

QUERY	10	20	30	40
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UniRef90_V5F3Q4	T Q I G T P L S P S A T A K V L L L G S G E	L G K E V V I E L Q R L G V E V I A V		
UniRef90_A1S9F3	M L G T A T A P S A T K V L L L G S G E	L G K E V A I E C Q R L G V E V I A C		
UniRef90_K2FUL4	M I G T P Y T Q G A T R A M L L G S G E	L G K E V V I E L Q R L G V E V I A V		
UniRef90_A0A031MFR1	T L G T P L S P T A T R V L L L G S G E	L G K E V V I E L Q R L G C E V I A V		
UniRef90_UPI00038111DF	T I L G T P L S A G A N R V L L L G A G E	L G K E V V I E L Q R L G V E T I A V		
UniRef90_D4F5A2	L I G T A L R P H A T R I M L L G A G E	L G K E V A I E G Q R L G L E V I A V		
UniRef90_A6FDI4	M L G T A N S K N A T R V L L L G S G E	L G K E V T I E F Q R L G V E V I A V		
UniRef90_U0FUR3	M F G T A T C K N A T R V L L L G S G E	L G K E V A I E C Q R L G V E V I A C		
UniRef90_A6GPE2	T M F G T P L A S A N A L K V M L L G S G E	L G K E V I I A F Q R L G V E V I A V		
UniRef90_W8Z0Z6	G S P L S S R A R K M L L G S G E	L G K E V I I A A Q R L G V E T V A V		
UniRef90_A6LHW2	T I G T P K S A T A T K V V L C G S G E	L G K E F V I E L Q R Y G V E V I A L		
UniRef90_A0A024IEPO	T T L G T P L S P S A T A K V M L L G S G E	L G K E V L L A L Q R L G V E T I A V		
UniRef90_F5LEZ3	M F G A P L S G K S K I M L L G S G E	L G K E V I I E A Q R L G V I E V I A V		
UniRef90_B6XG32	S Q I L G T A L C S S A T K V M L L G S G E	L G K E V A I E C Q R L G V I E V I A V		
UniRef90_X5DX75	V I G T P L A P N A T K V L L L G S G E	L G K E V T I A L Q R Y G V E V H A A		
UniRef90_Q8FBM3	I I G T P L S P N A T K V M L L G S G E	L G K E V T I A F Q R L G V E V H A V		
UniRef90_M1RJB8	M I G T P L S Y N T T K I L L G S G E	L G K E F A I E A I R L G V E V V A V		
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UniRef90_E4W8Z5	I I G T P L S P S A T A T R V M L L G S G E	L G K E V I I A L Q R L G V E V I A V		
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UniRef90_N9V6P7	M L G T A T R P S A T A R A L L L G S G E	L G K E V A I E L Q R L G V E E V L A V		
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UniRef90_UPI000373E036	M I I G T P L S A N A T K V M L L G S G E	L G K E V I I A L Q R L G V E E T I A V		
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UniRef90_UPI00037742CC	L G T A L R R G A T K V V L F C G A G E	L G K E V V I A L Q R L G V E E T I A L		
UniRef90_A6VM62	S R I I G T A L C G D A A R M L L L G S G E	L G K E V A I E L M R F G V E E V I A V		
UniRef90_B5JS66	Y Y G A P G K E H A K K M M L L G S G E	L G K E V A I E A Q R L G V I E V I A V		
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UniRef90_UPI00035E7E29	T R I I G T P L Q S S A V K V L L L G S G E	L G K E V V I I S L Q R Y G V E E V I A V		
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UniRef90_B6BTE8	K T I I G T P L Q S S A V K V M L L G S G E	L G K E V A I E A G K R L L G C K V I A C		
UniRef90_Q7VBB3	K T I I G T P L Q S S A V K V M L L G S G E	L G K E V V I S L Q R Y G V E V I H A A		
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UniRef90_L1MDD2	K K I I I G T P L T P N A T A T K V V L L G S G E	L G K E F T I A S F Q R L G V E E V H A A		
UniRef90_M1N0S6	I I I G T P L T P N A T A T K V V L L G S G E	L G K E F V I I S A K R L L G C Q V I A C		
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UniRef90_K9P8R8	S P F P R T V M L L G S G E	L G K E V A I A A Q R L G C R V I A C		
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UniRef90_U3GZD1	I I I G T P L T P S S L K V L L L G S G E	L G K E V A I A A Q R R Q H V I A C		
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UniRef90_Q31QP9	R I I I L P G A T I I G M I G G G Q L G R M F V I A A Q R L G N T V I A V			
UniRef90_Q8KDJ0	K T I I I L P G A T I I G M I G G G Q L G R M F V I A V K R L G Q R V V A V			
UniRef90_UPI000362F17A	L G T P M T P N A T A T K V V L L L G S G E	L G K E F V I I S F Q R L G L E V H A V		
UniRef90_U7KW41	I I G T P L T S N A T A T K V V L L L G S G E	L G K E F V I I G Q N L G L E V H A V		
UniRef90_UPI0003B43459	V V G T P L G I H P S T V L L L G S G E	L G K E I I A I Q C M R L L G L R V I C A A		
UniRef90_G7H2Y7	V V G T P L G I H P S T V L L L G S G E	L G K E V T I A F Q R F G V E V I A V		
UniRef90_J1J829	A G S V I G L I G G G Q L G R M F V I A A A E L G F R T V I F			
UniRef90_E8RUZ2	P L Q P G S K I G I L G D G Q L G R M L S Q A A S R L G F K V V V Y			
UniRef90_J0R6H4	P L Q P G S M I G I L G G G Q L A R M L T M A A E L G Y R T V V L			
UniRef90_R2SB67	P L Q P G A T I I G I V G G G Q L G R M M A I S A K E M G F R I G I I			
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UniRef90_B5EJX9	L G T P L S A S A T A T R V L L L G A G E	L G K E L L T I A A Q R L G V E T I A V		
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UniRef90_G1WEQ9	M L L G S G E L G K E F T I A A K R A G L Y V V A C			
UniRef90_F4QPU0	T I G I L G D G Q L G R M L S Q A A S R L G F K V V I F			
UniRef90_M7NZF1	M L L G G G Q L G R M F T S A A Q S M G Y R V V V L			
UniRef90_E8LMW3	T T A L L L G S G E L G K E V A I E L I R L G I K V I A C			

50 60 70 80

QUERY	D R Y A D A P A M H	V A H R S H V I N M L	D G D A L R R R V V E L E K P H Y I	P
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UniRef90_C7LXI3	D R Y E N A P A M Q	V A H R S H T V S M L	D G P A L R R I I E T E K P N F I	V P
UniRef90_V5F3Q4	D K Y D N A P A M Q	V A H R S H V I N M L	D G D A L R A K I V E Q E Q P T Y I	V P
UniRef90_A1S9F3	D R Y P N A P A M Q	V A H R S H V I N M L	D G E A L R K A L I A S E K P H L V	I P
UniRef90_K2FUL4	D R Y A N A P A M Q	V A H R S H V I S M L	D G A A L R A V I A Q E K P H L V	V P
UniRef90_A0A031MFR1	D R Y A N A P A M Q	V A H R S H V I D M L	D P A A V R A V E E K E R Q P H W I	V P
UniRef90_UPI00038111DF	D R Y A D A P A M Q	V A H R S H V I D M R	D G E Q L C A L I E R E R P D Y I	V P
UniRef90_D4F5A2	D R Y D N A P A M Q	V A H R S H T I N M L	D G D A L R R V I E L E K P D Y V	V P
UniRef90_A6FDI4	D R Y E N A P A M Q	V A H R S H V I D M L	D G E A L E Q I I A K E Q P D Y V	V P
UniRef90_U0FUR3	D R Y E N A P A M Q	V A H R S H Y T L D M L	D M T N A N A L R Q L V A S E K P D F I	V P
UniRef90_A6GPE2	D R Y P N A P G H Q	V A H R F H V I D M T	D P S A V R A L I A Q E R P H V	V P
UniRef90_W8Z0Z6	D R Y A D A P A M G	V A H R S H V I D M L	D P E Q L R N L I K L E K P D L I	V P
UniRef90_A6LHW2	D K Y P D A P A M Q	V A H R S Y V V S M L	D G D A L R E I I E K E K P D Y I	V P
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UniRef90_F5LEZ3	D R Y D H A P A M Q	V A H R S Y V I D M L	D R Q A L R E L I E R E R P H L I	V P
UniRef90_B6XG32	D R Y D N A P A M H	V A H R S Y T L N M L	D G D A L R Q L V A S E K P D F I	V P
UniRef90_X5DX75	D R Y E G A P A H H	V A D V H H T I D M T	D P S A V R A L I D E V R P Q F V	V P
UniRef90_Q8FBM3	D R Y D N A P A H Q	V A H F S Y V D M T	D A A A I R E L V T T I K P D F I I	V P
UniRef90_M1RBJ8	D S Y Q H A P A Q Q	L A Q R Y Y V I D M K N K E L	L K S L A Y R E A P D F I	V P
UniRef90_A0A052J4M1	D R Y A D A P A G H Q	V A H R A H V V S M T D P A A L	R A V I D L E R P H I	V P
UniRef90_U1J6T2	D R Y E H A P A M Q	V A D K S Y V L S M L	D G E K L E Q I I H L E Q P D Y I	V P
UniRef90_E4W8Z5	D R Y A D A P A H Q	V A H R A H T V D M G D R E Q L	L R L V E D E R P H F V	V P
UniRef90_Q0VRD0	D R Y A H A P A M Q	V A Q H S H V I N M L	D G T A L R A V V E Q V K P A L I	V P
UniRef90_UPI00046FB1DE	D S Y E N A P A M Q	V A H R S H V V S M L	D E E R L A E I I R L E Q P D Y I	I
UniRef90_N9V6P7	D R Y A D A P A M Q	V A H H S A V I D M L	D G H A L R E L V E T F R P H V I	I
UniRef90_UPI00036319A3	D R Y A N A P A M Q	V A H H S F V T D M L	D G E A L E Q L I L E H K P D L V	V P
UniRef90_UPI000373E036	D R Y A H A P G H Q	V A H H A Y A I D M T	D A T A L K A L V N Q V K P H Y I	V P
UniRef90_E0USR6	D R Y E N A P A H Q	V A H R S H V V N M L	D K D A L L E I Y R E K P D Y I	L P
UniRef90_UPI00037D87A9	D R Y A D A P G H Q	V A H R A H V I D M S	D G A A L R A L I E A E K P Q L V	V P
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UniRef90_A6VM62	D R Y E Q A P A Q Q	V A H R A H Y T I S M L	D G S A L R A L V E K E R P P D Y I	V P
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UniRef90_W0EQ48	D K Y A N A P A M Q	V A H R S H V L S M L	D G K K L R E I V L K E K P D Y I	I
UniRef90_UPI00047B969B	D R Y G D A P A M Q	V A H R C H T L N M L	D P A A L R D L I A H E K P D I	V P
UniRef90_L7LC48	D R Y A D A P A H Q	V A H A A E V I D M M D	D P A A V R A V I D K H R P R Y V	V P
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UniRef90_UPI00035E7E29	D R Y A G A P A M Q	V A H R S H V I D M T	D A N A V K T L I A S E Q P H Y I	I
UniRef90_A6DD78	D R Y A N A P A M L I	A Q K S Y V V D M K N K D A L	L D V I L R E K P D F V	V P
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UniRef90_M6DBT1	D S Y D G A P A M Q	V A H E Q E V I D M L	D D Q A L R D V V A K H K P D L I	V P
UniRef90_UPI0004753C9C	D S Y A G A P A M Q	V A D E F C V F S M L	D E A A L R Q A I E Q H Q P D L I	V P
UniRef90_R5AJD8	D S Y A G A P A M Q	V A H R S Y V N M L	D A D E L R R I I E L E K P D H I	I
UniRef90_L1M9S8	D S Y E N A P A H Q	V A H A H Y V I D M T	N P D E L R R I I A E V K P Q F I	V P
UniRef90_U2PZL9	D P S E D C P A S C	L A N E K I V A S F D D K E A L	L E L L A K K V D V L T C	V P
UniRef90_B6BTE8	D R Y E N A P G H Q	V A H R A Y S I D M T	N A A L E Q L I Q K E K P T L V	V P
UniRef90_Q7VBB3	D R Y E E A P A M Q	V A D L A V L D M N N H S L	N H S L Q K T I R D Y K P D V V I	V P
UniRef90_K6UZH9	D R Y E H A P A M Q	A A H F S Y S L N M A	D P Q Q L K A L I E Q V K P Q F I	V P
UniRef90_L1MDD2	D N Y A G A P A M Q	V A D E C E V F S M L	D G K A L D A T I V A K H Q P D V I	I C
UniRef90_M1N0S6	D R Y E G A P A Q Q	V A H V P H L V D V S	D G A A V L S L V D R V P D Y V	S
UniRef90_T0HMK5	D A Y E G A P A M Q	V A D G F E V F S M L	D G E R L R A A I E K H R P D F I	V P
UniRef90_UPI0003B3312E	D S Y D N A P A M Q	V S D Q F E V F N M L	D S D K L R D V V A K H K P D L I	V P
UniRef90_R6XGE3	D K Y A N A P A M Q	V A Q S S H V L S M L	D G D A L A K M I E E E N P D L V	I
UniRef90_H0E1H0	D R Y E S A P A M A L	A H R R H V L A M T	D E A A L R A V L E E E R A R I	V V
UniRef90_M2TKQ7	D N Y A A A P A M Q	M A D E S E F V F S M L	D G D A L A A V I E R H R P D F I	V P
UniRef90_K9P8R8	D R Y A G A P A M A V	A Q V S E V V A M A	D P D E L K A V V R R H R P D V V I	V P
UniRef90_F9UH17	D R Y P G A P A M Q	V A H R S H V L N M L	D G A A L A A L V A E E D P A I	V P
UniRef90_Q4JXR6	D R Y A G A P A H L	V A W V A N K A V L D I H	D E D A I R Q L V R E V G P P H F V	V P
UniRef90_U3GZD1	D R Y S D A P A H Q	I A H F A Y T L D M M	D P E E V T A L V E K V R P H F I	V P
UniRef90_S5TM53	D R Y P N A P A H Q	V A Q F A H V A D V R	D P E Q I L G L V Q R L R P D Y V	V P
UniRef90_A91XR7	C P E S D C P G A Q	T A N N H I I A S Y D D P S A L	D N F I I A Q S D V V S Y	V P
UniRef90_UPI0003B52E18	E P G P D S P A G Q	V A D E Q I V A E Y D D A T A	A I F A E R C O D V I T T	V P
UniRef90_Q31QP9	D R Y A H A P A M Q	V A D A S A V I S M L	D G E A L E A V V Q E F Q P D L I	I P
UniRef90_Q8KDJ0	D S Y D D A P A Q Q	V A D R R E V I D M L	D G R A L D A I V A K H R P D I	I V P
UniRef90_UPI000362F17A	D Q Y A N A P A H Q	S A H Y A Y V A D T	M A G Q I E Q L I I E K I Q P D Y I	V P
UniRef90_U7KW41	D S Y A G A P A H Q	V A Q Y S Y V A D I K	D A G R I L Q L I A R E I Q P H F V	V P
UniRef90_UPI0003B43459	D S Y E N A P A Q Q	V A H E S R T L A M T	D A D A L A K L I E D V N P S I	I V P
UniRef90_G7H2Y7	D R Y P D A P G H Q	V A H A E V I D M T	D P A A V T A V V E K Y R P D F V	V P
UniRef90_J1J829	C P E A D C P A A Q	T T N D H I V S S Y D D Y A L L	D H F I S L C D V I T Y	V P
UniRef90_E8RUZ2	G P D A E S P A A S	V S A V S K V A R Y T D E T A L	D R F A A A S D V I T F	V P
UniRef90_J0R6H4	C P E A H C P A A Q	T A N H I I A P Y D D E I A L	D R L I E M C D V I T Y	V P
UniRef90_R2SB67	D P T E D C P A S Q	V S D W H I I A P Y D D Q A A L	E E M A R C T Q V I T Y	V P
UniRef90_E6JZJ5	D P T D D C P T G Q	V A D F Q I V A D Y D D Q E A I	R Q L A Q R C D V L T Y	V P
UniRef90_B5EJX9	D R Y A D A P A M Q	V A H R S H V L D M T	D P E A I L A I V K H E R P H Y V	V P
UniRef90_A5FY4	S P E P D A P A S Q	V A A T T R A D Y D D N A A L	R L F A D A V D V I T F	V P
UniRef90_Q11NP7	D P D S D A P C K N	W G S F T T G S L T D F D T V	Y Q F G K E M D L I T I	V P
UniRef90_UPI0003A4760F	E P D P H S P A G Q	L A E Q H M I A A Y D D E T A L	T A L A E Q C D V I T T	V P
UniRef90_G1WEQ9	D K Y P F A P A M Q	V A D T C E I F N M L	D G A T I A Q V V D H K P D I I	V P
UniRef90_F4QPU0	G P D A E S P A A Q	S V L A S K V A Y T D E A V L	A R L A E R C D V I T F	V P
UniRef90_M7NZF1	D P D Q N S P A G	I A M D Q H I C A S Y T D E Q A L	K Q M A E Q C A A I T T	V P
UniRef90_E8LMW3	D R Y D N A P A M Q	V A Q D K A V I N M K D H D E L	S A L I H K V K P D F V	P

QUERY	90	100	110
UniRef90_UPI000255A5C1	E E A A T D M I Q L E E E G N V V P C A R A T K L T M		
UniRef90_C7LXI3	E E A A T D T L A E L L E Q E E G F T V I P T A R A T Q L T M		
UniRef90_V5F3Q4	E E A A T D T L V E E L L E A E G Y G T T V V P T A R A A K L T M		
UniRef90_A1S9F3	E E A A T Q T L V E E L L E A E G L K V V P T A R A T R L T M		
UniRef90_K2FUL4	E E A A T D T L V E E L L E Q E E G L H V V P T A R A A K L T M		
UniRef90_A0A031MFR1	E E A A T A A L L V E E L L E T E G Y T V V P T A R A A R L T M		
UniRef90_UPI00038111DF	E E A H T P T L L E E S D G V R I V P T A R A T R L T M		
UniRef90_D4F5A2	E E A A T Q T L D Q L E E S D G V R I V P S A R A V Q L T M		
UniRef90_A6FDI4	E E A A T D T L L E E Q E G V N I V P T A R A T K L T M		
UniRef90_U0FUR3	E E A A T D K L V E E L L E A N G L N V V P T A N A T R L T M		
UniRef90_A6GPE2	E E A A T P A L K E E L L E E G V V R V V P T A N A A W L T M		
UniRef90_W8Z0Z6	E E A A T S T L V E E L L E E Q E G F K V V P T A R A A R L T M		
UniRef90_A6LHW2	E V E A A T R T L M E E L L E E E E G Y H V I P T A R A T W L T M		
UniRef90_A0A024IEPO	E E A A T P M L Q E E L L E T A G V R V I P T A R A A R L T M		
UniRef90_F5LEZ3	E E A A T Q E L V E E L L E E Q E G Y Y R V I P T A N A S R L T M		
UniRef90_B6XG32	E E A A T K T L V D D L E E R Q G Q K V V P S A N A V Y L T M		
UniRef90_X5DX75	E E A A T D A L Q D D L V E E D E G G L T V I P T A R A T R L T M		
UniRef90_Q8FMB3	E E A A T D E L V R I L E E Q E G L T V I P T A R A T Q L T M		
UniRef90_M1RBJ8	E E A N T D A L I E E L L E E Q E G F N I V P C A R A V K Y T M		
UniRef90_A0A052J4M1	E E A A T D L L V E E L L E A A G V R V T P T A R A A R L T M		
UniRef90_U1J6T2	E E A A T E K L V A L L E A A Q G F T V V P S A K A T Q L T M		
UniRef90_E4W8Z5	E E A A T E A L A E E V E E R G G L A V V P T A R A T Q L T M		
UniRef90_Q0VRD0	E E A A T D E L V K L L E E A E G Y T V V P T A R A A Q L T M		
UniRef90_UPI00046FB1DE	E V E A A T D T L L E E Q K G F N V V P T A R A A K L T M		
UniRef90_N9V6P7	E E A A T D T L L D L E A A Q G H R V V P T A R A T R L T M		
UniRef90_UPI00036319A3	E E A A T D T L A K L L E E Q Q G Q K I V P T V R A V Q L T M		
UniRef90_UPI000373E036	E E A N T Q A L A E E I E A T G V T V V P T V R A V Q L T M		
UniRef90_E0USR6	E E A N D A L F A A E D R G G Y N V I P N A N A V S K T		
UniRef90_UPI00037D87A9	E E A A T E T L L E E A A G G L E V I P T A R A A N L T M		
UniRef90_UPI00037742CC	E E A A T A T L A E E L E E R E G Y T V I P T A K A A Q L T M		
UniRef90_A6VM62	E V E A A T D T L L V E E L L E E Q E G F T V V P T A K A T M L T M		
UniRef90_B5JS66	E E A H T E T L L V E E L L E E S E E G G W N V V P T A R A T R L T M		
UniRef90_UPI0002888A7A	E E A A T D E L L L R E E E E G F N V I P T A R A S R L T M		
UniRef90_Q39QR8	E E A D T P Y L L E E L L E E Q E G Y T V I P T A R A A N L T M		
UniRef90_UPI000363D50B	E E A A T E T L L V A L L E E A E G F T V I P T A R A A R L T M		
UniRef90_UPI0003754A8E	E E A A T A E L L D D E E R E G F N V V P S A G A A N L T M		
UniRef90_D5VQM5	E E A N E A L L K D A E S L G Y K V I P N S E A V E I T M		
UniRef90_G0HJC7	E E A N L D A L F E E L L E E K D G Y F V V P N A K A T W I A M		
UniRef90_UPI00036A7B54	E V E A A T A T L I E E L E N A G F T V V P S A R A A H L T M		
UniRef90_UPI0003071F1F	E E A A T D E L L V G G L E E E E G F N V V P N A R A T K L T M		
UniRef90_V9GI42	E E A A T S E L V K L L E E E E G F R V I P T A R A A K L T M		
UniRef90_UPI0003B713CA	E E A A T P V L E E L L E A E G V H V V P T A R A A R L T M		
UniRef90_M3V7N8	E E A A T E A L V E E V E V A E R G L E V I P T A S A V V A T M		
UniRef90_W0EQ48	E V E A A T D T L V E E L L E E K E R G G Y S V T P T A T A A Y L T M		
UniRef90_UPI00047B969B	E E A H T P T L V E E L L E E A E G Q R V I P T A R A A R L T M		
UniRef90_L7LC48	E E A A T D A L V E E V E A E E G L E V I P S A K G V S L T		
UniRef90_UPI00021925D3	E E A A T D E L L V R I L E E R E G L D V V P T A R A T N L T M		
UniRef90_UPI00035E7E29	E E A A T D A L A E E L E V Q G T T V V P N A R A I Q L T M		
UniRef90_A6DD78	E E A N E A L L F E A E N K G H I P N A E A V N K T		
UniRef90_UPI000366C9BA	E E A A T A E L V K L L E E E E G Y R V I P T A R A A R L T M		
UniRef90_M6DBT1	E E A R T D R F Y Y E E K Q G Y Q V P S A K A A N F T M		
UniRef90_UPI0004753C9C	E E A I R T E V L L D V E E K E G F E V I P S A R A A N L T M		
UniRef90_R5AJD8	E V E A A T P V L V E E L L E E K E G G Y H V T P T A R A A W L T M		
UniRef90_L1M9S8	E E A V D T N V L L D D C E A H G V T V I P T A R A T Q L T M		
UniRef90_U2PZL9	E F E H S T E A L R E E L E E E K E Y Y N V Y P K S N S L K I I Q		
UniRef90_B6BTE8	E E A I N T K L L E E A K D E A D N V K V I P N V R A V Q L T M		
UniRef90_Q7VBB3	E E A A L V E A L L K D I E E K E G G L N V I P P N A R A T A I T M		
UniRef90_K6UZH9	E E A A T E V L L E E V E A Q Q A V V I P S A K A V N L T M		
UniRef90_L1MDD2	E E A A T R E T R L Y D Y E E Q Q G H V V P S A R A V N F T M		
UniRef90_M1N0S6	E V D R V A A D A L A E E I E E A E G T C V V P S A K A C S L T M		
UniRef90_T0HMK5	E V E A I R T E V L L A E E V E A E G F G C V V P S A R A T Q M T M		
UniRef90_UPI0003B3312E	E V E A I E T H V L I T E A E K N G K N V I P S A K A V N L T M		
UniRef90_R6XGE3	E V E A A T Q K L I E L L E E K K G Y T V I P T A K A T Y L T M		
UniRef90_H0E1H0	E E A A T G V L Q E L E E A D G L R V V P T A R A A R L T M		
UniRef90_M2TKQ7	E V E A A T R E T L I A E E H E A R G T V V P S A R A A Q M T M		
UniRef90_K9P8R8	E E A L A V D A L A E E L E A E G L T V I P T A R A T A V T M		
UniRef90_F9UH17	E E A A T A T L L E E L E A E G G R H V V P T A R A A H L T M		
UniRef90_Q4JXR6	D S E T I P A E V L Q E I L E E N E V A S V V P T A L A N R L T M		
UniRef90_U3GZD1	E E A A T A E L R D L E E E A S F T V I P T A E A T Q L T M		
UniRef90_S5TM53	E E A V A A D A L A E E V E A R G A E V I P V A H A C G L T		
UniRef90_A9IXR7	E F E N L L L E T V Q Y V V E Q S R P V Y P S S H A L E E I A Q		
UniRef90_UPI0003B52E18	E F E N I P A H V L E E S L S A T C P V R P S A Q A L G K T Q		
UniRef90_Q31QP9	E E A I R T E K L Q E F E D R G L T V I P T A R A T H F T M		
UniRef90_Q8KDJ0	E E A I R T E R F Y D Y E E K Q G I Q V V P S A R A A N F T M		
UniRef90_UPI000362F17A	E V E T V A A E V L A R A E E S G K A V V P S A R A C E L T		
UniRef90_U7KWH41	E V E T V A V A E L V E E M E A Q S A I V V P S A R A C A M T Q		
UniRef90_UPI0003B43459	E V E A A T D V L A D A A K R G I V R V P A A A I V R I C M		
UniRef90_G7H2Y7	E E A A T E A L G E I E A R G Q V I P S A S A L E I T Q		
UniRef90_J1J829	E F E N L S L E T I R Y I E K S K N V Y P S S K A L E I T Q		
UniRef90_E8RUZ2	E F E N V P V A S L D L L V S K G A K V T P N A R A L L G I T Q		
UniRef90_J0R6H4	E F E N L P L Q T A H Y I E K E K R L Y P S S K A L E I A Q		
UniRef90_R2SB67	E F E N V D V D T L N Q I D R A N P Q G T D L L A I T Q		
UniRef90_E6JZJ5	E F E N V D A D A L D Q V S D L V A I P Q G T D L L R V T Q		
UniRef90_B5EJX9	E E A A T S A L A E I E A K G L T V V P S A R A V Q L T M		
UniRef90_A5FY4	E F E N V V S A E G L D L L A D R P V R P G P E I L R I S		
UniRef90_Q11NP7	E F E N V V D A L K K L Q K E G T K V Y P Q P E L I E M I Q		
UniRef90_UPI0003A4760F	E F E N I P A K T L E Y L A Q I R P V H P S A Y A V K M A Q		
UniRef90_G1WEQ9	E E A I R T E K L F D F E K Q G L Q V V P S A R A A N F T M		
UniRef90_F4QPU0	E F E N V P A S S L D Y L V G L G A T V A P S S K A L R I T Q		
UniRef90_M7NZF1	E F E N I P A S T L A F L E E Q R T V V H P S S T A L A K T Q		
UniRef90_E8LMW3	E E A S T S T L M E L E K E G L H V V P C A H A A H I T M		

Sequence logo showing the conservation of amino acids at each position of a protein multiple sequence alignment. The x-axis represents positions 1 to 40. The y-axis lists UniProt IDs. Colored bars indicate the frequency of each amino acid at each position: A (green), C (yellow), D (red), E (blue), F (purple), G (grey), H (pink), I (light green), K (dark blue), L (light grey), M (brown), N (orange), P (cyan), Q (light orange), R (dark red), S (light cyan), T (light pink), V (light grey), W (dark purple), and Y (dark yellow).

50 60 70 80

UniRef90_C8WF15	A P N Q S G P A N [V] V A A K S F V G A Y D D G E K L K E F A A S V D [V] I T Y
UniRef90_UPI0003739CB7	E N D E N C C P A A H L [C] H H F [V] K G D I R D Y D A V Y Q F G K K L D A L T I
UniRef90_E4UDT1	D P D S T C P A N Q V S N R Q I V A Q Y D D I D S L K N L A N L C D Y V T Y
UniRef90_A3XQY0	D P N P E A P S R L L A A N Y F Q Q G D L M D F D T V Y N F G K Q A D V V T F
UniRef90_UPI00037026A9	D S Y A N A P A M Q V A H R S H V I N M L D G A Q V R Q I V E Q E K P G L I V P
UniRef90_D2R3F1	S P D D D T P T G Q V A D V E F R A S Y D D L D A I E S F A R G V S V V T F
UniRef90_M0CNA2	D P T P D C P A A L V A R D Q I V A D F D D E A G I R D L A E R A D I L T F
UniRef90_V4RCJ9	C P D P G S P A F Q V A S A A H V A A Y E D E A A L R R F A E A C D V V T F
UniRef90_J9G680	D A Y P N A P A M Q V A D E F E V F S M L D G E A L D K V V E K H H P D I I V P
UniRef90_UPI00041B32BD	D R Y D G A P A Q Q V A H N A L T V D M S D A D A L G A A V V S T G A S I V V P
UniRef90_U2EJB4	S P G D D T P M G Q V A D R E A V G Y N D L D A V A E F A S R V D V V T F
UniRef90_C4LEN2	D P D K Q S V A G Q I A D E H I I A A Y D D V N A L N Y M A T C C A V T T
UniRef90_D3IAJ4	D R Y D N A P A M Q V A D E R E V F N M L D A N A L D A V V Y K H K P D I I I A
UniRef90_UPI0003707522	E N D A N C C P S A H L [C] H H F [V] Q G N I R D F D S V Y H F G K N L D A L T I
UniRef90_UPI0002FEAA72	D R Y P D A P A M A V A H K S H V N M T D A D A L Y E L I K T E H P D Y I V P
UniRef90_UPI00024FC57	D P D E N C C P A Q F V A H E F I N A D Y S N E K A L N Q L G N S K V V T Y
UniRef90_UPI00034ACCAF	D P D P E A P C S E I I S H E F V C A D R N D A E A V Y T L L G K K C D V V T I
UniRef90_V4X4F2	D R Y E N A P A M Q V A H R A H T L D M T D A T A V R D L V A R E E P D L I V P
UniRef90_U6B5B6	D P N N K C P A N Q V A K R Q I I E N H N N I E A L N D I A S L C D Y I T Y
UniRef90_E6KPY4	D S Y A G A P A M Q V A D D F R V F D M A D P R A R R E V L A E V D V D L I V P
UniRef90_L8M793	D S Y A N A P A M Q V A D V A E V S M L N G D D L E R I V Q Q Y Q P D F I V P
UniRef90_UPI000470B0FA	D P T P D S P C G Q V A D R Q I V A P Y H D V D A A R Q L A E L L A D V I T Y
UniRef90_E5AKX5	D P E I T C P A A G V A D R H L C A A Y D D R E A L A E M A R L C A A V S T
UniRef90_U9W2R1	D A Y A N A P A M Q V A H R S H V L S M L D G R A L K Q V I E Q E R P S L I V P
UniRef90_UPI00047933BC	E P Q Q D C P A S Q V T N T H I Q A A Y D D A D G L A R L A E M S D V V T Y
UniRef90_Q2N8K3	D A Y A A A P A M Q V A D A S E V L S M L D A D A L R A V V A K H H P D Y V V P
UniRef90_B915L2	D P L V N C P A S S I A Y D H M V G S F D D S A T V Q E F A K R C A V L T V
UniRef90_E6TWL3	E P T P D S P C G Q V A D I Q I K T A Y N D H E G A K K L A E N C D V L T Y
UniRef90_UPI000425D35D	U I R P E V S A A Q V F H D V T V G D Y T D P A T V K A F A A G C D V I T F
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 P P G S T I G V L G G G Q L G R M M T L A G T N L G Y R F I T L
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UniRef90_W5Y663
UniRef90_C1MNG8
UniRef90_UPI00047AE80E
UniRef90_B1XPY5
UniRef90_D6Y5U0
UniRef90_S7XC33
UniRef90_I0KX16
UniRef90_R7SL64
UniRef90_B8G6X6
UniRef90_M7MHZ4
UniRef90_U1QT32
UniRef90_A9DML3
UniRef90_E8U3W0
UniRef90_F8E1E9
UniRef90_D5TOS2
UniRef90_K0VL29
UniRef90_UPI0001FFE8F7
UniRef90_Q0AGS6
UniRef90_UPI0002629301
UniRef90_A6CQU7
UniRef90_A6EPS1
UniRef90_UPI00047757DC
UniRef90_UPI000255F14A
UniRef90_B0U605
UniRef90_E0MQ11
UniRef90_C0MBH7
UniRef90_H8YWWP3
UniRef90_UPI0002E15826

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

UniRef90_H1Y9R0
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 UniRef90_I0WDZ7
 UniRef90_UPI00035C440D
 UniRef90_V5WL01
 UniRef90_I3ASK6
 UniRef90_K6VN07
 UniRef90_B0RDU9
 UniRef90_Q75BR1
 UniRef90_UPI00029A7F85
 UniRef90_C0N5G8
 UniRef90_F2Z607
 UniRef90_UPI00020D9C13
 UniRef90_D813Q5
 UniRef90_UPI00046988C
 UniRef90_UPI0003663C86
 UniRef90_Q8DJG7
 UniRef90_C8WQJ6
 UniRef90_K8F0U5
 UniRef90_V4Y0U6
 UniRef90_Q7VBT4
 UniRef90_UPI0004750947
 UniRef90_UPI00037E18F6
 UniRef90_UPI000377A427
 UniRef90_A8Q4Y8
 UniRef90_F5YZU1
 UniRef90_F9DT56
 UniRef90_L8LQU0
 UniRef90_M4DKY0
 UniRef90_L0JYC8
 UniRef90_A1R4C7
 UniRef90_A5VB13
 UniRef90_A9V1Z8
 UniRef90_S3CKJ4
 UniRef90_I6ZD72
 UniRef90_UPI0004015B89
 UniRef90_UPI00036AF39C
 UniRef90_H0R6N9
 UniRef90_UPI00046D0F65
 UniRef90_W1SMU2
 UniRef90_S2X216
 UniRef90_A3J0K0
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 UniRef90_UPI000248B8A4
 UniRef90_L8N2D3
 UniRef90_A3TTT2
 UniRef90_H6BLE6
 UniRef90_UPI00035E0302
 UniRef90_A2C9Y9
 UniRef90_F6GK07
 UniRef90_V9HDE0
 UniRef90_H6SRU4
 UniRef90_L8Y1P5
 UniRef90_A4CUP1
 UniRef90_U5DDZ8
 UniRef90_V4ZW71
 UniRef90_W5XNQ5
 UniRef90_UPI00036DB216
 UniRef90_W5XQU7
 UniRef90_UPI000365593B
 UniRef90_A0A024TPY3
 UniRef90_D7B6J4
 UniRef90_X7YAW7
 UniRef90_X7ECC1
 UniRef90_K2J3R9
 UniRef90_W0SCE8
 UniRef90_UPI0004694AEF
 UniRef90_D9QFT0
 UniRef90_S3AQV8
 UniRef90_UPI00047468E0
 UniRef90_S2YF09
 UniRef90_UPI00047B2CBC
 UniRef90_A8FAM2
 UniRef90_C7M722
 UniRef90_U3ABI9
 UniRef90_G2Y0K8
 UniRef90_G8TPS3
 UniRef90_M0M589
 UniRef90_A2TTT6
 UniRef90_F2NMN9
 UniRef90_T1AAH8
 UniRef90_T0BLI8
 UniRef90_U7LM14
 UniRef90_U4WWZ0
 UniRef90_W4R0D5
 UniRef90_UPI000470430C
 UniRef90_UPI0002FACF3D
 UniRef90_UPI0003611A6A
 UniRef90_G2LKS9
 UniRef90_UPI0002629D13
 UniRef90_A8IJJ8
 UniRef90_UPI00037CE737

1 10 20 30 40

The sequence alignment shows a highly conserved region from position 1 to 40. Most positions are black (identical), indicating high conservation. Blue highlights indicate conservative substitutions. Red highlights indicate non-conservative substitutions. Yellow boxes highlight specific mutations or motifs, such as 'C' at position 10, 'H' at position 20, 'C' at position 30, and 'C' at position 40. The alignment also shows several invariant residues (black) across the entire set of proteins.

50 60 70 80

UniRef90_H1Y9R0	D P D R E A P C R K L C N E F V V G S L G D Y E T V Y N F G K K V D L L T I			
UniRef90_UPI000299E0E4	D P D P D A P C K H I A N Y F E N G S I T D F D T V Y N F G K K A D I I T I			
UniRef90_I0WDZ7	D P S A D A P C R I A C N E F Q G S L M D F D T V Y N F G K K A D V L T I			
UniRef90_UPI00035C440D	D A S P E A P C A Q I C N E F H I G N L L D F D T V Y N F G K K V D V L T I			
UniRef90_V5WL01	D P S P R P P A Y G I A D E C I Q G S L T D S R A I L E L A R V D V L S Y			
UniRef90_I3ASK6	D S Y A G A P A Q Q V A H E Y R A L D M A N A A E L Q A L F D E L K P D I I V I P			
UniRef90_K6VN07	V E D G Q A S A A L V V P S A P V G G H D D L A A V R E F A R R C D V V T F			
UniRef90_B0RDU9	A E A D G M S A G L A A S A V G D Y R D L D A V R A F A R D V D V I T F			
UniRef90_Q75BR1	D G P N S P A K Q I V I G E H V E G S F G V A A D I E E L A Q R S D V L T V			
UniRef90_UPI00029A7F85	D P S D E A P C K I S A N T F I Q G D L M D Y D A V L N F G R K V D L L T F			
UniRef90_C0N5G8	D P D P Q S P A G I V A D S H I C A P Y D D E T A L S E M A Q L C A A I T T			
UniRef90_F2Z607	D A E N S P A K Q I N S E H V N G S F A K P E D I K K I A S L C D V L T V			
UniRef90_UPI00020D9C13	D P T P D S P A G Q V A D F Q I T A E Y N D A T A L A K L A D E S D V I T Y			
UniRef90_D813Q5	A A G E N E A A A G L V A G D V T L L G H H T D L D A L R K F A A S V D V L T F			
UniRef90_UPI000469888C	D P Q A D C P A G Q V A D G Q I A A Y D S E A Q I E L A Q K S D V V T Y			
UniRef90_UPI0003663C86	D P D E N S P A G Q I A D V H I C A K Y D D E A A L D K M A Q T C Q A I T T			
UniRef90_Q8DJG7	T P A A T D P A V A V A D G V C Y G A I A D G A T T A Q L A E H V D V I T F			
UniRef90_C8WQJ6	D P T P D A P A A Q V A D G Q V V A A Y D D V D A A R R L A S Q C D L V T Y			
UniRef90_K8F0U5	D P T E P S C P A S I A A E Q T I G S F R D K A A V L E F A K D C D V V T V			
UniRef90_V4Y0U6	D P T P E C P A S L V A R E Q I V G D F D D P E A V R D L A A A S D A L T F			
UniRef90_Q7VBT4	T R S E N D P A V Q N A N G L V L S D T N D I N G T R Q L A Q K T S C I T F			
UniRef90_UPI0004750947	V E S P T S S A A Q V V V D S P V G E A S D P D A V R A L V A G A D V L T F			
UniRef90_UPI00037E18F6	G Q E A D G P T G Q I A E Q H I S A D Y E S L D A L Q Q M A D A V R A V T T			
UniRef90_UPI000377A427	A V S A D E P A A Q V S P A V V L G S H T D L E A L R Q V A A G A S A L T F			
UniRef90_A8Q4Y8	D V G E H S P A K Q L G P Q H V D G S F V D K A K I R E L A K Q V D L T V			
UniRef90_F5YZU1	D R Y A D A A H R I A D R S M V D P S D N D E L A A A I R W L Q P K Y V V V			
UniRef90_F9DT56	D P T T D S P C G Q I A D I E I V A S Y N D E E A L A E L R E V S D V I T F			
UniRef90_L8LQU0	T P G R D D P G A I R A T Q V I L G T P Q D A I A T K L A T L C D V I T F			
UniRef90_M4DKY0	D P S K N C S A S S L S Y G H M V D S F D D S A T V E A F A K R C G V L T V			
UniRef90_L0JYC8	D P T P D C P A A P V A R D Q I V A E F D D E A G I R E L A A R A D V L T F			
UniRef90_A1R4C7	A E G E D V S A V A A V A T A P I G D Y K D L D A L L E F S K G L D V M T F			
UniRef90_A5V8B13	A P E P S G P A A D V S S R W V R G D Y D D L D A L H A F A Q S V D V V T Y			
UniRef90_A9V1Z8	D P G E A S P A G Q V T H G A I Q G S F N D A E K I Q E L A R Q V G V L T V			
UniRef90_S3CKJ4	D Q E N S P A K R V V A G S H I N G S F T D P E K I R E L A K R V E L L T V			
UniRef90_I6ZD72	D A G K G G P A Q G V V A D R A V L A P I G E S E R L Y D L I E K E R P R F V L P			
UniRef90_UPI0004015B89	D P S D E A P C K I G S N K F F K G S L M D F D T V Y N F G K Q V D V L T F			
UniRef90_UPI00036AF39C	D P D P N A P C K S I A E N F H A G S I K D F D T V W N F G K D L D I I T I			
UniRef90_H0R6N9	A S S P A D P A A A V S A D V V I G S H D D L D D L R R A A D G A I A L T F			
UniRef90_UPI00046D0F65	A T D P K E S A A V V T P Y T E I G D W T N A D D L K R F A R D K T V V T F			
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UniRef90_W0DGZ6	E F E H I P E E I L E K T A P L T F P S V E I L K L
UniRef90_H0J009	E F E H L P V E L V Q Q I E Q H K P V Y P S S R A I A V C Q
UniRef90_F9ZJP8	E F E N I P A Q K I L A E S C I V R P D T R S V A I A Q
UniRef90_G8PK39	E F E N V P G E T A R I L E Q F V P V R P G P L A L K V S Q Q
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UniRef90_C2CQ5	E H E H V P T E H V Q A L I D A G Y N V Q P Q P S A L L Y A Q
UniRef90_Q2GCG7	E S E N I P T E T L D L H D K F D V P N T K A I K V I A
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UniRef90_J3PVG9	E I E H V N V S I L L K R L L K N Q I K Y P H P E V I E I I Q
UniRef90_UPI0003C7E10B	D H E H V P P E H L R A L A D A G H A P R P G P H A L L F A Q Q
UniRef90_UPI000472D50E	E F E N I S S D G L E L A S C L C P V H P A G R I L A I S Q
UniRef90_A5EWU4	E I E H V S V A G L R R L Q A M G K K V L P D P E I L A I I Q
UniRef90_U1X2A7	E F E N V D A N V A A V L E E K S Y V P Q G S E L L R I T Q
UniRef90_A9FJJ5	E I E K V A T D G L V A A A R F A P V R P S A D V L A M V Q
UniRef90_G4TPA6	E I E H I N V D A L D A A Q A K A I E H P A P S T L R T I Q
UniRef90_UPI000365A25C	E F E N V P V E A A R F L A Q R L P V Y P P P K A L E V I A Q
UniRef90_UPI00047B0204	E F E N I P A A E L L A A H G K V R P G P R A L A V A Q Q
UniRef90_B5SGS2	E F E N V P A Q A L D R L E H L G A F V A P R A H C V S I A Q
UniRef90_A0A023CUE5	E F E N V D L Q A L E D A K K L V S I P Q G T K L L A I T
UniRef90_X5KNH4	E I E H V N A D A L E T L E S Q G V K V V P N S R
UniRef90_Q1MXY3	E S E N T D V S L V I E H I S R L K P I Y P G T E S L R K S Q
UniRef90_W1VK5J	E H E H Q D A D L L R Q L E D E G V S V Q P T P A A L E L A Q
UniRef90_UPI000469B362	T S E H D V E A V V K F L L S Q F T R V P Q G S N T L E I T Q
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UniRef90_V7HU18	E S D E I D V Q V I R Y L S H F T R V P Q N T E L L E L T Q
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UniRef90_E8UEM8	E F E N V P S E T L K F L S N E T V D V S P S A S A V E I V Q
UniRef90_W7D5K2	E F E N I A L Q L I E K T T V V A P S A S I L A I T Q
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UniRef90_J3EGZ6	E H E H I P A P T M E E A A R L V S V Q P P A S A L L Y A Q
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UniRef90_UPI0002487D5F	E S E N T A V N I V N E I S S Q K T M V Y P S A K S L Y T A Q
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1 10 20 30 40

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UniRef90_J0WXM0	T V I L P G A T L G V L G	G G Q L G R M F V H A A Q A M G Y F T A V L			
UniRef90_A1WCR6	L K P G S T I G I L G	G G Q L G R M L A L A A A P L G L K T H V L			
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UniRef90_B1IK46	K K L L M I G S G E L Q V P L I K I C	K K N G Y E V I A T			
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UniRef90_E6MMX9	Q L A W M M G P A A Q K L L G L T L H I Q				
UniRef90_UPI000345885D	K K I L M L G G S A Q Q I V A I E T A K R L G Y Y T V V C				
UniRef90_E9SGC6	R Y F V Q A A A L S M G Y G V W V L				
UniRef90_UPI00037F4729	R M L A M S A K E M G Y K I A I L				
UniRef90_W1Q5J2	R M L I E A A N R L N L Q V N V L				
UniRef90_Q3YQZ4	Q L G K M L S I A A T N L G Y K T H L L				
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UniRef90_A3TQN5	M C A G P A V E L G L T L S V L				
UniRef90_Q4FL62	M L A I A A N K L E I K T V I F				
UniRef90_UPI00036999CD	K K V L L L G G T H F Q I N S I K A C	C H Y T I T C			
UniRef90_N8QHE0	K T I G I F G G G Q L G R M M A Q A A L P L N I Q C T F F				
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UniRef90_B0C2E3	T A I L P G A T I G I L G G G Q L G R M T A M A A R S F G Y R V Q V M				
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UniRef90_U1IF38	K M I G F E C R K L G L N V V C L				
UniRef90_B2V8J8	I L V L G A G Q L A R M M S L S S T H L D I K V L A Y				
UniRef90_U1L869	R M L A V A A A Q L G Y A T H I L				
UniRef90_A0A031HQY0	V L V L G A G Q L A R M M S L A G A P L N I E I S A Y				
UniRef90_E8LW69	M L A T E A G E L G F C L R V L				
UniRef90_D6ZKV6	R M F A Q S A Q A A G Y E V V V V L				
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UniRef90_A0A011NUN7	D P D P D A P C K N L S D F H V G K L T E Y E T V M K F G L A C D I V T I			
UniRef90_W8VQ57	D E D D T A P A F E G C T V F F E G D I M D Y E A V M E F G R Q V D V L T I			
UniRef90_UPI0002FF1C70	T K S S D D P P A A L K A D K V H I A D P L Q I K G N K T L I K N C E K V I F			
UniRef90_D0Z0Y5	D V T T N T I V H P I S G Q T Y P Y S L E Q A I A Q S D V I T A			
UniRef90_UPI00037D508C	D P D P L A P A A E F A D E H L C A A F T D E A A L A Q L A Q C A A V T T			
UniRef90_UPI000225E29A	A P E G D A V I A Q V C S E Y V S A D W H D A A A L K A F A D R C D V I T L			
UniRef90_UPI0001BF5FC9	A P D S G P A N D I F A H S R G D Y D D I D A L R A F A R H V D V V T Y			
UniRef90_F0BCE2	D P V A D A C A G Q M A P L Q V G A F D D A A A L A A F A A Q V D V I T F			
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UniRef90_J9Z1X4	T D A E D S P A T K F S D E H I I A Q Y D F D E K E L E R F I R A C N V I T Y			
UniRef90_F8IBY0	D P D P D A P A K E V A D V C L C K P W D D P T G R A E M L A H T Q V I T Y			
UniRef90_S5Y1G2	E P G A A P A G D V A Y Q V T N A P Y E D E A A L R A F A Q S V D V V T Y			
UniRef90_N9UU35	A P D A E S V A A E V T A H H T Q A A W D D E P R L A G F A A A C D I V T F			
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UniRef90_M7R2P0	D V G S G N I V H P L T Q H V L G N G L E N A I E Q V D V I T A			
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UniRef90_N8QHE0	E A S T D C P S A V L G Q V I S S K A E N G L Q D F I N S A D V F S L			
UniRef90_H5TFE5	D V T D N S V L N P V S R Q V H E F D L A F A I I E E A K A I T V			
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UniRef90_A0A031HQY0	A P D D E S V A A Q T A S Q L T R A E Y D D R D A L A A A F A G A C D V V T Y			
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UniRef90_UPI0002491A6F	T S Q A D D I A T Q A A D N F V G D L E N L D N L N E L G H R S D I L L Y			
UniRef90_C5B1W4	A P D A D S P A F D V A H A H T L A P Y D D A A A L A A F A D A C D V V T Y			
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90 100 110

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UniRef90_G0SBU5	E I E H V E T E V L E D I D K N G V P I H P S W R T I R L I Q
UniRef90_C1D5P2	E F E N V N A D S M R W L A A G R T R V S P S G D C V A I A Q
UniRef90_J9ZCN1	E F E N V P V G T L E K L S K K R I V L P D S H G V G I C Q
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UniRef90_H8X3Q8	E I E H V D V D A L K K I Q K K Q I G I Y P L P D T I K L I Q
UniRef90_C7YJ05	E I E H I N T E V L E E I I A T K G V P V H P S W E T L R L I Q
UniRef90_Q2SDG9	E F E H L P L D L A Q N I A A R K P L Y P E V E A L R V C Q
UniRef90_I4YTR0	E F E N V P S E T A A I L L S S H A L L A P N A Q A L A V I S Q
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UniRef90_UPI00034A2288	E F E N V P V G A L D D A L R G R V P V R P G A E L L A
UniRef90_A4EEN4	E F E N I P T S A L E T L A P I H P D R R A L A T S Q
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UniRef90_F0BCE2	D F E N V P A A S A Q Q L A A Q V P V F P R P D A L A M A Q
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UniRef90_S5Y1G2	E F E N V P T S A L D L I E S L R P I R P N R K T L A V S Q
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UniRef90_UPI000403462B	D F E N V P A G S G D W L R S H V E V H P G P G A L A T A Q
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UniRef90_I7DGX7	E F E N I P T S A L E T L K P I R P G R E A L R I S Q
UniRef90_B8EIA1	E F E N V P A R T A A L L A G L R P V R P S A A A L A V C Q
UniRef90_L7U5T3	E I E K V P L P T L E A V A R H T P M R P G A S V L H V I Q
UniRef90_M3EKE3	L A S D L P I R S I A A V S A E L K I P G I E A I R V T
UniRef90_W7KHN6	E F E H V N E E A L L E Y A Q E S G K L L P K V N S V E L
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UniRef90_E4ZW86	E I E H V D T Q M L E E V A G Q V V V E P S W K T L R I
UniRef90_E6MMX9	A S D P A A P T A A Y Y C E E L G L P T S P Y K S V R I
UniRef90_UPI000345885D	E N E F V D L P G L Q V L Q D Q G I L F A P R L S A L A
UniRef90_E9SGC6	A S D P A A P T A A Y V A Q K L G L P T N P
UniRef90_UPI00037F4729	E F E N I P I D W L E A R V R L C P G S R A L A I A Q
UniRef90_W1Q5J2	E F E N I D L A E L E K D Y H V Q S A S L L K T A Q
UniRef90_Q3YQZ4	E F E N I P S T T I D I L S Q K T K V Y P G K T A L H I S Q
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UniRef90_H5TFE5	E F E H I P E P L L E L V E A S G
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UniRef90_J2WPZ0	E F E N I D P S A V E V L A S H H G L V R P G A G A L R I A Q
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UniRef90_UPI00037137F6	E F E N V P A Q W L E R H V R L A P H A P A V A V C Q
UniRef90_UPI00036A3370	E I E H V H T G A L H Q L V K E G V I V H P A P S V L D I
UniRef90_UPI000413F43B	E F E N I A I G P V E Y E L S G K V P V R P G P Q S I L S I A Q
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UniRef90_H7EP60	A G T D F S A S V A V A E N M G L P G I P Y K T A L
UniRef90_UPI000415712B	E F E N I P A E R V A A R G C L R P G V R A L T I A Q
UniRef90_Q2BQ12	E R E H V N V A R L N T L K P H C S V F P D P E A I K Y C Q
UniRef90_UPI0003133766	E F E H I P H S I L D M C E K S G K F K P S T Q A I K
UniRef90_UPI0002491A6F	M D N N F D S H L E T L S E T F N V V Q G S N L L G I A Q
UniRef90_C5B1W4	E F E N I P H A T A A V V L A E H A T L R P S A T A L L T T Q
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1 10 20 30 40

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UniRef90_N1VQ92																					M	C	L	E	A	L	P	G	Y	E	S	Y	C					
UniRef90_A4CJR8																					K	M	L	L	Y	K	T	R	Q	W	D	I	A	T	K	V	L	
UniRef90_M4CLT4																																						
UniRef90_UPI0003B45631	P	L	P	P	G	S	T	I	G	I	L	G	G	Q	L	G	R	M	L	A	M	A	A	Q	I	G	Y	R	C	H	V	Y						
UniRef90_R6VH54	K	K	L	M	I	L	G	A	G	I	Y	Q	V	P	L	I	K	K	A	K	E	M	G	L	E	T	L	V	V									
UniRef90_M4BJH1																					L	G	R	M	M	A	T	A	H	R	L	G	L	K	V	V	V	L
UniRef90_UPI000478C189	S	A	I	Q	K	P	L	P	P	G	S	T	I	G	I	L	G	G	Q	L	G	R	M	L	S	L	A	A	S	R	L	G	F	Q	C	H	I	Y
UniRef90_UPI000412BB1	K	K	I	L	L	L	G	G	L	R	Y	L	P	I	P	I	K	S	A	K	K	L	G	Y	Y	V	I	T	C									
UniRef90_W7UTW6	K	K	L	M	I	L	G	G	S	A	F	I	I	P	V	I	K	K	A	Q	E	L	G	C	Y	V	I	T	C									
UniRef90_E7RDR8	K	K	I	L	V	L	G	S	G	F	L	Q	S	F	L	I	K	K	A	K	E	L	G	Y	Y	V	L	T	I									
UniRef90_S3K4P8	K	N	I	L	I	L	G	A	G	F	L	Q	K	P	A	I	E	A	A	K	K	I	G	C	R	A	V	A	V									
UniRef90_I0INF2																					R	Y	Y	A	I	A	A	R	T	M	G	Y	R	V	C	T	W	
UniRef90_T2KNJ1	Q	K	K	L	I	I	L	G	G	N	P	E	T	G	V	L	V	D	V	I	E	S	M	G	V	Y	T	I	V	I								
UniRef90_T0I475																					R	M	I	A	A	A	Q	L	G	Y	R	T	H	L	I			
UniRef90_U1KTH8	I	L	V	L	G	A	G	Q	L	A	R	M	M	S	L	A	G	A	P	L	D	I	N	I	K	A	Y											
UniRef90_L8D8X3	V	L	V	L	G	A	G	Q	L	A	R	M	M	S	L	A	G	A	P	L	N	L	V	T	L	A	Y											
UniRef90_F0GT92	K	K	L	M	I	L	G	A	S	V	L	Q	I	P	A	I	L	Q	A	K	K	M	G	L	Y	V	I	A	V									
UniRef90_R5MYU7	R	L	L	I	L	G	T	G	E	F	V	Q	L	V	Q	K	S	R	E	K	G	Y	Y	T	I	V	C											
UniRef90_A9BA67																					Q	L	A	Q	M	L	A	R	L	G	L	Q	M	R	F			
UniRef90_Q03Q11	T	V	L	Y	P	G	D	T	I	G	V	I	G	N	S	A	N	A	M	L	V	T	R	K	M	G	L	R	V	G	A	Y						
UniRef90_D012T9	V	L	V	L	G	A	G	Q	L	A	R	M	M	A	L	A	G	A	P	L	N	L	K	I	S	A	Y											
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UniRef90_J5HLK1	K	K	L	M	L	G	G	I	R	Y	L	L	P	V	I	E	A	A	H	K	H	G	H	V	I	T	V											
UniRef90_G0EPV9	G	K	R	I	I	I	G	A	G	L	Q	V	P	A	I	Q	I	A	Q	E	M	G	L	Y	T	I	V	F										
UniRef90_A6GE27																					M	L	A	L	A	G	R	L	G	L	Q	M	R	F				
UniRef90_G8QWW0	K	T	I	M	I	L	G	G	S	I	L	Q	L	P	A	I	E	K	A	K	Q	M	G	L	E	T	V	V	V									
UniRef90_D5V7H4	K	L	F	I	L	G	G	S	A	L	Q	L	D	L	I	L	E	A	K	K	L	F	F	Y	V	I	V	L										
UniRef90_UPI0004656BC0	T	T	V	M	L	G	A	G	D	R	T	R	E	L	A	F	G	H	L	G	D	V	V	T	V													
UniRef90_G7FW73	I	L	I	L	G	A	G	Q	L	A	R	M	M	S	L	A	G	A	P	L	N	L	N	V	V	A	Y											
UniRef90_F5ZEX8	R	V	V	V	Y	G	A	G	Q	L	A	Q	M	M	Y	L	A	G	S	P	L	G	I	E	V	Q	A	V										
UniRef90_UPI00046938FD	K	I	L	L	L	G	G	A	Y	Q	I	P	F	I	K	R	A	K	D	K	G	L	Y	V	I	T	C											
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UniRef90_C8NHG2	L	L	P	G	S	I	V	G	I	I	G	G	D	E	Q	V	A	S	V	A	I	A	R	K	M	G	Y	V	V	S	Y							
UniRef90_Q38VC0	G	Q	T	I	G	I	G	N	D	Q	R	A	Y	K	L	A	L	K	A	K	E	M	G	Y	R	V	I	V	T									
UniRef90_D3DJ69																																						
UniRef90_K6YY78	M	S	E	D	R	H	R	L	V	V	L	G	S	M	D	E	F	V	P	L	V	R	K	A	R	E	R	G	W	H	T	I	V	C				
UniRef90_G5F463	L	N	P	G	A	T	I	G	V	I	G	D	N	L	N	G	C	Q	I	L	K	E	A	K	S	L	G	K	L	V	G	V						
UniRef90_G2KVV2																																						
UniRef90_E7DDZ5	K	K	I	F	G	G	S	I	L	Q	R	S	L	I	K	C	K	N	R	G	L	R	T	I	V	I												
UniRef90_F4AWU2	K	L	M	L	G	G	A	M	H	Q	V	P	V	I	L	K	A	K	E	K	G	I	F	T	I	L	C											
UniRef90_UPI000462DDCE	K	R	L	M	I	L	G	S	I	K	Y	F	E	N	I	V	M	S	A	K	R	E	G	I	Y	T	I	V	C									
UniRef90_T3XEB5	K	K	L	A	I	I	G	A	S	Y	L	Q	L	P	L	V	K	K	A	M	G	L	E	T	H	C	F											
UniRef90_V6S079	K	K	I	L	I	G	G	T	Y	F	Q	I	P	L	R	A	R	Y	K	A	M	G	Y	Y	V	T	C											
UniRef90_UPI0004717325	G	K	K	L	I	I	G	G	T	Y	F	Q	I	P	L	R	A	R	Y	K	A	M	G	Y	Y	V	T	C										
UniRef90_UPI0003B3377D	K	K	I	M	I	L	G	A	G	Y	Q	V	P	L	I	K	T	A	K	R	L	G	Y	Y	T	I	V	V										
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UniRef90_E9RY61	G	K	K	L	I	L	G	G	A	G	Y	Q	V	P	L	I	E	T	A	K	R	M	G	L	Y	V	I	V	V									
UniRef90_UPI000378BA67	R	V	L	V	Y	G	A	G	Q	L	A	Q	M	M	Y	L	E	G	A	P	L	D	N	V	R	A	Y											
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UniRef90_G4QEK5	K	R	V	L	V	Y	G	S	G	Q	L	A	Q	M	M	Y	L	A	A	P	L	G	V	I	V	S	A	V										
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UniRef90_Q3DS80	Q	K	K	L	L	V	L	G	G	T	M	S	T	L	D	V	V	K	T	A	H	M	G	I	Y	T	I	V	T									
UniRef90_U5F6F9	K	V	L	V	F	P	G	G	Q	W	P	L	V	R	R	I	K	E	L	G	F	T	V	V	V	V	V	V	V									
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UniRef90_F3LDX5	K	I	A	I	F	G	C	Y	Q	L	A	Q	M	T	A	Q	G	L	K	G	Y	T	F	F	I	A												
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UniRef90_E3CAD4	L	G	I	I	G	N	R	N	G	G	A	L	I	A	A	K	K	A	G	F	N	V	G	V														
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50 60 70 80

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UniRef90_T3XEB5	D N R I D T P A K K I C D E A I D V D V F D F D K I K N I A I D K K I D G I L T			
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UniRef90_D3EK11	S R Q G N Y P G F A K A D K V Y Y E D T T H M D K I V E I I A R H E G H G C T			
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UniRef90_UPI00047C4B7B	D W Y D K S P A K K I A D K A F M T S T A D I E A M V K L I K D E K V D G I L T			
UniRef90_UPI000475706E	D G Y P N S I G K T F A D K S Y D I D V G D T D R I V S I C Q L E R V D G I I T			
UniRef90_G4QEK5	D V V T E T V V N P I S K K A T L H R A I L E E S N A I T V			
UniRef90_F0GY4J	D M N P N A E G F S Y A D K K I V V S T T D T E K V L E E A K K I K			
UniRef90_Q3DS80	D C P A S R V C E V I V A P Y D D V E A L I G T L A A R C D V L T Y			
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UniRef90_S3DHL2	D L H T Q S V I H P L T Q T P V Y V S S L I E A I K Q T D V I T A			
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UniRef90_W0FMM8	T Q K G N C P G A E Y A D N V W Y I D I Y D R D A I V E R A Q E K I T A V I S			
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UniRef90_X8LH37	D R Y S K N Y C G D L S N L D A L A K T V E Q L K P D V I			
UniRef90_C2D3K9	S S N E N S K T I R L A D Y K Y I G P M D D K Q T L K M F A E R C D V V V Y			
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UniRef90_UPI00046ADCD7	A Q I Q D T P L A S I L D A Q V E G D P N Q Y A D L A R L G D I C Q V L T Y			
UniRef90_R7N448	N Y N K N A M A K Q Y A D L A C D V D T Y N P E E V L N F A K E Q K V D G L F T			
UniRef90_B0N354	S P N R E E P G H K I S K Y S E Y Y D I R E D I N I V K L A E K Y N I C G V I T			
UniRef90_UPI00047E693D	E P D E D S Y A A Q L A D E V H I I S Y L N A E A V L E A A Q T G C D S V H P			
UniRef90_UPI00047DE4DC	A W E D G A V G K D L A D F F Y P I S I L E K D L I E K C C E E I G D G I T T			
UniRef90_U2M5C5	D A N P Q A V C R T L A E K F E Q I D L K N T E Q I C D F A R S L K K			
UniRef90_Q8U3N5	S K H K N P G L A R I A K D Y G L A R E T D V E K V V E F A E K W K V D F A F I			
UniRef90_UPI000368A3DE	D A D S Q D L C G D F T N L P G L A Q A V R V V Q P D V I V N			
UniRef90_R7KL74	E P G E M P P A A E V S L K H I A E P Y L S E S G L D R L A S E S S A V S T			
UniRef90_UPI0003B38D16	D A D K D L P F V Q E A D E A V N I S Y L N I Q A I I E A A K K T G A D A I H P P			
UniRef90_K9NFX0	D P D A H S L F V Q S A D E A F S L S Y L D V E K V I Q A C L E T G A D A V H P			
UniRef90_R9A023	D M N P D A V G F Q T E G E K I S T I D L P E I V K A A K R H S I D G I M T			
UniRef90_D4LJ18	A W S Q G A Y C K N Y A D H Y Y D I S I V D K E Q I A V I C Q K E K I N G I I S			
UniRef90_C9L0I2	A			

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 UniRef90_K9NFX0
 UniRef90_R9A023
 UniRef90_D4LJ18
 UniRef90_C9L0I2

90 100 110

This figure displays a sequence alignment of UniRef90 proteins across 110 positions. The alignment is color-coded to represent conservation levels. Key positions highlighted include:

- Position 90:** Conserved across all life forms (purple).
- Position 100:** Conserved across domains (blue).
- Position 110:** Conserved across families (yellow).

The sequence starts with a highly conserved black box at position 90, followed by a blue box at position 100, and a yellow box at position 110. The alignment continues with various colored boxes representing different levels of conservation across the UniRef90 database.

1 10 20 30 40

UniRef90_C8Q0L5		M	A	Q	A	L	P	L	G	I	R	C	V	F	L
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UniRef90_Q3A5I9		E	A	H	K	R	D	G	L	H	V	V	S		
UniRef90_C6C8J9		K	K	L	I	A	N	R	G	E	I	A	V	R	A
UniRef90_U5F6H3		K	L	V	I	G	A	G	F	Q	L	P	L	K	G
UniRef90_V717V2		K	R	I	L	M	V	G	A	G	S	C	Q	R	S
UniRef90UPI00036E2AD0		K	V	L	V	A	N	R	G	E	I	A	Q	R	I
UniRef90UPI0003B6DB3D		K	V	L	V	L	G	A	S	R	Y	Y	A	G	S
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UniRef90_C6CF87		S	S	N	K	K	A	L	M	D	A	G	F	S	A
UniRef90_V7ZIK1		A	G	K	R	V	L	V	T	G	S	F	T	G	R
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UniRef90_V6HCB3		A	G	K	T	I	L	V	G	G	G	L	Q	V	P
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UniRef90_D01ZQ4		K	L	L	L	G	N	G	Q	V	G	W	E	L	Q
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UniRef90_A4SM61		T	P	I	R	R	L	L	I	A	N	R	G	E	T
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UniRef90_C4L724		I	I	G	M	G	R	F	G	S	S	V	A	K	L
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UniRef90_V5FGT2		V	V	L	V	G	A	G	Q	L	A	R	M	A	L
UniRef90_E3PRP6		AT	P	V	P	P	P	T	P	T	P	T	P	N	I
UniRef90_A1VT09		M	I	L	G	G	G	S	C	Q	V	N	A	I	K
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UniRef90_D8MUF1		K	I	L	L	G	N	Q	S	C	Q	V	N	A	I
UniRef90_B8G0B5		R	V	G	I	L	G	G	K	L	Q	G	V	E	A
UniRef90_W9YHM4		R	L	L	V	A	N	R	G	E	I	A	V	R	I
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UniRef90UPI0003C7EB31		K	K	I	V	L	G	G	F	G	T	A	R	S	T
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UniRef90_H8G868		T	L	V	V	L	G	G	S	S	L	G	V	H	T
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UniRef90_E3GL98		K	I	A	I	G	A	S	E	F	N	P	L	R	K
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UniRef90_F9ZET7		R	I	L	L	G	N	Q	G	W	E	L	Q	R	V
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UniRef90_C6C8J9	C S E A D A D A D A A R L A D E V C I L S Y L N Q D A L R A A Q T H G V D A I H P			
UniRef90_U5F6H3	A W A E G A V G K D F A D Y F Y P I S I T E K E L I L E Q C K Q I N P Q G I V S			
UniRef90_V717V2	D Y N E W T E A K G L A D H M V L A D A F S P E D I L R C A N E Y R V D G V M T			
UniRef90UPI00036E2AD0	E P D C D A P H V Q L A D E A V C I L S Y L N I E K I L H A A R I T R S D A I H P			
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UniRef90_R7JLP4	D N N L D S P A K Y V A D E A W N I S W S D I D A L V L E C R E S K V N G I I A			
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UniRef90_K1XR75	D K D E H A P G I A L C D N F M P V S T K D I D A A I K A A K S H K I N G V M T			
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UniRef90_Q0HWW8	D F N L D S M G A S L V D K F Y H D I K N I S E V L N V A R S E N I D G I V T			
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UniRef90_D01ZQ4	D R Q S V N V D G N G L C G D I G D L Q T L A Q T I R S V R P D V V V N			
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UniRef90_A1T2X3	A D V V T V S D S H G E T Q A L T A L I D E R R P R Y V V A F			
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UniRef90UPI0003802ACA	D S D E H Q E V S H I A T Q A V V A D S T D E E A L R A L G L R N F D V V V V I A			
UniRef90UPI00031387D6	E A D R D S L H V K L A D E A Y C I S Y L S F P A V L S V A E K T G A D G I H P			
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UniRef90_R6KFE9	A W R D G A V C E A Y A D Y F Y P I S I V E K E E I L K E C M R I G I D G I T S			
UniRef90_E4T3R9	P A F R I Y T D V E E L D C D K A A L D A F V K A N A V N V I V N			
UniRef90UPI00021915B3	S T N P E A P V L S E A D Y R F V E T A G D L T A L Q N F L A L S S M V T Y			
UniRef90_J2XPN2	D R H P V G S L S G D L S D L D A L R A T I R Q V K P D V I V N			
UniRef90_F2FBF0	D P D P D A P A A A F A D R H L C A P F D A A A L A E L A E C A A V T T			
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1 10 20 30 40

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50 60 70 80

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UniRef90_W4CIV5	D K N E E V V I S E L V T H A V V A D E V L R S L G I R N F D C C I V A		
UniRef90_S9T177	D R A A C H S T A D A D A M H V A D E A V C I L S Y L N V A A I L S A A T T G A D A I H P		
UniRef90_Q5FTS8	H S T A D A D A M H V A D E A V C I L S Y L N V A A I L S A A T T G A D A I H P		
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UniRef90_C6XJ83	Y S D A D K N A L H V A D E A I H I S Y I V D K I I E A I K Q S G A D A V H P		
UniRef90_R7RU12	E A D T N C L H A H L A D H A I C S Y L N M Q N I L S A A L M T G C D A I H P		
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UniRef90_R5SJK4	D Q D K E D E A A G F L D D A L C L D A T D E T A L G K L C P K E R D V V I C		
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UniRef90_W9V645	H S V P D R D L M H V A D E A V C I S Y L N I P A L I S A A E V T D S V G I H P		
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UniRef90_UPI000374395C	D Y L E D A P G K K F O G Y G E L T S T F N V E G C L S I A R K Y K I D G I L T		
UniRef90_JOUVK7	Y S D A D A D A Q H V C D Q A V R I S Y L K I D A I L E A A R A T G A N A I H P		
UniRef90_F5RC24	D F D S A G E L N N N L S G D F S N P D A V A A T V R T L A P D L I V N		
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UniRef90_A0A016XER8	D R Q G A N G L C G D L S D L K G L E R T V R E V R P D V I V N		
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UniRef90_F8JTV3	D I A A D G A A R V G G R A H V A D L A P D J A V L K A A D S G A D A I H P		
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UniRef90_R9ASQ4	D R H G L N G Y S G D M S Q P Q A I R E A I A I K P D V V V N		
UniRef90_UPI00040D556F	D R V P E R L A M A S A A G A I T I N F D D E S V L D R L		

90 100 110

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UniRef90_M7XEQ6			
UniRef90_Q5WLC8	[I] G E H [I] Q E S V L A T L		
UniRef90_F8IKN5	G Y G F L N S D F A E A C E A C G [I] T F I P S P R A I E L		
UniRef90_R9L5N1	[I] G S D L A		
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UniRef90_B4NGN7	G Y G F L S V E F A E L [C] Q K E G V I F M P P S S A I R		
UniRef90_M3DU46	V I N A A A Y T A V D K A E S E		
UniRef90_E016W8	[I] G Q D I [I] Q A S I L T T L		
UniRef90_A0A059NSN1	I G E N [I] Q A S I L T T L K E [I] G V K L V		
UniRef90_U5BUS4	G Y G F L N A D F A E R V E K S G F T F I P R A D T I R L		
UniRef90_A0P4V7	G Y G F L N T D F A E A C E A N D I V F I P P S S A I A		
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UniRef90_UP10003FC726E	M G T D Q P V Y T V A R V A E A A F L D V P T A R A V		
UniRef90_U4KMN0	G Y G F L S E N A V E M V E S C G [I] R F I P T A D T I R L		
UniRef90_Q2GA63	G Y G F L L S T S F A E A L A A E G I E F I G P P		
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UniRef90_J2VIN8	G Y G F L L S E R A A E E L E K Q G I I F I P K P R A I I A M		
UniRef90_H4GKG8	G Y G F L I A A D [I] Q A C V D N G I K F I P K P E H L R M		
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UniRef90_UP10002F01CE0	E K E Q V D		
UniRef90_D5VR94	G Y G F L L A E N A A R A V K K A G F E F I P H P D A I E		
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UniRef90_E4KPN8			
UniRef90_W4CIV5			
UniRef90_S9T177			
UniRef90_Q5FTS8			
UniRef90_A0A016QQ73	G Y G F L L N A E F A E T V E E H G L A F I P T A E H I R T M		
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UniRef90_V2W9Q3	I N A T A Y T A V D K A E S E		
UniRef90_F2IXF1	G Y G F L L S E N A A E I L E A H G I T F I P T S E H I R I		
UniRef90_R5SJK4			
UniRef90_N6VY23	G P E A L E E K G A V D L L E S L S I P V G P S K E A A K I		
UniRef90_F5SA82	I G E D I Q S S I M T T L Q E M G V E		
UniRef90_U7FZ01	G Y G F L L S E N A A R L [C] E E Q G V R F I		
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UniRef90_F5RC24	A A A H T A V D K A E D L A R L I N A V T P G R I A Q		
UniRef90_R7K6W0	E F K N V N A E K L A L M K E K S V		
UniRef90_UP1000410C072	G Y G F L L N A D F A Q A C Q D A G L V F I P S A D A I R		
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UniRef90_A1ZID5	G Y G F L L A T F A R R V T E A D I I F I G P S P E A I E V		
UniRef90_UP10003661953	I G N S M E S S I L V V L		
UniRef90_Q0C3B3	G F G F L L S E N A A K R L E K E G I G W I P N A H I		
UniRef90_UP100047A81D9	I G T D I E A S V L T V L E E A G V R		
UniRef90_H1XWL9	A T P A A S A S I V R A C E A T G V E F V P G P K		
UniRef90_A5EEL0	G Y G F L L A A E F A E V A T T A A G I V F V P S A E A I R L		
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UniRef90_B1Z4B9	T I A H		
UniRef90_M7WMD7	G Y G F L L N A E F A K L L E K E G I G V F I P P K E A I R		
UniRef90_Q1DGA0	E A A G V A K A A L E T I L K A L G		
UniRef90_M3VGU2	D I		
UniRef90_F8JTV3	G L Q H V A		
UniRef90_A0A021W3K6	G Y G F L L N A D F A D A V E A A G I A F I G P K A A S M		
UniRef90_U1MUP4	G Y G F L L N A T F A E K C A S A G I I F I P P P K A I R		
UniRef90_UP100035FDAFD	G Y G F L L N A E F A Q A V L D A G L T W I P G P D A I R		
UniRef90_C3KMA1	G Y G F L L N A A F A E A L E K E G V A F I P P V K A I E		
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lupas_28
jnet
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sol25
sol5
sol0
jhmm
inssm

	50	60	70	80
UniRef90_W8G0J8	Y S D A D A N S A H V A D E S V Y I S Y L R A D A I L E A A K K T G A Q A I			H P
UniRef90_UPI00037BFCD7	H S T A D S D A M H V A D E S V C Y I S Y L S M P A I I A A C E I T G A E A I			H P
UniRef90_R5YER0	D M N P R A V G F S E G N I L E V I S T I D I P A V I V D A R K R H R V D G V M T			
UniRef90_F0TB64	D A D K N S L F A K Y A D E A Y N I S Y L D I D K I I D V A I K S G A E A I			
UniRef90_A0A023DYG7	H S V I D R D A M H V A D E S V C I S Y M N M G A I I I S A C E L T G A Q A V			H P
UniRef90_U5GD49	D A D R D S L H V K S A D E A V H I S Y L N G S A I V E A A I R T G A Q A I			
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UniRef90_UPI000472D65C	D R K R K L A D L S Q L Q A L S A L V D R H Q P N V I V N			
UniRef90_Q1MXR6	E R E D N E A A E L V A Q H L Q Q I D D N N Q V E Q T Q R V I V L S H Q Q Q Q I S I			
UniRef90_B3RIZ4	Y T E A D R Y G L H V A D E S Y C A G Y L D P A R I V V N L A K E T G C D A I			H P
UniRef90_UP1000422CF67	Y S S A D Q G Q S M H V A D E A Y Y I S Y L R G D K I L D I A N Y C G Q A Q A I			H P
UniRef90_A8LQ55	D I H E E N E Y A S V A T H A A V A D T T D E N T L R S L G I R N F D D H V I V A			
UniRef90_U7PWC7	D A D R N A L H V R M A D E A V H I S Y I V I D K V M D A I R Q T G A E A V			H P
UniRef90_R5W9P3	D P Y A S P E V A R S A G V E L V A N T N E K S G L D A L L P Q V D F F L T I			H T
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UniRef90_H2IUQ7	H S T A D R E L K H V A D E T I C I S Y L N V P R I I A A A E V S G A V A			H P
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UniRef90_M5G1P4	D A D N G A P H M R A A D E A L H I S Y L N I A G I M R A V A D S G A D A V			H P
UniRef90_A3YJC4	Y S D A D A D A L H V A D E A F H I S Y L N S L E R I V E V A K R A G A Q A V			H P
UniRef90_U7G2R2	Y S S A D E N A L H V A D E A F H I S Y L N Q A H K I L E V C Q L A H V D A V			H P
UniRef90_K7JAC5	Y S E P D Q A Q R H V A D E A V C A S Y L N V D A L L A A C Q Q T G A D A V			H P
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UniRef90_W7ZCP1	D V D A D Q A A A E V S G T A L V I D V T D D E S V R R K O L I A M S D Y V T H V			

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jnet
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sol25
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sol0
jhmm
incom

90 100 110

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UniRef90_U5GD49	A A A Y T A V D Q A E Q E V E Q A F L I N A E A V G [L]
UniRef90_M7NSZ7	E F D A V I L A [L] G R V L E Q [L] G V N I T P
UniRef90_UPI000472D65C	G Y G F L N A E F A R I C E Q K G G V R F I P K S D V I Q
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UniRef90_UPI000422CF67	G Y G F [L] S E N K L E A L E K E G V A F I P P A N A I E
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UniRef90_R5W9P3	
UniRef90_GOUIV0	W E N [V A P D V] [I] S S E V C T L I P S A R A S E [L]
UniRef90_UPI00036544C0	G Y G F L S V G L A E A C A E S G I V F V P S V E A L Q I
UniRef90_W7QEE2	G Y G F L N A D F A R E V E Q S G F I F I P T A D S I R I
UniRef90_H2IUQ7	A A A H T A V D K A E
UniRef90_K1Z7G7	G Y G F [L] S E N A A F A V E D S G T T W V P S P G V I R
UniRef90_M5G1P4	G Y G F L S E N A A E R L A A E G L V F I P G V E A I K
UniRef90_A3YCJ4	G Y G F L N T E F A R L L E Q N G I I W I P S A K S I
UniRef90_U7G2R2	G Y G F L N A A F A K A C Q N A G I T F I P D E A A I H [L]
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UniRef90_I4D5P2	G Y G F [L] S E N A A R I C E S S G L T F I P P P E A I E I
UniRef90_M0QIE5	
UniRef90_W7CRF1	T A E M [N A D S I K A I]

