q Y V T I I G A G G G	
UniRef90_X0PQS3	P D D R Y V Y L S D V L P T A W Q A V E Y A A V P P G G T V A V L G L G P I	
UniRef90_W3XCX2	D E E A A T L P I A S V T A W M S I N G M R P I Q G D E Y V L L Q G T G G V	
UniRef90_B1HTF8	D E E A G P I M C G G V T A Y T A C K R S A V K P G Q W V L V I P G A G G G	
UniRef90_UP100035E5CD7	P D A I A S G A N C A L S Q V M Y G L E R A N L Q L G E S V L V Q G A G A L	
UniRef90_K9FWP0	E A A P L I C A G I T T Y K G L K E T Q A R P G E W M A I S G C G G L	
UniRef90_X0L363	D E V L V L M A D I F P T G F F G V K S A I S L A P P S T M V V V I G C G P V	
UniRef90_M2YTT4	D E A L I L M A D I F P T G F F G V K S A I S L A P P S T M V V V I G C G P V	
UniRef90_H0IW79	F G A A A P V L C A G V T V Y K G L K E T D T Q P G D W V A I S G I G G L	
UniRef90_UP100028981C1	E A C M L S D M V P T G F H G V E L A D V Q F G D K V L V V G I G P V	
UniRef90_B2VX41	E G S T L P I A G L T A W N A L Q Y S N L Q A D E T V L L H G T G G V	
UniRef90_G0REZ8	D D W A V Y S C D M L S T G F M G A E H A R L N F G E T V A V F A Q G P V	
UniRef90_UP1000368DA8B	Q A S S I T C A G V T T Y K A I K C A K P T P G Q W V A I Y G A G G G L	
UniRef90_A8Q9W8	E I A A A L S V T Y G T S I Y A L K Q R A N L Q P G E T L L V L G A S G G	
UniRef90_UP10002D859F7	D E E A S C L P I A A V T A W M S I N G M Q P G G E G E V V L L Q G T G G V	
UniRef90_UP100041405D5	P D E E I A P I L C A G V T V Y K G I C K R A G V K P G Q Y F A I S G A A G G	
UniRef90_E3J724	D V F S T G H H C A V T A G V S P R T S V T V I G D G A V	
UniRef90_UP100036554D4	UniRef90_F4CKV0	Q A S S I T C A G V T T Y K A I K C A K P T P G Q W V A I Y G A G G G L
UniRef90_UP100035D8DE7	UniRef90_K2SMY5	D D W A V Y S C D M L S T G F M G A E H A R L N F G E T V A V F A Q G P V
UniRef90_W2RS90	UniRef90_L2GH67	E I A A A L S V T Y G T S I Y A L K Q R A N L Q P G E T L L V L G A S G G
UniRef90_F6DUU8	UniRef90_G7ZHH9	D E E A S C L P I A A V T A W M S I N G M Q P G G E G E V V L L Q G T G G V

50            60            70            80

UniRef90_V5SB25	G Q M A L R S A V L L G A E Q I I A I D R L P E R L S M A E A G G A V A I N F E		
UniRef90_G0PZS4	G A M A A R I I A R H R G A G G L V I G V D L V P E R L E R A S T H G A T C L D L R		
UniRef90_A8MD91	G T M A I Q I A K V M G A I V I G I D V R D E A L K E I E R A G A D Y V I N G		
UniRef90_Q4FQ53	G L C A T A G A K L R G A S T I I A I D G N N E R L A M S K K L G A D I T L N F		
UniRef90_M0FAD0	A T F A L Q Q F A E D H G A R T V V T S S S D D K L A T A R E L G A D V T I N Y		
UniRef90_R6EMT3	G L M A V V A G A K L R G A G N I Y A I G T R K N C A E L A K E Y G A T D I I S Y		
UniRef90_C7ZJZ5	S I S A L Q L A K A G G A K V I I A T T S A S E K A E K L K A L G A D H V I N Y		
UniRef90_UP10003481EC6	S I F A L Q F A K A R G A K V I I T S S S D E K L Q K A Q Q L G A D V I N H		
UniRef90_H0S373	A L F G L Q F A T A L G A R A I V I S S S D E K L A R A Q A L G A S I L I N Y		
UniRef90_A6UDU5	G H M A V V Q Y A K A M G M H V V A A D I S E D K L A L A K Q L G A D I A V N G		
UniRef90_F8P8X2	S I F G L Q L A I A S G A T V I I A T S S S D E K L K I A S K L G A K H I I N Y		
UniRef90_UP10002EB292A	G H I A V V Q Y A V A M G L R V V A V D I A E D K L A L A Q K H G A E V I V N A		
UniRef90_W1Q8Q4	G L S A L I S T K S M N P S K I I A I D M D D S R L E V A K R M G A D E I I N P		
UniRef90_B9XIS6	G S A A I Q I A K G L G A R V V T T A S T E A K R V L G K Q L G A D H V V D S		
UniRef90_L0K1U3	G L A A V V Q I A G A L G A N V A A V D V R E D P E L A T D L G A D A T V V I A		
UniRef90_D5UMP5	A A V L T A R A L G V E R V V A V D V T A E D K L D R A R E L G A T E T Y T P		
UniRef90_E8TX01	V S L A A L Q L A K A I G A R V I V T S R D D A K L R A R A L G A D H G I N G		
UniRef90_G3XQ16	S V T G L T L A K A A D A I M I I T S S S D D K L Q Y V K E K Y G V D H V I N Y		
UniRef90_R8BXV5	V G A F A V A Y A R A M G Y R V I A L D A G K E K G E Y S L A Q G A E H Y I D V		
UniRef90_B5HNA6	G L S A V V M I A A A S G A R V V A V D V S A Q A L A L A R K F G A A E C V D A Y		
UniRef90_I8TAB2	P L F A L Q F A K R A G G A R V I V T S K S D D K L R A R Q L G A D H V I N Y		
UniRef90_W7SVL3	G L A A I M A A R N T G A T R I I A V D R H A S R L S L A S R F G A T D T I E A		
UniRef90_W4NFY7	G L M A A M S A N L K G A S K I M V V D S H P D R L R L A E K L G A I P I D D S		
UniRef90_A3YE39	T G L A A V Q I G K M A G A K V I A L C S Q E K L F A A K E Q G A D E L L L S		
UniRef90_M2MUQ1	A I C G L Q I A H A A G L K T I V T S S S D A K L E K A K K L G A D Y T I N Y		
UniRef90_X0M2Q2	R L S Y I I A A K L R A A S P I I T I D V N Q A R L E L A K E L G A T H T I L S		
UniRef90_W9GDT1	G L S G V L A A S Q L G A E R I I S M S R H A D R Q A I A R E E F G A T D I V A		
UniRef90_UP10004657C3F	G H V A I Q Y A K A M G L K V V G V D I A E D K L E L A K E A G A D H A V N A		
UniRef90_Q21A00	G Q F A L K S A F L L G A E R V I A I D T V P E R L A M A Q A S G A I T L D F		
UniRef90_A0A016QL32	G Q F A A R S A M M L G A A H V I V I D R V P E R L N M A E A A G A Q T I N Y E		
UniRef90_K3VQU7	S M I A L A M L C L G A G V Q P I T T S S S D E K L E T I R K I I S P R I L G I N Y		
UniRef90_A1W4V9	G L C A T A G A R L L G A T T I I A V D G N D D R L A V A K K M G A D V T L N F		
UniRef90_U0Z249	G L C A V V A G A L R G A S C I I A V D G I I D R R L A I S R L G A D V T L N F		
UniRef90_K0WFN8	G H L A V V Q Y A K A M G L Q V C A V D I D D R K L V H A T R L G A D A V V N A		
UniRef90_Q9XHT2	G N L A V Q Y A K K A F N T H V I A V D I N N D K L E L A K Q V G A D I V I N G		
UniRef90_S6B8K6	G L N V C Q W L R N V F K A R I I A V D N V P E R L E L A K V R W G V D V I N F		
UniRef90_I1CNK8	G Q M S A R I A L H R G A S R V V G I E R V V P E R R A M A E R H G V E T L D P		
UniRef90_U2A7E4	G L M A A H S S F L R G A A Q V F V V D K E P T R L A A A E E Y G A T A I D F S		
UniRef90_UP10003B5DC8D	G H I G I Q V L K A I S G V T L V V V D R N P D A V A L A V D V G A D Q G I V A		
UniRef90_D0LF54	V G L A A V M A A T A A G A P S V A V D R N P R R L E L A R T F G A V P L P A A		
UniRef90_Q70XH6	G L S A V V M I A A A S G A R V V A V D V S P R A L E L A R T F G A A E C L D A S		
UniRef90_H2JKG7	G L S A V V M A A R R A G A D E V I V L G S A H P D R R Q L A L T V G A D R F I S		
UniRef90_D7GGN1	G Q S A L L L G R A L G A R V V V D V V E D K L T H A K S L G A D A V V N A		
UniRef90_Q5LS79	G Q F A M D S A R V L G A E K V I A L D K E T Y R L D M A A Q G Y T T V N F E		
UniRef90_H2K1T6	V G I V A V V Q L A K A L G A K V I I A A A G S Q A K L D V A M R Y G G A D H S V N		
UniRef90_J4HWN8	S V L G A Q F A K A A G A R V I I A T T S S P D K A S K Y K A L G V D H V I N Y		
UniRef90_X8IZM0	G L C G V I G A K L L G A S K I I A M S R H E D R Q Q L A L T F G A T D I I A A		
UniRef90_V5XSQ3	A L F A L A F A K M H G A H V T V I S S S D D K L E H V R T M G A D E T I N Y		
UniRef90_A6FRL4	G D M A A R I A L H K G A S K V I I G V D L V P E R L A R A R D R G V H T L D L N		
UniRef90_UP100037F0687	G S S A I Q I A R A F G A R V I I T T V G S A Q K A K L G A D H V I R Y		
UniRef90_H1XQZ9	V S A A L V A M A A Q V G H R V Y V T S R S E H K R A R A L E L G A H T A L P S		
UniRef90_UP100034D64CA	G H V A I Q Y A K A M G H V A V V D I A D E K L E L A G K L G A E V K V N A		
UniRef90_M2XWA9	G H I G I Q V F K A L I S P A R L V V V D R S P E A L E L A S E L G A D V T L R A		
UniRef90_E6S7J3	V G A L G I Q F A K A M G Y R V I A I D V G D A K K E Y C L K L G A E V Y Y D A		
UniRef90_W9WMQ0	G L N A L A I A I A R A M G F Q V I L A V D I D D D K K L A A A R D M G A D K I I N S		
UniRef90_G6A089	V G L A T V E L G K M A G K V I I A A A S S D E K L A V C K S H G A D E L I N Y		
UniRef90_Q0AP48	G L C A I V S A L E Y K P K H F A I D G V D S R L E L A K A L G A E P L N Y V		
UniRef90_C7ZC84	G L C A T A G A R L R G A G G I I A V D G V D E R L E M S R Q M G A D I T L D F		
UniRef90_W7QDV3	G L A S L L T A Q F Y S P A Q I I M I D T N A A R L E V A T R I G A T A C I D V		
UniRef90_C6BNY1	G L C F A L Q Y A K A M G V H S I I A I D A G N D K S K V C K D L G A A A F I D F		
UniRef90_F9FY13	A L F A V R F A R L R G A R V I V L S I T T S S A E K R Q L R E I G A D E V I D R		
UniRef90_UP100036FD7B1	G H V A V V Q Y A K A M G L H V V A V D V A P Q K L E L A R K L G A T F V V D A		
UniRef90_A3P8L2	V S T A A I Q L A H A A G L E V F V T S R S E D K R A R V L Q L G A D A A F E T		
UniRef90_R6PC49	G L L A A H S A M I R G A S E V F V V D K E R D R L N L A Q K I G A T P V D F S		
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UniRef90_UP10003141747	G H L A I Q F A A K M G C R V V V L S G S D R K K D E A M K L G A H E F I A T		
UniRef90_W3WSI5	G L M A A H S A M I K G G A S K V M I V D R H P D R L R L A E K I C A I P I D D S		
UniRef90_B9XQN3	G L C G V I A A K L R G A K R I I A M S R H A D R Q A L E F G A T D I V A E		
UniRef90_X0PQS3	G S M A L Q Y A K A M G I H A I A I D G G G E E K R T M C V D K L G A A A Y V D F		
UniRef90_W3XCX2	G L L V I E A L R A A G A S E I Y A V E L S A E R A A K A L E L G A T A V I N P		
UniRef90_B1HTF8	G D M A C R I A L H R G A E R V F G V D L V P E R L A R A R Q R G V E V F D L		
UniRef90_UP100035E5CD77	A I A G L Q I A K A G A K V I I T S S S D V K L D Q K A L G A D F T I N Y		
UniRef90_K9FWPO	L G H F C I Q Y A K A M G M R V I A I D G G D E K R L D C L K L G A E V F I D F		
UniRef90_X0L363	G L C A V L V A A Q R A G I E R I I F L I G H H E M R L R I G H K F G A T D L V S A		
UniRef90_M2YTT4	G L Y A I I A V A K A W G A S Q V I A I D G V P E R L L A T E F G G A D A V I N I		
UniRef90_H0IW79	G H M A I Q Y A K A M G L K V A G I D I D E G K L A H A T R L L G A D L V I N A		
UniRef90_UP100028981C1	G N L A V V Q Y A K A N V F N C H V V A I D I N Q D K L D L A L E S G G A D F V V N G		
UniRef90_B2VX41	A L C A L C I N L M D Y K P K H V L A V D S V P S R L D L A K S L G A E P W N F Q		
UniRef90_G0REZ8	G L C A I V V A A E L E K P K H F L F A I D S V D S R L R Q A Q L G A E P L N F A		
UniRef90_UP1000368DA8B	G H M A V Q Y A K A M G R H V V A I D V A E D K L A L A R D L G A D A T V D A Y		
UniRef90_A8Q9W8	G L M S V A A C K L R G A S Q I I A V A G S R P V C R Q A A Y Y G A T D I I T Y		
UniRef90_UP10002D859F7	S I F A L Q F A K A R G A Q V I I T S S S D A K L K R A Q Q L G A D L L I N Y		
UniRef90_UP100041405D5	G L L G V L S A R Q M G A E H V I A M S R H E D R Q R L A V E F G A T D I V T E		
UniRef90_E3J724	G L S A V V L A A R R L G A E Q V I I L M G R H K D R T D L G R E F G A T D V V A E		
UniRef90_UP100036554D4	G N L A V V Q Y A K A N V F N C H V V A I D I N Q D K L D L A L E S G G A D F V V N G		
UniRef90_F4CKV0	G L C A T T M G A N L M G M G R V I I A V E S R P E R Q A L R F G A D D I V D F		
UniRef90_UP100035D8DE7	V G L A T V Q L V G K A M G A K V I I A A A S T Q E K V D V C I A N G A D E G F D R		
UniRef90_K2SMY5	S I S G L Q I A K A S G A K V I I V T S S S D D K L K K A Q S L G A D Y L I N Y		
UniRef90_W2RS90	L G H F A V V Q Y A K A M G M R V I I A I D G G P E K A E L C K K L G A E E F I D F		
UniRef90_L2GH67	V G A L A V V A Y A H M G Y R V I I A I D A G Q E K S K I C E Q G A E H Y V D V		
UniRef90_F6DUU8	G Q L A V V A A R A F G A T K I I A V D L A P I R L Q M A G E M G A T T V I N A		
UniRef90_G7ZHH9	G Q M T I R S A I L L G A K Q V I I A I D R V P E R L A M A K A G G A I T I D F E		

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UniRef90_A8MD91	R G N V V E E V R K I T T G G R G V V N V I V T V G S N E T L G T Y I D A L D			
UniRef90_Q4FQ53	K E V D V V D E I M K I T T G G R G V V D S S I E A L G L Q S T F E Q G I K V L K			
UniRef90_M0FAD0	E E T P E W G D A V A E S T G G V V D H V V E V G G G A G T L Q Q S L D A A			
UniRef90_R6EMT3	K D G D L V Q Q I L E K E G G K V V D C A I I A G G S A E S M N Q A L M L V K			
UniRef90_C7ZJZ5	R E N P E W S A I A R R L T H N E S V D H I L E V G G Y G T L A Q S L K A I K Y			
UniRef90_UPI0003481EC6	Q K D A N W E T T V R N M T E G K G A D V I V E T V G G S N L E R S L N A L			
UniRef90_H0S373	R D T P D W D A A V M K A T D G E G A S H V L E L G G G P G T Y D R S L R S V			
UniRef90_A6UDU5	K S D D A V E Q V Q K A T S G G G V H G V L V T A V S P A A M E Q A F G F L R			
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UniRef90_UPI0002EB292A	L T E D P A Q A I Q D K I G G A H G V L V T A V H E Q A F S Q A I G M S R			
UniRef90_W1Q8Q4	D P K E K V H E L T A S E F K T S G V D V A M E C V G I P Q T F E M C E D L I G			
UniRef90_B9XIS6	N D P N W P A E V R K I L T E K R G V D V A V E H I G G E V L P K V F E C L			
UniRef90_L0K1U3	D E D V D V P G E I A A V T D G G A H A S V D A L G R A E T C R N S V D C L R			
UniRef90_D5UMP5	A R L T D A G I T A R Y V I E C A G S A R A F E T A F A A T E			
UniRef90_E8TX01	K T Q D V A K E V M A L T T G G R G V D V F E N V G A A A W P S A M K S L			
UniRef90_G3XQ16	K K T P D W A S E V Q Q K I T A G R G V D F I I E N G G S G T I K Q S L D A I A F			
UniRef90_R8BXV5	T A T D D A G E A V V Q Q L T D G I G A R A V I V A A G V G A A Y R A A F S M L G			
UniRef90_B5HNA6	T G T P D T A A A I R E L T T G G G V Q V S L D A L G S P A T C A A S V D C L R			
UniRef90_I8TAB2	A N T P D W A Q A V L D L T N G E G A H L V L D P G G S A T I A Q S V R A V R P			
UniRef90_W7SVL3	T G A D P V A A V H E I C G G P A D F S L E C T G V V A V C R Q A A D S V G			
UniRef90_W4NFY7	D G H S V D R V L I E E T G G E G A D R G C E C V G Y Q C S C N			
UniRef90_A3YE39	S D P D L K D K I K A L T A N K G V D V V Y E V V G G D I F Q T C A R T M			
UniRef90_M2MUQ1	R S T P D W Q N E V M R I T N D N G A D I I F E N G G A D T L L K S F D C I A F			
UniRef90_X0M2Q2	R D K T D V P K E I R R I S S G N S V F R A A D Y S G P V V I E Q T I K S L R			
UniRef90_W9GDT1	E R G D A G I E A I R E L T T G G I G A D S V L E C V G T A E S V D Q A L R S A R			
UniRef90_UPI0004657C3F	L S K D A V E S V V Q A T G G G A H G V L V T A V S T P A F G Q A L R M V R			
UniRef90_Q21A00	M K E D I F D R I Q D L T E G R G A D A C I D A V G T E P			
UniRef90_A0A016QL32	K E D V L V A L R D A T G G R G P D H V I D A V G L E A H G H R W A I L S C			
UniRef90_K3VQU7	K T T H D Q V A E V V K R I L T N G R G V D Y V L N N T G I P S V I D D I E M L R E			
UniRef90_A1W4V9	R N V D V V E E V M K L T T G G K G A D G S I E A L G T Q A T F A Q A M K V L K			
UniRef90_U0Z249	R Q V D V I A E I M K I L T T G G R G V D S A I E A L G T Q G T F E S A L R I L K			
UniRef90_K0WFN8	K S G D P V E A V K E V T D G G A H G V L I T A P S L V A F K Q G V G M T R			
UniRef90_Q9XHT2	K X H D K P V Q Q V I T E M T D G G V V D R S V K C T G S V Q A M I Q A F E C V H			
UniRef90_S6B8K6	H E V E D V P V G L I K E K T N G G A H S A V V T A V S K V A F N Q A V D S V R			
UniRef90_I1CNK8	D K E S D V A E K I L E V L P D G L D R S I D C A G F R Y T K G L L H K I E R			
UniRef90_U2A7E4	S A V D D L V G A V V R D L L T S G R G A D S V I D A V G M E A H			
UniRef90_UPI0003B5DC8D	K T D V V Q A I T D D L T D G F G V D C G E A V G Y Q A H			
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UniRef90_Q70XH6	T A G L A E R I R R L T D G G A R Y A L D T T A S V P I L I N E A L R A L R			
UniRef90_H2JKG7	T G M S D P A A V V R E L T T G G G A H L S L D A L G S P A T C A A S V N G L R			
UniRef90_D7GGN1	V R G A D A V Q Q V A D I T H G A M V S H V V E C V G T Q G S F D T A F G V V R			
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UniRef90_J4HWN8	Y T K P D W Q Q E V V L R L T T G G K G V D V I Y D P V G M I K D C L K C I A W K			
UniRef90_X8IZM0	R D T P N W A D E V K K L T T G G L G V D Q C			
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UniRef90_A6FRL4	R E T E D W A R A S R A I T T S D G G Y D N I I E L G G A E T L P L S L R A V			
UniRef90_UPI00037F0687	E Y G K D V A A E I I R R L T D G R G T D A V I E A V G M E A H			
UniRef90_H1XQZ9	D Q E S I G K T V K E L T D G Q Q G A D I I E H P G Q A T W R E S L R A L			
UniRef90_UPI00034D64CA	G R E R E L P E K V D V V F D S V G Q A T W K H S I H S L			
UniRef90_M2XWA9	S K Q D P V E A I Q R S T G G A H G V L I A A A S M K A Y E Q A I G M I R R			
UniRef90_E6S7J3	D G T Q V E A I Q K E L T T Q G G N G A E A I L D F V G E G G A V E D G V Q M L R			
UniRef90_W9WMQ0	K E L N T E T V M A L T G D G A A A V L V M A N S D K A Y Q A A L E L V A			
UniRef90_G6A089	S S A E D A V D A L Q Q A A T D N R L F A V L D T F G S E Q T A N L A V G A L A			
UniRef90_Q0AP48	S T E D L K A R I K E L T T G G K G V D V I Y D P V G G D Y A E T A F R G I			
UniRef90_C7ZC84	K D H D T M M Q K I M G A S E G R G A D A V I E V V V G L S K A L R T A Y D I I R			
UniRef90_W7QDV3	R K V D V V S E I L K L T T G G R G V D A S I E A L G L Q S T F E S A L R V L K			
UniRef90_C6BNY1	S S E G A A A A V V K R L T D G V G V D C A I E A V G V P A T F E L C Q Q L V A			
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UniRef90_UPI00036FD7B1	T E L P D W E Q A V L D R T D G A G A D H V V E A V G P P T L A K S V A A S A F			
UniRef90_A3P8L2	S K D D P A A V I Q K E I G G V H G V L V T A V S R G A F A Q A L G M			
UniRef90_R6PC49	G A R L P R K A D A V I E S V G A A T W S H S V K S V			
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UniRef90_UPI00035E5CD7	T A H H D I A D T I R A L T D G R G P D A V I D A V G M E A H			
UniRef90_K9FWPO	H T N P N W E A E V V M K I T D N R G V D I I L E V G G A K T L R K S F D C I A F			
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UniRef90_A8Q9W8	K E G P I D K H V L D L T T N G E G V D K A I V I A G G G V I D T F D P V I K C L K			
UniRef90_UPI0002D859F7	K T T P D W E A I V N E F T Y N G N G V D V I V E T V G G Q N L Q R S L N V L			
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UniRef90_UPI00036554D4	R E V E D V A G L I Q E K T G G V H I A V V T A V S K V A F N Q A I D S V R			
UniRef90_F4CKV0	T Q G D P V E Q I M D M T D G E G V D A A I E A F G F P Q T F E A C L R V T K			
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UniRef90_K2SMY5	R S T P E W Q Q E E V M K L L T H D E G A D I I L E C G G G A R T L R K S F D S V A F			
UniRef90_W2RS90	T T T S D I A A E V T R I T T Y G A H G V I V T A A T K E A Y A S A P N L L R P			
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UniRef90_F6DUU8	G E Q D V Y E A I M K E T G G V G V D V A L E T A G S T A T N L M A V R V A			
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130

140

150

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

A R G G T V V T C G A T A G R D V T I N L W P F F V K Q Q R L I G S Y G R  
 T R G T H V Q V G L T D A E R G E I A L P M D E L T R W D V T I V G S R M  
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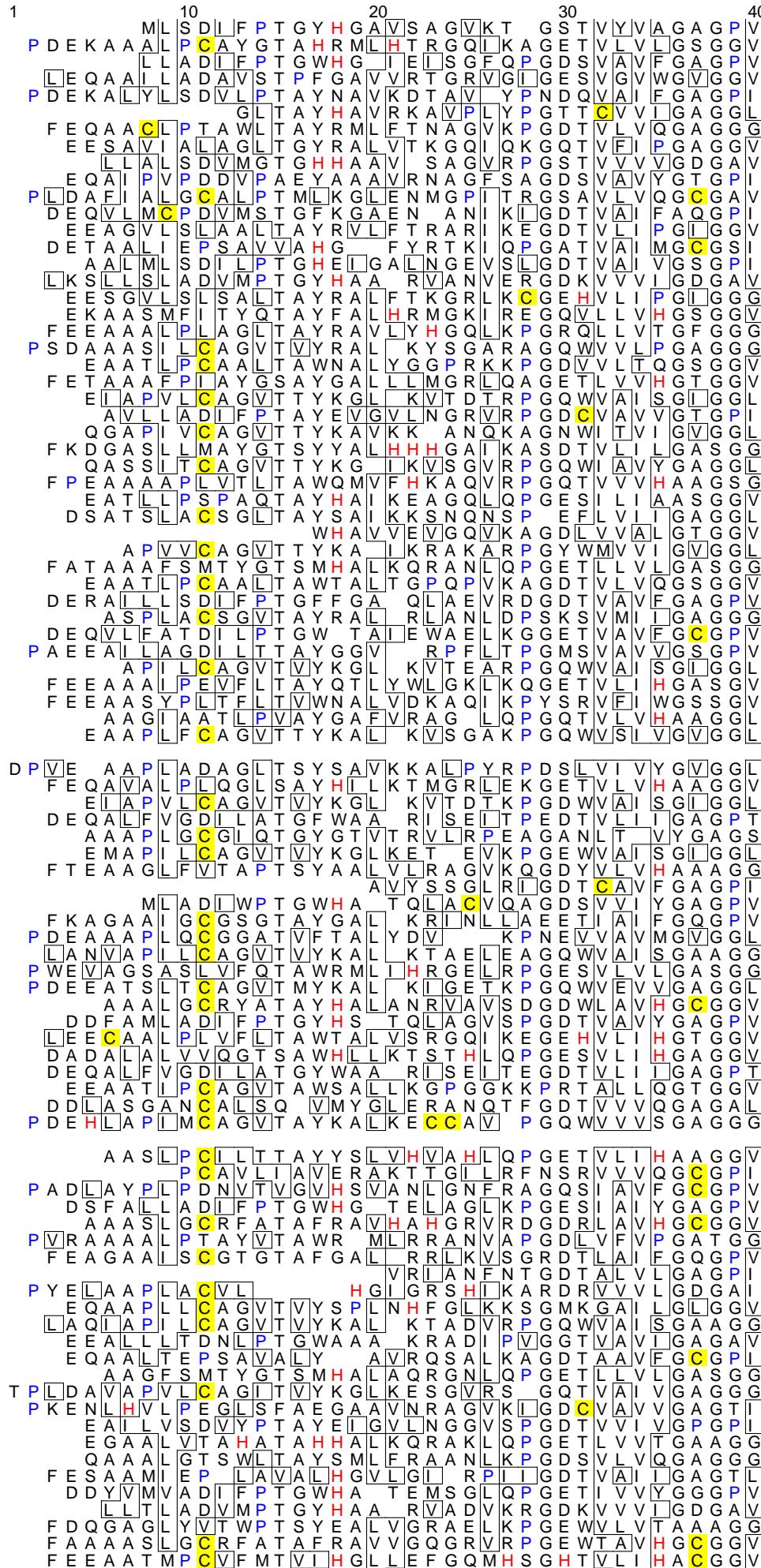
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    V G H A A V Q I A D Y A G A E V Y A T A S T E E K L E Y Y A R D C G A D H V I N Y
    G N L A I Q Y A S H V F G A H V V A V D G N P D K L L A A A K A N G A E I L I N
    G L S T V Q L G N A L G A R V I A V D I D D D A L G R A A N L G A V E T V S A
    G L M A A Y S A V L R G A S K V F V V D R V P N R L R V A E E I G A I P I D F T
    G H V A I Q I A K Y L G A K V A T T V S S D E K A E L A G Q L G A D E V I N Y
    G S L A I Q L K L S G A G R V I A T A S T E E K R K Q I L E L G A D A A I D G
    G I C C L L C T M L K K P G K I I V C E K S K D R R Y F I K L H Y P D V Q V V E
    S M F G L V L C L A A G V R P I V S S S C D K K L D S V R Q L G A A A E V D V
    G L Y A V A V A K A R G A S L V I A I D G V T E R L E L A T A F G A D H V I D L
    V G S L A I Q Y A C A M G Y R V V A V D A G A N K R E S C M R L G A E A Y L D V
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    G Q M A I Q V A Q Y V I G A R V I A T V G S Q A K R S L L K S R Y G A D D M I F N
    G L I C L A V L R T M G I E N I V A V D G N E Q R L A F A K E M G A V N F M N H
    G L L C I M A V K A A L G A S R V I A I D V I P A R L D F A K Q Y A A T D S F L P
    G L M A A Y S A K I K G A S E I F V V D R V P S R L E L A E K H C D A T A I N F
    G L S A V Q I G V A L G A R V L A V D I S A R A L E K A R A L G A E H T V D A
    V G V A T V Q L A D V L N A E T I A T S R S A K K L E R L S D G V D H P I E S
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    G L A T I E C L K A A G A R L I V V L Q R K S I R Q K Y A K R A G A D V V L D P
    G L M F V A T L A D A G Q A E V W L W G G N D H R L E I G K K L G A A Q T F N Y
    G H M G V K I A K A M G H H V T V I S S S D K K K L E A V D H L G A D E Y L V S
    G L S L A V Q Y A K A M G L R V L G I D G G E D K K K L F H D L G G E T F I D F
    G Q C A L R S A L A L G A A R V F V A V D P V V A R R E R A A A A G A T P M D S P
    G L L V I E S L R A A G A S K I Y A V E L S E E R E Q A K A E E L G A I V V R P E
    V G L A A V E I G K A M G A R V I A A A S S D E K L E V A R Q A G A D E L I N Y
    L G S L A V Q Y A K A M G L R V V A I D G G D E K Q A M C E L G A S A F V D F
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    V S S A A I Q L A H A A G L E V F V T S R S A D K R E R A L E L G A D
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90                    100                    110                    120

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130

140

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UniRef90_B6GXB9	Q A A W P L G G I T A W R A A M I N A G V Q A G H N V L I T G L G G G
UniRef90UPI00036001C7	F E E A A G I P I A F M T A Y H A V C R L Q P G E R V L I H A A S G G
UniRef90UPI00025ED89	P D E R F V Y L S D V L P T A R Q G V H W A D I P E G G S V T V L G L G P I
UniRef90_A8NBS0	F E E A A A S P L V L I T A W G A L F D H G G L Q A G Q T V L I H G A G G V
UniRef90_B1GYF7	F E E A A T I L P T A F F T V V Y Y A F S H L A Q L Q P G E K V L I H G S G G V
UniRef90UPI0003668097	U P I 0 0 0 3 6 6 8 0 9 7
UniRef90UPI0003B73CDC	D Q A A A I T D A V L P T Y H A V K L A Q L R K G E T T L A V L G A A G G
UniRef90_A0A022MB23	T P D T W A A M A G C A A K T V L R A F S R V G G G R P G S T V V V Q G S G G A L
UniRef90_U5YSJ8	E D A A A L P L V L A T A W Y A L H D L A R I P E G E T V L V H S A A G G
UniRef90UPI00036089D3	A G P L T D A G S T S Y H A V R V S R L L P G A T A V I L G A G G G
UniRef90UPI00045E9090	F A E A A A S P L V L I T A W G A L F D H G G L Q A G Q T V L I H G A G G V
UniRef90_R8DJP9	F E E A V A P V E F L T A Y Q T L F L I G K L Q K E E S V L I H G A S G V
UniRef90UPI0004631140	D E A A G F L I A Y G T S H F A L T L R A G L R K G E T T L A V L G A A G G
UniRef90_I8TBV7	D E Q A L Y A T D M L S T G F V G A E Y A D I P I G G S V V I F A Q G P V
UniRef90_F4NV65	F E E A A A I P E T W L T A T Q A L F F V N R L Q P G E N V M I H G A S G V
UniRef90_G3AIH2	U P I 0 0 0 4 6 3 1 1 4 0
UniRef90_I6NDE8	D Q A A A I T D A V L P T Y H A V K L A Q L R K G E T T L A V L G A A G G
UniRef90_R4VZ54	L A Q V A P V L C A G I T V Y K A L K S A R L Q A G E W V A I S G S G G L
UniRef90UPI000476B802	D H E A C Y T A D M L S T G F A G A E N A D I P M G G T V A V F A Q G P V

	50	60	70	80
UniRef90_F4FH69	G H I G V Q I L K A T T A T R	I I A V D T R D E A L Q L A E E C G A D Q T L		
UniRef90_A0A023X0K3	G Y L A V Q M A K L M G A G T V	V I A T A S N Q E K L N L A K D L G A D V V I D Y		
UniRef90_D9WDS8	G L A A I A T A E Y F S P G R I	I A V D L T P S R L D A A K Q I G A D A V A		
UniRef90_I6T7R7	G T A A I Q L A K Q L T K A T V	V I V T A G S S E K L A F C Q K L G A D E Q I N Y		
UniRef90_I0URV8	G L L T S A V L K A K G A K V I	I I S E L S P L R R Q K A L D S G V A D Y T F S		
UniRef90_UPI0003B4A179	G L C G V L A A R V M G A E R I	A M S R Y E D R Q R L T R E F G A T D V V A E F		
UniRef90_P38113	G L S L A I Q Y A L A M G Y R V I	G I D G G N A K R K L F E Q I F I D F		
UniRef90_UPI00037CE659	G L S A T Q L A S A M M A R V I	A L D I G P E R L A R A K E F G A E E V L D P		
UniRef90_UPI0004208C28	V G H V A V Q L A R L R D A R V	L V A T V S S P E K A E L A R N W G A D V T I D Y		
UniRef90_UPI000365296E	G L L T V L A L R L R G A G R V I	V S D L S P H R L E L A Q R R M G A D E V L H A		
UniRef90_Q0U1P1	S I S A A Q I A S A A G A D V V	V T S S S D E K L K R A T E L L G A K N T I N Y		
UniRef90_UPI00046233E2	G I N A I Q I A K N L G A G V V	A S D I R E E S T I A R S L G A D Y A I P P		
UniRef90_E4U603	G Q L V I R T A R A Y G A G K I	A T D I N D F R L E M A R R S G A E V A L H		
UniRef90_M1FG96	G L A A A A S R L L G A A V V I	V G D V N P T R L T H A K S Q G F E V V V D L		
UniRef90_R5MY98	G I C T L L C T M L K R P K Q I	V C E Q S E E R I R F V C E H Y P D V R V V		
UniRef90_UPI0004775238	G L I M A A Y S A L L K G A S R V	F V D V K V P S R L Q V S R I G A E D F T Q G		
UniRef90_A6TL37	G H M A I Q I A K H L G A E V	Y A T A S S D E K L K I A N K L G A H H V I N Y		
UniRef90_C1B415	I G S A A V Q L G K A V G A R V I	A V A V A G G R A K A E V C R R L G A D E V I D H		
UniRef90_A3TH99	G L S A V M I G T A L G A R V V	A V V A V D V S G A A L A R A G E L G A E H V V N A		
UniRef90_A4X1C0	G L F A V L A A R R F G A E R I	I V M S R H A D R Q K L A L A H G A T E V V T E		
UniRef90_N4V7E2	G Q M A G A F A D E G A S K V I	F I D T E P R L S Y I K S R W P A K Y S D K M		
UniRef90_M0HBU7	G A M V L K A A R A A G A G D I	V V S D V V P S K L E R A R E E M G A T E T I N V		
UniRef90_A9FZB6	U V G S A A I Q L A K A A G A T V I	A T A G G E E K T A V C R A L G A D V A I D Y		
UniRef90_M9W158	G N M H I Q M A R L L G A P I	I A V E L N P Q R A E L A R Q C G A D S V I T D		
UniRef90_M7TN11	L G H L A V Q Y A I L A K G A V V I	G I D G G P E K G D F I K S I G A S K Y I D F		
UniRef90_I0J6Y5	G L S A I Q W A K H V G A E I	F A T A G G S E E K R A Y L R E L G V A H V L D S S		
UniRef90_X8FD59	G M A A V S I A K M I G A R I Y T T A G S D A K	K R E M L S S L G V D Y V G D S		
UniRef90_UPI0002D49C0C	S L F A L R I A K I F G A I P I	I S S D E K L E R A K T L G A V A G L N Y		
UniRef90_R5JH27	G L L A I Q W A K I F G A R K I	V A I D I D Q S K L D L A M S L G A T H T I N S		
UniRef90_W7YZP4	G L L V I E A L K A S G A S E I	Y A V E L S P E R K K A K A A E L G A I V I		
UniRef90_I4X2L3	G L V T V I A A K A A G A S K I	I V L D L S E T R L E K A K E L G A T H V V N S		
UniRef90_UPI0004621B9E	G H Y A I L W A K A M G A E V	Y A F T H D D S K M E D I K K M G A D H I V N T		
UniRef90_W9G7Z7	G L S A I L M G A K L F S P A H V V A I D L	A D A R E E A A K Q F G A D I T V N P		
UniRef90_Q5LP88	V G L T A V E I L G K L M G A R V I	A Q A R G A D K L E I A R Q A G A D I L I D A		
UniRef90_H2C2Y2	S M F A V Q M L S I K G A E V T V V G	R N E R K L S K M L E L G A S E V V K A S		
UniRef90_UPI00030811AD	G Q L T I I A A K A A G A S K V F A I D L S P E R L	E K A L E V V G A D V I I N S Y		
UniRef90_G2REL2	V G L A A V Q V Q V A K A F G A T V I	A T A G N K R K L E V A K S F G A D H V V D Y		
UniRef90_B2A9H4	M A A V M A A A K I R K A R I V I	A V D L Q Q S R D L A K E L Q G A T H G V L G		
UniRef90_N1V490	G Q L A S R I I G R H L G H R V I	G I E R V P E R R A M A E R H G A T L D W N R		
UniRef90_G9EJB3	G H M A V Q Y A K A M G L N V A	A V D I D D K K L A L A T Q L G A S V T V N A		
UniRef90_A8WDM9	L G S Y A T Q F A L A G G A N P I C	V V S S P Q K A E I C R K M G A T H T Q D P		
UniRef90_D2S1F4	G L T A L R A A E A G G A K R I F	P A F S E P N E H R R E V A R R L G A D V A I D P		
UniRef90_UPI00034A7299	G T L A V Q L A K A F G A G R V I	A V A V A S S E A K R D L A L E L G A D A V V D S		
UniRef90_M7SMW6	G L M A A Y S A T I R G A S N V Y I I D	H D V Q A R L L D R A A S L G A I P I N F V		
UniRef90_J4JV08	G Q Y A V Q Y A K A M G I K T I A L D I N D S Q L S M A K	G D M A A R I A D H L G Y R V I A V D L V P E R L G R A K R G I H T I D L G		
UniRef90_J2VJ65	V G I L S A I M I A T A M G A N V I A V D L T E E K L A F A R E L G A V A T V N G	G V G I L S A I M I A T A M G A N V I A V D L T E E K L A F A R E L G A V A T V N G		
UniRef90_E9INQ8	G Q A A I H H A L K E G C E V F T T V G T	N D K R N F I K E M F P T I D H I G N Y		
UniRef90_W0TI36	G H I A I Q L A K I R G A R V I T T V S S A E K A D F V I R E L G A D I V V N Y	G H I A I Q L A K I R G A R V I T T V S S A E K A D F V I R E L G A D I V V N Y		
UniRef90_I4MZ44	G L A A V E I G K A M G A R V I A A A S T S D K L	A V A K A A G A D E L I N Y		
UniRef90_C6WPQ2	G L S A L L A A V N V R G C R T V V V	E P V I E S R R A L A L S L G		
UniRef90_K1XZZ6	G L S A L L A A V T C G C A K I I I V D L S E E R L K L A V E L G A T H T I N P	G L S A L L A A V T C G C A K I I I V D L S E E R L K L A V E L G A T H T I N P		
UniRef90_V9DDE2	L G H F A V Q Y G L A L G V N V L G V D A G P E K Q K F V I E S	G A R F V D F S		
UniRef90_W0RGC6	G I F A V G I C R A A G A S H V I A S D V N D R R L E L G A D V I I N S Y	G I F A V G I C R A A G A S H V I A S D V N D R R L E L G A D V I I N S Y		
UniRef90_I1CCD2	G H L A L Q F A R A W G C H V T A I S G S P D K K E E A L G F G A H D F L N S	G H L A L Q F A R A W G C H V T A I S G S P D K K E E A L G F G A H D F L N S		
UniRef90_W6YCL9	G Q Y A V Q Y A K A M G I K T I A L D I N D S Q L S M A K	G Q Y A V Q Y A K A M G I K T I A L D I N D S Q L S M A K		
UniRef90_UPI0004664016	S T I A L Q L A H A A G A R T I M V T R N D R H A D T L R T L G A D D V L G N S	S T I A L Q L A H A A G A R T I M V T R N D R H A D T L R T L G A D D V L G N S		
UniRef90_UPI00030B842F	V G L A V L Q C H V T T R R G A R V I A T A G E T K R D L L T L G A E H V L D S	G D M A A R I A H H K G F R V I G V D R V P E R L A R L A E R G I E T L N L D		
UniRef90_T1VKP1	G L G M I A G A A A K F P Q R I A I A L D A I P Q K L E L A R K C G A D V T L N I	G L G M I A G A A A K F P Q R I A I A L D A I P Q K L E L A R K C G A D V T L N I		
UniRef90_A6W9T5	G I Y A A C Y L R E R G Y K T I A V V D I N D G R L E I A K R F G A T H T F N P	G I Y A A C Y L R E R G Y K T I A V V D I N D G R L E I A K R F G A T H T F N P		
UniRef90_UPI0003B387C9	G H V A V Q Y A R A M G L H V A A I D V D D A K E L A R K C G A D V T L N I	G H V A V Q Y A R A M G L H V A A I D V D D A K E L A R K C G A D V T L N I		
UniRef90_S6B281	G S L A V Q F Q F A K A M G L R V L G I D G G E E K K M F H E M G G E V F L D F	G S L A V Q F Q F A K A M G L R V L G I D G G E E K K M F H E M G G E V F L D F		
UniRef90_I2H4U5	G H M G Q Y A K A M G Y K V I A L D I T D A A I E E A K S C G A D Y T F N S S	G H M G Q Y A K A M G Y K V I A L D I T D A A I E E A K S C G A D Y T F N S S		
UniRef90_R0K9A0	G Q F A T R I G I H R G Y Q V I G V D P V I P E R R E M A A R H G V E T L D Y S S	G Q F A T R I G I H R G Y Q V I G V D P V I P E R R E M A A R H G V E T L D Y S S		
UniRef90_UPI00037FB5F3	G L T I I A A K A A G A S K I F V F D L S D E R L K K A K E V V G A T H T V N S	G L T I I A A K A A G A S K I F V F D L S D E R L K K A K E V V G A T H T V N S		
UniRef90_G5JKJ8	G L L T I I A A K A A G A S K I F V F D L S D E R L K K A K E V V G A T H T V N S	G L L T I I A A K A A G A S K I F V F D L S D E R L K K A K E V V G A T H T V N S		
UniRef90_W7YVN2	G L L A I Q W A R I F G A K T V Y V A I D I D E G G K L E I A Q K M G A D H V I N P	G L L A I Q W A R I F G A K T V Y V A I D I D E G G K L E I A Q K M G A D H V I N P		
UniRef90_G8U1F4	V G S A A L Q I A R A S G I T G W A T A G S E R K L E A A R A F G A E K V V N Y	V G S A A L Q I A R A S G I T G W A T A G S E R K L E A A R A F G A E K V V N Y		
UniRef90_UPI00035FD2C7	G I L V G Q I A K I Q G C R V V G I A G S S D D K V D M L T E S F G F D A V V N Y	G I L V G Q I A K I Q G C R V V G I A G S S D D K V D M L T E S F G F D A V V N Y		
UniRef90_UPI00047E1927	G L S A V M I A A A R G A Q V V A V A D V T V G P A L E L A R A R A G A T V V V D G	G L S A V M I A A A R G A Q V V A V A D V T V G P A L E L A R A R A G A T V V V D G		
UniRef90_R1DYL7	G L A C A C S C H L G A A C V I V G D A I P T R L A Q A R S F S G C E T I D I	G L A C A C S C H L G A A C V I V G D A I P T R L A Q A R S F S G C E T I D I		
UniRef90_G1X070	G H F G V M F A K A L G A E A V V I S R S R S K E D D A F K L G A T K F I A T	G H F G V M F A K A L G A E A V V I S R S R S K E D D A F K L G A T K F I A T		
UniRef90_K5Y5B9	L G H L A V Q F A V A V A Q G L R V I A I D T G E D K K E L V L S L G A E K K W I D F	L G H L A V Q F A V A V A Q G L R V I A I D T G E D K K E L V L S L G A E K K W I D F		
UniRef90_Q213B7	G V C C V Q L A K L A G A Y V V I A C G S E E K G R R L T E G A D E I I L Y	G V C C V Q L A K L A G A Y V V I A C G S E E K G R R L T E G A D E I I L Y		
UniRef90_UPI000476B802	G L S A T L L A K A Q G Q A R V I A V D L S D E R R N T A K S F G G A D A V V I N P	G L S A T L L A K A Q G Q A R V I A V D L S D E R R N T A K S F G G A D A V V I N P		
UniRef90_B6GXB9	G I F A I Q I A K E M G C H V T T C S T K N V E F C H G L G A D E V I D Y	G I F A I Q I A K E M G C H V T T C S T K N V E F C H G L G A D E V I D Y		
UniRef90_UPI00036001C7	G L S A V Q L G K K M G A R V I A A A S S V D K L A L A K A S G A D A L I D Y	G L S A V Q L G K K M G A R V I A A A S S V D K L A L A K A S G A D A L I D Y		
UniRef90_UPI00025ED89	G L A V I L T S S L H G A A R V F A L D L E E T R L E L A R S F G A T E T V L T	G L A V I L T S S L H G A A R V F A L D L E E T R L E L A R S F G A T E T V L T		
UniRef90_A8NBS0	V A L F A L Q F C V A V A G A N V Y V T S G K T E K I Q K A L E G A K G G V N Y	V A L F A L Q F C V A V A G A N V Y V T S G K T E K I Q K A L E G A K G G V N Y		
UniRef90_B1GYF7	T G L A A V Q L A R R C G A E I F A T A G S E E K R A L L R A Q G I E H V M D S	T G L A A V Q L A R R C G A E I F A T A G S E E K R A L L R A Q G I E H V M D S		
UniRef90_UPI0003668097	G Q M A A R I A R H R G H R V I G V D L V P E R L E M A R R H G I E V V D R	G Q M A A R I A R H R G H R V I G V D L V P E R L E M A R R H G I E V V D R		
UniRef90_UPI0003B73CDC	G L A A I Q L A R H M G A V V F A A A G T S E K R A M V K H A G A D Y V M D S	G L A A I Q L A R H M G A V V F A A A G T S E K R A M V K H A G A D Y V M D S		
UniRef90_A0A22MB23	G L F A T A V A R I S G A G S V V T V G P A S R L A L A R E F G A D E T V D A	G L F A T A V A R I S G A G S V V T V G P A S R L A L A R E F G A D E T V D A		
UniRef90_U5YSJ8	L G L A A V Q V A R M L G A E V I A T A G S A A K R A Y L R E L G I A H V F D S	L G L A A V Q V A R M L G A E V I A T A G S A A K R A Y L R E L G I A H V F D S		
UniRef90_UPI00036089D3	G R F A V Q Y V R L F G A A R T I V V D H A E N R R A Q A L E L G A D E A I H G	G R F A V Q Y V R L F G A A R T I V V D H A E N R R A Q A L E L G A D E A I H G		
UniRef90_UPI00045E9090	G H V A I Q L A K L K G A R V I T T V S S E Q K R E F G A D E V I D Y	G H V A I Q L A K L K G A R V I T T V S S E Q K R E F G A D E V I D Y		
UniRef90_R8DJP9	G T A A I Q L A K Q L T N A K V I V T A G S E R K L D F C K E L G A D A L I N Y	G T A A I Q L A K Q L T N A K V I V T A G S E R K L D F C K E L G A D A L I N Y		
UniRef90_UPI0004631140	V G L T A V E I V G A A L G A R V I A V A R G A D K L A V A R A A A G A S D C I D S P	V G L T A V E I V G A A L G A R V I A V A R G A D K L A V A R A A A G A S D C I D S P		
UniRef90_I8TBV7	G L S A T I G A K L R G A G L I A V E S K P D R A A L A R T Y G A D V V I N P	G L S A T I G A K L R G A G L I A V E S K P D R A A L A R T Y G A D V V I N P		
UniRef90_F4NV65	G T A A I Q L A K Q A N A Q H I T T A G S D A K T Q F C K S L G S T V S I N Y	G T A A I Q L A K Q A N A Q H I T T A G S D A K T Q F C K S L G S T V S I N Y		
UniRef90_G3AIH2	G I N G I Q I A K A F G A K I T V L D K K E E A R K I V K E L L G	G I N G I Q I A K A F G A K I T V L D K K E E A R K I V K E L L G		
UniRef90_I6NDE8	G S L A V Q Y A K A M G Y R I L G I D S G E E K K L F K E L G G E Y F I D F	G S L A V Q Y A K A M G Y R I L G I D S G E E K K L F K E L G G E Y F I D F		
UniRef90_R4VZ54	G L M A T K G A R L Q G A G E V I A V E T M E N R K E L A R E Y G A D H V V D F	G L M A T K G A R L Q G A G E V I A V E T M E N R K E L A R E Y G A D H V V D F		

	90	100	110	120
UniRef90_F4FH69	R S G E R T V E E I R S A T G G R G A D V V L D F V   G A D A T M K M G A A A A R			
UniRef90_A0A023X0K3	T E S S W P E S V K T A T G G R G A D V I L E M V G   G D F P E K N L D C L			
UniRef90_D9WDS8	D A A E E P E R L I D D L T E G L G A D V V I E A V G T P R S F E I C T R M V R			
UniRef90_I6T7R7	K T Q D F S T E V A R I T N G K G V D V I L D F I G A S Y W E K N L A S I A			
UniRef90_I0URV8	P A E T D V L A E I Q K L T N D R G V D I A F E C T S V Q P A L D L I L D A I K			
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UniRef90_A9FZB6	S E R S L E A A I D D F T G G D G V D V V V E A S G A T P A A A A T T T V V			
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UniRef90_I1CCD2	R E F T A E S E Q L S K Y D L L D T V D W D L Y M S L L K			
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UniRef90_UPI0004664016	G A A E S W P N D V L N L T D Q R G A E I S V N V A G G N T L T R S I A A T			
UniRef90_UPI00030B842F	R S L D F D P V P R V R E L T G G R G V D V V			
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UniRef90_R0K9A0	M T D K D Y K K K I V E L T G G G V H A A V V N F T S S K K S Y D D C P A I V K L			
UniRef90_UPI00037FB5F3	K G V A D E L R E I T D G R G P N G I V D A V G M E A H			
UniRef90_G5JKJ8	G E E N P N D V I R N N T N A G V D V A F E V A G V A S T L K D S I E V T R			
UniRef90_W7YVN2	L T G P A H E Q L S L L T G G I G V D L A I E S A G S P I T S A Q V L A L P			
UniRef90_G8U1F4	R Q E K F L E R V Q E W S G G R G V D A V L D F V G Q			
UniRef90_UPI00035FD2C7	K T S P N L K K S I A E A C P D G Y F D N V G G E V S D A V I A N I N F H A R I			
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UniRef90_R1DYL7	T S D G D G L A H K I H A L T G S P D V D C A I D C V G F E A			
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UniRef90_K5Y5B9	K E S K D L V A D V Q L A S G G L G P H A A V I A T G N P Q P F F Q A A L Y L R			
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UniRef90_F4NV65	K T A N F A D V V K E T T N G R G V D V I V D F V G G P Y F S K N L D S L A M			
UniRef90_G3AIH2	V S V Y E S L P S D V Q P G S F D V C L D F V V V Q P T F D L C Q K Y T K			
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130            140            150            160

Sequence alignment showing conservation across UniRef90 proteins. The alignment is centered around positions 130, 140, 150, and 160. A color-coded scheme indicates residue conservation: black for identical, blue for conservative substitutions, and red for non-conservative substitutions. Yellow boxes highlight specific regions or motifs. The alignment spans from approximately residue 50 to 200.

170  
P E L I E

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G Q A D C A Q F I I D H K

F V E E F G R A V E L L R S G R  
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D C A E I L R L I A E G K

A A H E Y A A M L A L V E D G  
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Y R D V F P A V I S L M D K G

S K K E C L E M L E L A R S K

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

M Q A F Y N A L M D M L E N G K

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

E T L E A V E F V R K G Q

N L E D F V R A A E R H K

Q N T W P A A L R L I A S G R

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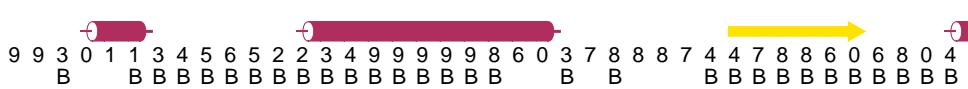
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Q R E N F R E L F A W Y A A G E  
N T N T T P M L L R L V A S G R  
D M E D A T A F I S K H K

D Y H D

L R Q D I A A L F A L Y E Q G R  
E R M D R L F R L I Q T K R

D L E E A F E L V S K G  
D S R E A I D F F T R G

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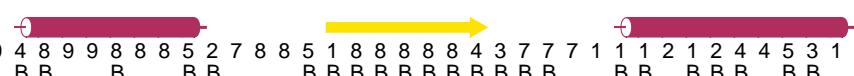
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 sol25

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UniRef90_S5ZLX4	G T L A V Q □ A K R F G A K T	V I A T A S T E E K R A L A	A R □ G A D	V T I D Y
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UniRef90_D5GGB2	G L C □ C A L I A A T S F N P	P A R I F A I D S V P S R	E L A K S □	G A E P L N F I
UniRef90_M5GGX3	G L L C M A V A R A L G A R R	V I A I D I N E E A R L Q	F A K S Y A A T	D I W L P
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UniRef90_Q02DT4	G H V A V A Q Y A R A M G L H	V A I A D I D D D A K L E	L G A D V I D T S	
UniRef90_I0Z5V2	V G I A A A I S K A M G A R V	V V A V C □ R G S S S K A E	L T V N A	
UniRef90_C0C6H5	G L F S V Q M A K I A G A A K	I I L G M E E S R F P C G R	K L G A T H	T I I N
UniRef90_W3WZS8	S V A T L Q □ L A V A A G A N	V V A T T S T S E E K A R	R S L G A A H	T V N Y
UniRef90_UP100037FD4CF	G L S A C □ C A M A K E S G A R	S V T A M D I N N E R L E	F A K N F G A D K L V D G	
UniRef90_U10Q1	G H L A I Q F A A K M G C R V	V V L S G S D R K K A E A L	Q L G A H E F I A T	
UniRef90_Q75EJ5	G S I L A I Q Y A R A M G Y R V	G L D G G D E K E A L F R K	L G G E V F V D F	
UniRef90_E3QQW4	G L C A V I S A L E H R P K H	H F A I D S V D S R L E I A R	N L G A E P L N F K	
UniRef90_Q5ARL6	G L L C C A V A K A F G A I R	I I A V D I Q K P R L D F A	K F A A T A T F E P	
UniRef90_M2UC05	L G H L A V Q F S A R G I G H	R V I G V D H S S K K D L V M K	S G A E H F V A I	
UniRef90_L1QNI0	G L L L L S V L R T S G I G E N	I I A V D G N E K R L E M A K	R L G A N E T I N S	
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UniRef90_L7UAC7	G M S A V Q L A K L D G A R V	V I I A V T S G E A K V Q P	L R E A G A D E V I L S	
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UniRef90_C7YIM5	L G S L G I Q Y Q A K A M G Y R	V L A I D A G D E R G E F V K	S L G A E T Y I D F	
UniRef90_B0K591	G L A A I Q I A K L R G S R I	F A T A G S E E K R E Y L R	S G C E Y V W S S	
UniRef90_K1XCF8	G Q A A I A I A I A L S L G C	R V F T T V G S A E K R A Y L	Q R F P Q L D S T S F	
UniRef90_T0MWV4	L G L A A I Q I A K L K K A R I	F A T A G N D E K R Q Y L R	D □ G C E H V W N S	
UniRef90_C5MGK4	G H V A I Q L Q A K L K G A Q V	C T T V G N P D K A R L A R	Q F G A D E T I N Y	
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UniRef90_G3R7P2	G L G V I Q C L L K A R G A K T	I I V V E L A K E R Q N F A K	Q F G A T H I L D P	
UniRef90_W7E349	G L M A A Y S A L L R G A K K V	F V V D R V H E R L D K A R E	E I G A T P I N F A	
UniRef90_B7K2Y2	G H V A I Q L Q A K L K G A D V	C T T V G S S Q E K A D C L	A F G A K E Y Y L T	
UniRef90_M0AUL6	G L G A I V A A R V L G S K T	I I V A F S G S G S K K A D C L	G A D Y A I N Y	
UniRef90_W9XP83	G I L A L Q L A K Y V G A Q V	I I V A D T H K S R L E A A R K	L G A T H T L L S	
UniRef90_UP100037E2573	G T L A I Q L A K N A G A H V	I I T T A S E K N A A F L K E	G A D E V I D Y	
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UniRef90_Q1Q2R9	G Q F A S R I G K H L R V	I I A V E P V A E R R A M A E R	H G I E T I E F S	
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UniRef90_B7VSA0	V G I Q G V Q L A K A M G M R P	I I V I D S G A A K K D L C M	K M G A E E F V D F	
UniRef90_W01YR3	G H M A V K L A H A M G A E V	T V L S Q S L K K R D D G L R	L G A D H Y H A T	
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UniRef90_UP100034D9F37	V A L Q V L Q F G V A L G C N	V Y V T S G E E A K I L E R A K	K M G A A G G V N Y	
UniRef90_W0HAQ2	V G I Q G V Q M A K A M G I R	P I V V T D G S A K R T L A L E	M G A E A F I D F	
UniRef90_P00330	G S I I T I Q L A S Q L T N L	T E E W V I R D M G A D H V V N		
UniRef90_G8Q7P8	G M A A L L T A Q F Y S P A M	I I A V D G D S N R L E V A K	H V I D I	
UniRef90_M2NQ69	V G I Q G V Q L A K A M G M R P	I I V I D S G A A K K D L C M	K M G A E E F V D F	
UniRef90_D9WP14	G H M A V K L A H A M G A E V	T V L S Q S L K K R D D G L R	L G A D H Y H A T	
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UniRef90_L2FEA8	V A L Q V L Q F G V A L G C N	V Y V T S G E E A K I L E R A K	K M G A A G G V N Y	
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UniRef90_F8JMN8	G S I I T I Q L A S Q L T N L	T E E W V I R D M G A D H V V N		
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UniRef90_K2S7B8	G S F V G Q I A K I K G C R	V A T T V S T P E K A A I A E	H Y G A D F V L P	
UniRef90_U5HB13	V G L A A V Q I A K A F G A T	V I A T A S R P E T E E W V I R	D M G A D H V V N	
UniRef90_D4Y157	V A I T A L Q F C V A A G A N	V W V T S S N T E K I Q R V R E	L G A V K T F N Y	
UniRef90_W4EQP1	G T A A I Q L A N H L S Q V E	I I F A T A G R Q D K L D A L E	L G A Q T T I N Y	
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UniRef90_UP10003B5A200	G S I V G Q I A K M Q G C R	V I V V D I L E N R L E V A K	V G A T D T I N A	
UniRef90_F0UPF7	V G L S A V M I A S A L G A S	V V A V D V S E D K L R L A E	L G A V A S I N A	
UniRef90_D0NUP1	S L A A I Q F A V A A G A M V V	T T S S E E K R N A A L K I	G A D I I A I D T	
UniRef90_Q6RKK0	G H L A I Q F Q I R A L G A T	P V A F S R S A D K E K E V	L G A E E F Y N L	
UniRef90_S3HC81	G L A A I Q V A R M H G A E V	F V V T A G T Q T K R D M L R Y Q I	G A D H I F P S S	
UniRef90_E9T7X3	G H L A V Q F G R R M G F E V	V A I I G R G P D K G G L A E K	G A H H Y I D S	
UniRef90_C9SVW9	G L T A V E I G K A L G A R V	V I I A A S S P D K L A L C R E	H G A D E L I D Y	
UniRef90_R0FFN0	S L F A F L L C I A N G W K A	V T S S S D E K L E A I K K M G S D H G I N Y		
UniRef90_UP100036DEEC6	V G L S A V M I A S A L G A S	V V A V D V S E D K L R L A E	L G A V A S I N A	
UniRef90_A3PJU5	S L A A I Q F A V A A G A M V V	T T S S E E K R N A A L K I	G A D I I A I D T	
UniRef90_UP1000466B106	G H I A L Q V L N E M A G C R T	A V D R E P P G A Q V L A K E	L G A D K V L S G	
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UniRef90_P39462	I G V A A I Q L A K A W G A R	V T A G S D A K C A D C L G A D	H A I N Y	
	G T M A V Q L A K A V S G A T	G V D V R E E A V E A A K R A G A D Y V I N A		

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lupas\_14  
lupas\_28  
jnet  
conf  
sol25

90                    100                    110                    120

S E A G W Q N K V K E L T D G D G V D V Y D P V G M I V P S L K C V N W N A			
R E E N L D E K V N E Y T N G F G V D L A I E T A G S P S A V Q G T L L S S V			
T K P G L V E T I V A K T G G G A D Y I L V L S P H Q S S Y D S A G			
T K D G W A A E V M E T T S G R G V D V A L E M A G G D V F H E T L D C L A P			
D D D L P R H V R E R T A G R G A D V A V E A S G A P A L S Q A L S V L T			
E N K E A A K E R I M E A T D G R G A D V V M E V V G N S P A L R M G F D V V R			
S K P K D G E S R M L E E R G L N A V D T V L E A T G A E V C Q T G I F L A K			
R D E D W T K K A Q N E T G G F D L I I D G A S G D G L N D L I K V S			
R Q E D P V E A L Q R D I G G A H G V L V T A V S N S A F G Q A I G M A R			
Q Q P D T P L R A L I K K E A P K G V D V V Y D P V G G S A F Q E A L K V A			
G E G V D L A A E V E K I C G M S G V A L C I D A A G A P A V L K Q A V E I V R			
R T N P N W G L E A R K L T P G G K G F D T V D V G G N E T L G Q S L A S V R			
K L S T D E I R L L F K N E K V D V I I D T T G I P Q V M E T G E L L A			
A K K L E V S A P I N R L L V T A A V P P N W E L I L P I M A			
R K S K D V V A D V V K A T G G G A H G V I N V S V S E A I E S S T E Y V R			
T D R A G M E R R I K E V T E G R G A D V V I E V V G L S P A L R T A F D I V R			
S K T E N A T R M I A E N D L G R G A D V A I D A S G V E P S V H T G I H V L R			
D G G Q D V V E T V K S L T N G L G A H A V V V C A G S N A A Y A Q S A E M L R			
S S F E E T I N K V V K S V S D G L G V D F A F Q C T G S P K A H S G W K F I R			
S R S V S F Q R D V M K A T G N R G V D L V L N S L S G E L L H A S W K C V A P			
D S K A V G L V R E L T D G A G A D V V F D F V G A Q V T L D L A A Q			
R G L D F A S E V R K R T K G Q G V D L A V E I V G S A T F D Q T L K S L			
E R G T E G I E K V L L K L T G G C G A D A V L E C V G A Q G S T D Q			
S E Q D A I K A V R Q L T D G L G V D V A I E C V G G S E T G A L A V D L T			
N D P S W P A K V K A L T P K S R G V D I V Y D P V G L V D L S T K C T A W N			
L K E D V V S I I K S E T E G Y Y G A D V V L D F S G S S I A R Q G L K Y I A			
T D P A W P D L V R K I T P R G R G V D I V F D P V G M I D K S T K C I A W N			
U n i R e f 9 0 _ T 0 M W V 4 G Q N Y E F A G K I R R S A D C V I V F A P S D I A V N A A L Q I C R			
U n i R e f 9 0 _ C 5 M G K 4 T K V A D I T E A I K E A T N G G P H G V L N V S T E K A I N Q S L D Y V			
U n i R e f 9 0 _ C 7 Y M 5 R T L E F S E E I L H I T K G K G V D V V			
U n i R e f 9 0 _ B 0 K 5 9 1 A N S R D T S F E Q H V L W H T G G K G V D L V L N S L A E E K L Q A S V R C L			
U n i R e f 9 0 _ K 1 X C F 8 R N L E F V D G V K E V T N G R G V D V V			
U n i R e f 9 0 _ T 0 M W V 4 Q Q T D F V Q G V L N W T Q G E G V D L A F D T I G G K T F F D S C			
U n i R e f 9 0 _ G 2 S M 8 6 G D T D A V E E S M E L T D G V G V D A A I E A L G S D Q T L Q D A I K V V			
U n i R e f 9 0 _ I 4 C 1 N 2 R Y E D V V K R C K E L L C D G Q Q G P H V A L D A A G V P A S L K A S T L A V R			
U n i R e f 9 0 _ C 7 Y M 5 E G D P V E Q I K E Q T E G V G T D K G V D A V G Y Q A			
U n i R e f 9 0 _ G 3 R 7 P 2 K E N D F A K A V L D W T N G E G V D L A F D T V G G E T F E K T F P A I R F			
U n i R e f 9 0 _ W 7 E 3 4 9 T D V D D L A A F L R E Q T D G R G P D S V I D A V G M E A H G A P T G K F A Q			
U n i R e f 9 0 _ B 7 K 2 Y 2 U n i R e f 9 0 _ M 0 A U L 6 N G E S M E D M E P L K H N L L C G S S S E D Y T F I L S L L			
U n i R e f 9 0 _ W 9 X P 8 3 G A N F N L A A E E V F K V T A G A G A G S I V L D T T G S L P L I E S G V A A T E			
U n i R e f 9 0 _ U P I 0 0 0 3 7 E 2 5 7 3 N Q A D Y L K E I P S I L T N G A G V D V I I E M			
U n i R e f 9 0 _ K 9 R 8 Q 8 K E D V P S I I R K D N N G R L A D L A I V C T G A I S A T E Q A F H S I E			
U n i R e f 9 0 _ U P I 0 0 0 3 B 7 8 0 8 F K T T N F A D V L T D V D V V F D T M G			
U n i R e f 9 0 _ N 1 P J N 2 V T N P D W H D E V L K H T H G V G V D F V V E N G G P G T L L K S M K C T R R			
U n i R e f 9 0 _ U P I 0 0 0 3 0 4 0 1 1 F T N P D W P Q H I I E E T G G V D V V V D G V G A N L E Q S L A C L			
U n i R e f 9 0 _ Q 2 0 7 Y 1 K K E S D I V A A V K R V T D G V G A H A A I V A A A S A E S Y E K A L E Y L R			
U n i R e f 9 0 _ W 9 V J L 9 Q E E N L V E S V M E W T E G Q Q G V D I A L D T V G P A V F R Q T I P A M A H			
U n i R e f 9 0 _ L 0 J 4 G 3 S D D V E D V V K G H T D G R G A D S V I D A V G M E A H			
U n i R e f 9 0 _ U P I 0 0 0 4 7 E 0 2 F 0 K E T G D V L R E M T N G R G P D A V L D A V G M E S H			
U n i R e f 9 0 _ B 7 V S A 0 H R N L V I E S V R E Q G I Q H V D Y I F N V A D T K G H W E S M V E L I A			
U n i R e f 9 0 _ W 0 1 Y R 3 R N Y P D L I D A V K G A T K G R G V D C H F A F Q C T G V P A A A S N I F H F V Q			
U n i R e f 9 0 _ Q 3 1 R S 1 Y R D R D W V A A V L D W T D G K G V D L A F D T V G			
U n i R e f 9 0 _ U P I 0 0 0 3 4 D 9 F 3 7 H Q V A N I P G M V K E L T N G W G A D I V I E A T G V P S V W E T A I A C A R			
U n i R e f 9 0 _ W 0 H A Q 2 D G S Y S A E V W K L T G K R G V D V A M E N L G H T L E D T L R S M			
U n i R e f 9 0 _ P 0 0 3 3 0 T K E K D I V G A V L K A T D G G A H G V I N V S V S E A A I E A S T R Y V R			
U n i R e f 9 0 _ G 8 Q P 7 P 8 K T E N A I E R I F E L T N G I G V D V A I E A V G I P A S F D T C Q S V I			
U n i R e f 9 0 _ M 2 N Q 6 9 K E H K D V A A R I K E V A D G V G A H G V L V T A Y Q A Y K D S I S Y I G D R			
U n i R e f 9 0 _ D 9 W P 1 4 S D P G T F E Q L A G T F D L I V N T V G A R L D L D A Y L R L L A			
U n i R e f 9 0 _ A 6 T K U 9 K E V N V L K K I Q E L T D G K G A E V V I D A A G A A I T V K Q T V D A V K			
U n i R e f 9 0 _ L 2 F E A 8 K E D G W E K K L Q G Q L P R S R Y L D A V I D G A G G D I V G K A V R L L K P			
U n i R e f 9 0 _ A 0 A 0 1 7 S 8 A 7 R E T S D P A K A V I N V A D R V G A H G V F V T A P A A Y K T A V S Y I G T R			
U n i R e f 9 0 _ F 8 J M N 8 R G D E G V A R I K D L T G G I G A D S V L E C V G T A Q A V R Q			
U n i R e f 9 0 _ F 7 Q L 2 7 K S E P V F K A L K A A A P N G I D V Y F D N V G G D I F E A C L P Q M N Q			
U n i R e f 9 0 _ K 2 S 7 B 8 R Q E N W P D Q V K K L T P K G R G V D I V Y D S V G L I A Q S M K C T A			
U n i R e f 9 0 _ U 5 H B 1 3 K D A T W T K Q L Q A L P K D H P Y L D S V V D S G G G P I A T Q V S R L L K			
U n i R e f 9 0 _ D 4 Y 1 5 7 K E E N F A D V I S E A T D N R G V D V I L D F I G A S Y A N K N A S A I G			
U n i R e f 9 0 _ W 4 E Q P 1 H A D W V E L L K E E Q I D V V I E S V G R A T F N R S L D V L			
U n i R e f 9 0 _ F 2 E 6 9 3 K T E D F V A R V K E E T N G K G V D V I L L D N I G G S Y L Q R N L N S L			
U n i R e f 9 0 _ A 0 A 0 1 7 S F U 3 T K L P K G E S V Q L K K M V D H G P D V A L D C T S G E Y A K G W A H Y F E T			
U n i R e f 9 0 _ B 7 R T 9 9 K T C G D F S K A I G E V C R D G V D V Y F D N V G G E I L D A A L S C M N K			
U n i R e f 9 0 _ U P I 0 0 0 3 B 5 A 2 0 0 A R S T D V P E A I R E V T A G G A H L S L D A L G H P A T L F N S I S C L R			
U n i R e f 9 0 _ F O U P F 7 K T T P E W G E V A R S Y R G G R G V D H V I E V I G G P G T M A E S L K A V R K			
U n i R e f 9 0 _ D 0 N U P 1 S D P K D Q K K A E N S V N V L L L T A D A T N M P Y N T F L T L V			
U n i R e f 9 0 _ Q 6 R K K 0 R D V A V Y A T L K A A T A D R G G F D I V L N T S Q G D Y L H Q V T W P L V A			
U n i R e f 9 0 _ S 3 H C 8 1 S T T V G I A P A L Q A L G G A H L V V V A T A S G G D A V A Q A V K G L R			
U n i R e f 9 0 _ E 9 T 7 X 3 S A D D L K T R L A E V A P G G V D V V Y D P V G G E H A Q T A V R A L			
U n i R e f 9 0 _ C 9 S V W 9 K T T S S Q K E D I L R I T N G K G V D V V V N N T G P S S I P D D I S F L R S			
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U n i R e f 9 0 _ U P I 0 0 0 4 7 D D 9 E F R S Q D F A E E V Q R I T E G R G V D V I L D M V			
U n i R e f 9 0 _ P 3 9 4 6 2 S M Q D P L A E L R R I T E S K G V D A V I L D L N N S E K T L S V Y P K A L A			



Sequence logo showing the conservation of amino acids at each position of the protein sequence. The x-axis represents positions 130, 140, and 150. The y-axis lists UniProt IDs. Colored boxes indicate the presence of specific amino acids: blue for hydrophobic, red for polar, green for acidic, and yellow for basic.

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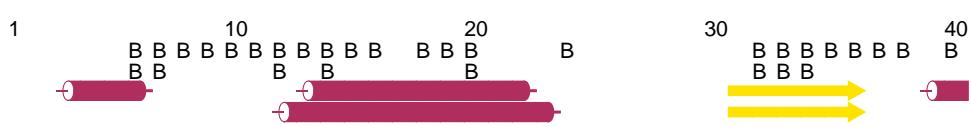
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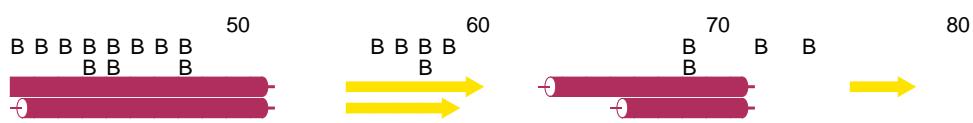
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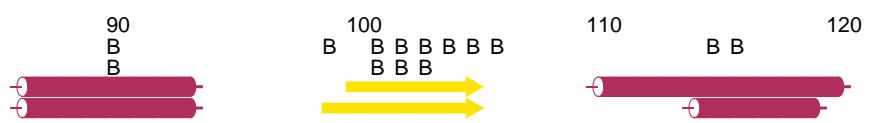
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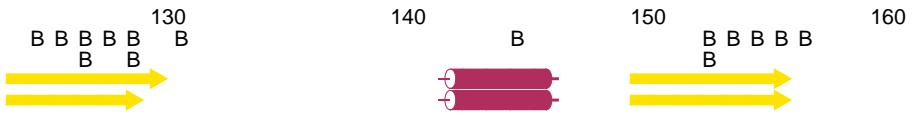
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B      B B      B  
B  


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