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$\qquad$
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TA R P G M L D F K GKA K W D N WN GRR G L
$K$
$K$

## V

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AR
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TERP G L L L L $\quad$ R GK A K WD A WN QL K G T S

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\(F E\) A
TV
 E E LIF GAASTYVASVINVPSREEMLQLYAYYKDATEGPCS SQAEFDKAAEDVKHLJTKPAGDEMLG \(\begin{array}{ll}\text { E E Q F S A A A N I I K S N S } \\ K & \text { I R D A A VA A SK T L }\end{array}\) AASK L E K P D NQTLL RI

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 F E E A V D K V K N L K Q T P S D A N L L E L Y A Y Y K Q A TVVG DVN E A F S A A TLLFV T T L S Q K VP S D V Q Q Q L Y G L Y K IA T E G P C T AEFNTAAEEVK
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\(S N T K F E K A V A V V\)
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Q GLPK KVS QE Q QL E F Y ALLYK Q GTIIGDVN
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UniRef90-F4PPJ5 UniRef90_U6KTR8 UniRef90-H2WL16 UniRef90-G5BVK3 UniRef90_A8Q2P1 UniRef90_G5BHB7 UniRef90_UPI0002B46D71 UniRef90-G0QKY9 UniRef90-E1VI55 UniRef90-S9UBC1 UniRef90-D3TN15 UniRef90_K1KV78 UniRef90-UPIO0031E0AAB UniRef90_U4VOP5 UniRef90_Q9MA55 UniRef90-F4S344
UniRef90 U5FNA8 UniRef90_U5FNA8
UniRef90_G4UJJ9 UniRef90_UPIO002659882 UniRef90_UPI00032A697E UniRef90-A9UW11 UniRef90_U6NMF1 UniRef90-E3JY01
UniRef90-D2VD50 UniRef90_Q8IAT5 UniRef90_UPI00042B4F94 UniRef90-E9AMS6 UniRef90_A0A044VH19 UniRef90_K3WGS1 UniRef90-M4DVN8 UniRef90-D6WSZ0 UniRef90_V4TB75 UniRef90-A4H5Q6 UniRef90-E7RU10 UniRef90_Q9MZG0 UniRef90_11PYY3 UniRef90-D5KY11
UniRef90 C1G347 UniRef90_R9AIX2 UniRef90-S3C8H6 UniRef90_UPI000444A21E UniRef90-H3FPE2 UniRef90-C5PJ18 UniRef90_UPIO00364BD1D UniRef90_DOYYA2

TAKPGMLDVKGKAKWEAWNGRKGMSRSEAEQEYV|KK|V|QA|L



GDKPSSWKIVEHSKWASWNQLGNMSS
TS R P G \(\square M S F A E R H K W D A W K A R E G L S\)

ERKPAFWDVVNRAKWEAWN RLGGDMPK
TE QPGULDLEEGKAKWDAWDELGNGTSKADAMKAYVVDKAAEE KPKP GML Q L Q E K Y K WE A WN A L R G M S T E S A K E A Y V K L L D T L

 K EK K GI FN MK D R Y K WD S WE E L K GK S K E DA EK E Y I E F V E E L

 K P APGMFDLKGKAKYNAWKKLEGDTAEQAQERYI AKVVEEL

 T L QPPFWDVVARYKWDA WNNLGGSMDPS QAKA TY Y NKV


GKRPGMMD F V GRAKYDA WAK L E GA S K
1 S R P WLT DVVVGRA K WD A WCRRVK GM S K E V A E Q Q Y V S \(V\) EKPGTFS YEA RAKWDA WN QNKVKT QDEAK QE Y I T QVVERGL \(V\) A K P Y F V DVVGGRAK WEA WN A L K GMDA ETAAR R G Y V R A V D E L






TAKPGFYDVQGDVYKWNAWKKDEQTTS
\(\square P A P P D S D V K A K A K W E A W D V V K G M S K\)
\(T S K P W\)
 KETARQNYVDLV
TE R P G MLDD L K GK A K WDVVWN QL K GTS K E S A MKA Y I V K
\(\square P\) K P A FWDDA GKA K WE SWNS Y R E L S K K DA Q L N Y V TV L V N A L
TD K P GMLA LKKDKAKWEA WNAKKGMNQNDAK TEYVKLLAK T V


 EDAPGGFDFVAAAKHNAWKKLEGMDK

\(T P K P S A W R P V E Q S K W K S W Q G L G T M P S\)
\(V P R P G T F D F A G K V K W D A W K S Q Q E M S Q\)

IP KP G S F D FVGGKVK WVA WK KI E GTP K

ESQPWAVQLEASAK WKAWNSVRGMSKEDAMKAYVDLLAKD



\begin{tabular}{lll|l|lllllll} 
& \(A\) & \(E\) & \(A\) & \(V\) & \(E\) & \(K\) & \(Y\) & \(V\) & \(A\) & \(L\) \\
\(D\) & \(V\) & \(N\) & \(Q\) & \(L\) \\
D & \(A\) & \(M\) & \(E\) & \(K\) & \(Y\) & \(I\) & \(S\) & \(R\) & \(V\) & \(E\) \\
\hline
\end{tabular} TD R P GIF D Y A GKA K WD A WS K L K G I S L L D A KRMMYV S EYK MM








 \(T \square Q P A F W N L I D R L K W D A W K Q L G D L D K S E A M E K Y V A F V L D\)

\begin{tabular}{|c|c|}
\hline UniRef90_W6UU76 & \\
\hline UniRef90-C3V6N0 & KQKYGD \\
\hline UniRef90-V7CIL2
UniRef90 M5G751 & D W \\
\hline UniRef90-Q4N9P7 & Q P \\
\hline UniRef90-J91EY8 & \\
\hline UniRef90-A2 & \\
\hline UniRef90_R4WVFL & \\
\hline UniRef90-J3QBY0 & F \\
\hline UniRef90-C1DB27 & \\
\hline UniRef90-UPI00044085A2 & \\
\hline UniRef90-J4HY20 & L NAVG \\
\hline UniRef90-X1Y3 & \\
\hline UniRef90-L9KRC9 & \\
\hline UniRef90-A7AV23 & A P S W \\
\hline UniRe990_A8XH22 & \\
\hline UniRet90_F1LC62 & MNKYNF \\
\hline UniRef90-JMME18 & QPN \\
\hline UniRef90-B416G2 & QPNW \\
\hline UniRef90 C5DNY7 & QQKY \\
\hline UniRef90 B4L8N0
UniRef90 V7CUD3 & DPSW \\
\hline UniRet90-M7X917 & STKY \\
\hline UniRef90-UP10002C32638 & VPG \\
\hline UniRet90_M7SYD4 & KGKYG \\
\hline UniRef90_10YZG5 & Q \\
\hline UniRef90-A9RQQ8 & ПEKYGП \\
\hline UniRef90-L1IJF5 & EPKW \\
\hline UniRef90-A0A016TIA9 & \\
\hline UniRef90_10YMF8 & TAKYA \\
\hline UniRet90_U5BU51 & A A \\
\hline UniRef90 G6DR78 & QSK \\
\hline UniRet90 M M1FAY8 & \\
\hline UniRet90 DoA9G0 & QE \\
\hline UniRef90 FowTN7 & \\
\hline UniRef90--9WTC8 & \\
\hline UniRet90_H3GW72 & \\
\hline UniRet90-H6BPE4 & KSKYGF \\
\hline UniRef90 UPI000273D28B & \\
\hline UniRef90-V4ACR9 & \({ }_{\text {IP }}\) PW \\
\hline UniRet90- B3NO & QPNW \\
\hline UniRef90-D2VGA3 & APEW \\
\hline UniRet90-H2VQ60 & \\
\hline UniRet90-F4PPJ5 & VP \\
\hline iRef90-U6KT & \\
\hline 俍Re990-H2WL16 & \\
\hline UniRef90-G5BVK3 & KKKEA \\
\hline UniRef90-A8Q2P1 & ПQK \\
\hline UniRe990_3M400 & \\
\hline UniRet90-G5BHB7 & \\
\hline UniRee90 OPIO002B46D71 & \\
\hline UniRet90_G0QKY9 & \\
\hline UniRef90_E1VI55 & MK K \\
\hline UniRef90_S9UBC1 & \\
\hline UniRet90-D3TN15 & QP A W \\
\hline UniRef90-R9AGU1 & \\
\hline UniRef90-K1KV78 & E \\
\hline UniRef90-UPIo0031E0AAB & \\
\hline UniRet90_U4VOP & C \\
\hline UniRet90_O9MA55 & D \\
\hline UniRef90-F4S344 & \\
\hline UniRef90_U5FNA8 & APGW \\
\hline UniRef90-G4UJJ9 & K \({ }^{\text {T }}\) \\
\hline UniRef90-UP1000265988 & \\
\hline UniRet90_UP100032A697E & \\
\hline UniRef90_A9UW11 & \\
\hline UniRef90 U6NMF1 & \\
\hline UniRef90- E3JY01 & L \\
\hline UniRef90-D2VD50 & L A \\
\hline UniRef90-Q81AT5 & FPNW \\
\hline UniRet90-UPIOOO42 & \\
\hline UniRef90-E9AMS6 & \\
\hline UniRef90-A0AO44VH19
UniRef90 K3WGS1 & \\
\hline UniRef90-K3WGS1 & \\
\hline UniRef90 M4DVN8 & \\
\hline UniRef90-D6WSzo & \\
\hline UniRef90-V4TB75
UniRef90 A4H506 & \\
\hline UniRet90-A4H5Q6 & \\
\hline UniRef90-E7RU10 & \\
\hline UniRef90-Q9MZG0 & T \\
\hline UniRef90_11PYY3 & \\
\hline UniRef90-D5KY11
UniRef90 C1G347 & \\
\hline UniRef90-R9A31X2 & \\
\hline UniRef90 \({ }_{\text {S } 3 \text { C }}\) & \\
\hline UniRei90-UPI000444A21E & LRKY \\
\hline niRef90 \({ }^{\text {H3FPE2 }}\) & \\
\hline UniRef90-C5PJ18 & KAKYG \\
\hline 64BD1D & \\
\hline UniRef90_DoYYA2 & S QVIY A \\
\hline
\end{tabular}


\begin{tabular}{|c|c|}
\hline UniRef90_L2FXM5 & G \\
\hline UniRef90_A5BB35 & \(\square \mathrm{P}\) G W \\
\hline UniRef90-D2APU5 & \\
\hline UniRef90- UPI00040A076C & \\
\hline UniRef90-N6TVX9 & A PKFA \\
\hline UniRef90-E3K542 & LR S \\
\hline UniRef90-G1XTG9 & M HRFAV \\
\hline UniRef90_Q237T8 & LA TVG \\
\hline UniRef90-U4KUD4 & VAE! G L \\
\hline UniRef90-UPI0002B496F4 & EPGW \\
\hline UniRef90-L8JJL3 & T K A Y A \\
\hline UniRef90-E4ZQC1 & M HKYA \\
\hline UniRef90-A0A024V479 & F P Y W \\
\hline UniRef90-UPI0004415176 & \\
\hline UniRef90-H3EA72 & \\
\hline UniRef90-J3Q509 & LR S H \\
\hline UniRef90-S2JTF8 & LKEF \\
\hline UniRef90-UPI0002B4A393 & 1 P G W \\
\hline UniRef90-N1PPD4 & Q S K Y G \\
\hline UniRef90-B3M8C0 & A P K Y A \\
\hline UniRef90_UPI0002658E59 & D PDFA \\
\hline UniRef90-A0A015JUF4 & NVG W \\
\hline UniRef90-C5K6B8 & S PT W \\
\hline UniRef90-H3GKE6 & LP N F \\
\hline UniRef90-E1Z6M3 & SPAW \\
\hline UniRef90 F8SK86 & \\
\hline UniRef90-W5MWK0 & \\
\hline UniRef90_R7YJ75 & M H K Y \\
\hline UniRef90-Q11Q20 & \\
\hline UniRef90-S9UQY1 & TKEAG \\
\hline UniRef90_MOSQF9 & , \\
\hline UniRef90-W6KYL2 & MK K \\
\hline UniRef90-14WXJ3 & \\
\hline UniRef90-G3Q1Z7 & VA AEG \\
\hline UniRef90-B0D9Q9 & L K K \\
\hline UniRef90-V4MHW1 & \\
\hline UniRef90_U3QMP7 & \\
\hline UniRef90-A0K8H0 & \\
\hline UniRef90-Q6C2U2 & M N T Y A \\
\hline UniRef90-UPI0003B30CC7 & \\
\hline UniRef90-S3E3Q6 & K E K Y G \\
\hline UniRef90-17M135 & L \\
\hline UniRef90-B8M8U6 & K EKY GF \\
\hline UniRef90-Q8IK57 & FPYW \\
\hline UniRef90-Q9XXJ2 & \(\square \mathrm{K}\) K Y G \\
\hline UniRef90-J3NNF3 & KASCG \\
\hline UniRef90-G7X5L4 & \(\square E K \square G\) \\
\hline UniRef90-V4UIX2 & 1 \\
\hline UniRef90-A8PB91 & QQKYDI \\
\hline UniRef90_UPI00040014EA & V \\
\hline UniRef90-A5JZS9 & YPD W \\
\hline UniRef90-S7ZZT2 & \\
\hline UniRef90-U6PJM9 & D VG W \\
\hline UniRef90-UPI000329E8A4 & APKY \\
\hline UniRef90-A9SDH0 & D P N W \\
\hline UniRef90_UPI000258F1ED & V K \\
\hline UniRef90-H8X415 & MK VY A \\
\hline UniRef90-UPI000368B846 & VK E Y \\
\hline UniRef90-F4W4G8 & V E \\
\hline UniRef90-UPI00035947ED & D P G W \\
\hline UniRef90-A8N152 & \\
\hline UniRef90_UPI000469017F & பK \\
\hline UniRef90-R1BLX9 & APEW \\
\hline UniRef90-W3XAQ4 & K K Y G \\
\hline UniRef90-UPI00042B5FFA & V P G W \\
\hline UniRef90-U2ESW6 & \\
\hline UniRef90-K3WM43 & FDDFDV \\
\hline UniRef90_N1JL09 & KVSNGF \\
\hline UniRef90-_Q5B0M6 & LES \(\square_{\text {d }}\) \\
\hline UniRef90-U6L396 & SPNW \\
\hline UniRef90-B8AMT5 & D P G W \\
\hline UniRef90-UPI0003513D4C & \\
\hline UniRef90-U6HSY3 & \\
\hline UniRef90-A0CEU4 & WP K W \\
\hline UniRef90-A0A044R2R1 & \(\square \mathrm{K}\) K Y G \\
\hline UniRef90-L8FT49 & K A Y \\
\hline UniRef90-W9CBA2 & K EKCG \\
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\hline UniRef90-G4CLF5 & M N E \\
\hline UniRef90-W2SYL3 & \\
\hline UniRef90 \({ }^{-1}\) B NFW3 & \(\square \mathrm{NT}\) Y G \\
\hline UniRef90-W7ASE3 & Y P E W \\
\hline UniRef90-A0A059AN03 & FPNW \\
\hline UniRef90-V5HYI7 & M HRYA \\
\hline UniRef90-D8TZR5 & QP D W \\
\hline UniRef90-V2XYP6 & GWKEG \\
\hline UniRef90-Q6CYA7 & MK T Y A M \\
\hline UniRef90_UPI0003F87CC7 & \(\square \mathrm{K}\) \\
\hline UniRef90-G9MT93 & K P NYA \\
\hline UniRef90-R1EHN5 & QESLG \\
\hline UniRef90-F0XTH9 & M H T Y A \\
\hline UniRef90_A0A024TYB7 & K S [V|Y \\
\hline
\end{tabular}
\begin{tabular}{|c|c|}
\hline & \\
\hline - 75 EF6 & \\
\hline O-D4AZ00 & KLLAKPSDDELLTLYALFKQGKQDPPF \\
\hline ef90-U6MFK7 & GANV पS \(\square \mathrm{DQQLA}\) AFYGLYKRATAGLCP \\
\hline P10003 & MLLLYSHFKQATVGDVN \\
\hline RiRef90-E90 & N \\
\hline UniRef90-W2 & TAEFNDAAEEMRRLKKMPTDEERLQLYGMYKQSUHGDIP \\
\hline UniRef90_KOS222 & EQFEAVAKLVGDKDTPTAREEKLRLYGLYKRATVPSTD \\
\hline NiRef90-I1P9D7 & EKRFGVAAAFASSALSKLDSDVQLQLQ \\
\hline UniRef90-GOML66 & RLPGLRLQLDQKTGLKFYGLYKQAILGPAD \\
\hline & T K A L \\
\hline & FQQMLTAVRDA \\
\hline 570 & FOSAASYLS \\
\hline N1PW & KPPSADRLALYGLY \\
\hline \[
\begin{aligned}
& \text { UniRef90_AOBY } \\
& \text { UniRef90 G2R }
\end{aligned}
\] & ARKGKY \\
\hline UniRef90-T1EI & QPSTEMQLMFYSLFKQA \\
\hline RRef90-860 &  \\
\hline U5 & KLIMLYALYQQA \\
\hline iRet90_M0QWU8 & DEEMLFIYSHFKQA \\
\hline niR &  \\
\hline UniRef90-W4 & FEAVVA SHLSTTPSNADKLKLYALFKQA \\
\hline UniR & FVHALNTVKKIPKRPPPADRLRLYGLYKQAM \\
\hline & Hat NTVKKIPARPPTADRLKL \\
\hline L8G & HALNTVKK1 PARPPPADRLR \\
\hline  &  \\
\hline 32 & \\
\hline & \\
\hline C1L6K &  \\
\hline & TADFNALLEKTKAFSKKPPTEVYLEFYGLYKQFQEGDİN \\
\hline UniRet90-C9 & AL NTVKKlPKRPPPSDRLRLYGLYKQAMEGD \\
\hline Uni &  \\
\hline ef90 & \\
\hline UniRef90 W9CAD6 & D \\
\hline UPI00041433D7 & \\
\hline & AQQl \\
\hline & AERLKLLYGGLYKQSMEGD \\
\hline
\end{tabular}

EAFKKAAEESKQLTSKPSNEDLLETYAGYKDGTGEDVE EFCAAVDFVSDHGEDGDDQTRLELYGWFKQATVGDCD LEQLLSRESHVFKKAVLLEVKVGNCN
K VKADSTMRALSTRPPVENRLRMYGLYKQATGFNQE AEFASACTYIAFNDGLVSREDQUYFYARYKLITHGKAD KSAFEFAVELVKMLNKEPGVDDKLNGYKYFKRSRGNET ESDFSSAVLFLQTILKNAASPVRIALDALFQQATIGACT FAKAVSTLQKLSDKPPQADRVELYGLYKQATEGDDS EELYTDALRFFKDKDGKPTYEEKLKLVALYKQVLWGPCN ESDFAAAVLFLQTYNGPPTSSVRLDFNALYQQATLGSCS ETQFQEAYHLAQTIQSSLPQDVQLRCYAYYKQATFGSLG EDAFEAAVDALRADP SKLINTDVQLQLQGL
RFNEAVEKASKMTQSLPQDVQLRLYAFYKQAKGCC FVHALNTVKR门PARPPAAERLKLYGLYKQSMEGDVE SQAEFEKAAEEVKHLKTQPADQEMLFIYSHYKQATVGDIN QDEFKKYEKDLGGIRSKLSDPQKIEMYGLWCVATRGKCD SQFENCLNQVRFAQVQPEDKQQLEDYALEKQADEGDCQ SAEEFERYKKLVSNLQSNLSDPEKIEMYGLWCVATODKCT

TARLDDKQKLLFYALRQQAEHGPCT
AAGRSRAGPEKPTYEEKLKLVALHKQVLLGPCN EEKFTQASNAVKTIQGKDQFEQWIYLYGLYKQITSGDTK EKAAKDSKHLKSKPADDEMMYLYSCYKQATVHDLN
FAAFAKFTQMLPKQTPVGEQLETYALYKQVTBGPCN ATFDAACSWVQDVAAPDPDACLLRDYAAFKQATVGPA SDQKFLKAYEMASNTGLKFPPDVMLRFYAFYKRATHHDGF
ESFQKAVEDKKLTSKPNTDDLLRMYGLYKVANGEDFS

\section*{UniRef90 C4Y2B3} UniRef90-Q75EE6 UniRef90-D4AZ00 UniRef90_U6MFK7
UPI0003D07FB6 UniRef90_E9QJP8 UniRef90-W2T327 UniRef90 KOS2Z2 UniRef90-W2TX38 UniRef90-I1P9D7 UniRef90 G0ML66 UniRef90 A0A024JFA5 UniRef90_UPI00035E8989 UniRef90-S7QPS2 UniRef90-N1 PW01 UniRef90_A0BYB5 UniRef90-G2RI79 UniRef90-T1EIY2 UniRef90-B6QRP4 UniRef90-U5D315 UniRef90-Q5YJQ4 UniRef90-M0QWU8 UniRef90-W1QFR9 UniRef90-W4GFJ9 UniRef90-W3X0J9 UniRef90-F2SZB7 UniRef90-L8G853 UniRef90_UPI0003673008 UniRef90-F9FA87 UniRef90-R1G232 UniRef90-C1MSV8 UniRef90_C1L6K1 UniRef90-H9K7W7
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UniRef90-M7X714
UniRef90-M3A4Z1
UniRef90-A7RG39
UniRef90_UPI00037C85AD
UniRef90-K0RHM1
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UniRef90-K8FDB4
UniRef90-A0A016WXK5
UniRef90-D0NMW6
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UniRef90-A0A044UX30
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UniRef90_R0J7S6
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UniRef90-H2BZL8
UniRef90_F9FQZ5

50
60
70
80
R TMPRPEDDGARRKWDA WKQEEGLLSRTEAKRRY\|ISCLTIET
 SKQPSRFNLREYKKWEAWKACNSMSALEAKKEYVRRAREV TDRPGLLDLKGKAKWDALNEDKGTSKKNTMKTYVEKAEEL DDKPGMDDLKGKAKWDAWDSRKG
PEEDYE EDEDA DRKYNAWADRKGQSKEAARADYVRFAEEM MPRPGVFK I EARSKWDAWKAEDGLDSVEEARQAYVDLAKEL

 G LLARPESGADRRKWDAWKQEEGVSKTEAKRRY AFLIKT GDCPSADKMVERAKWMAWNADKGKSKEEAMEGYLKVFEE
 AVMERPSAVREQDKWDAWNAQKGLSRTEAKRRYVEAL DET VSRPAFYDIVGRTKWDAWNHLKETSKDQAMQMYVNELKKV

 G LMERPDDEA AK R K WD A WK LEE E G L S K T DA K K Q Y I S Y L I E T

 GVMD R P D T I R E Q E K WD A WD A Q K GVVSRTEAKRRY I EAAL I E T
 E S GPSRRFDAVARAKWEA WNDVVRSLLSAEAQAVESYCCSVI E GGL GAKPRVLTTTTKHAKWCAWEKLGDMPSDEAKGAYVELVDAL ACSPGILDDKGKAKWTAWN
\(A P P D G V L D V I G K D R R L A W Q N L G D I S K E Q A M E G F I V L L D K L\) IEKPA DAEGAAKYDA WLS RKGLSVDDAKAA YVALYEK Y
 KPAPGMF DMRAKAKKKEWQKLEGITS DQAPGMYVAFV EDL LAAPPDADARGQVGHAAWRLLAGLPADQAQRRYI ALVRRL
 FRHLNNNDLRNAFKTNAWMQI SHLTEE EAKEKYI EMUNKL
 K PKPGMFDLKAKAKYNAWRAKDGDSVEEAQEKYVAKI E EM

 TARPGMLDFTGKAKWDAWEKKKGK
 GDPPSK \(\square\) NVVAYAKYDA WGKFRGDPRLDAMRKYCEVV EPKPKPDTVLGRSKWMAWMKASTTSKEEAMARYVSVALSV \(\square K\) SKWHMT REERGKYET WANLGKMSNEEAMRLYVVKLLEE E PDRPSFFDAKGRMKYEAWAQLGDMPKDVAMKTYVAKM TAAPSAFRPVERAK CWHKLNGTSQQDAKR
\(\square S K \square N T F N S Q G R A K W N A W N S L R K M P Q D E A K R K Y D E K L\)
K A P A
P G GKAKDK A WQKA D G \(\square\) TVVEQA QEKYV AKVVE M GDNTGSWSSARYYMRKSWKAKKGRSKEEAFRRYI EVLEAA \(V\) V R P S DF DMTGRAKWDAWNAQKY VDA QEAELDRYLQMAKELL



 DQNVPFES DVARWKWRSWKGKEGMSSEXAKQHYTQYLLDX TGMQS
YPEVGFFDVLGNDRRKEWAALGNLSKEDAMLEFVK LLNR A I A P P L D G S S S A D WA K WK A L G H L S K K E A A M Q T Y I K T M D D L



 TGMLLYFSSK QALAF W
 EEEPNPDHPRKY \(\quad\) RQWK VWDQYRGMSRHEAMKKYTQLV
TS QP G LL NFSGRAKWDAWNS SGAPF I WQVRERAKHDAWKQLGAMTKFEAMVHFVTHLEEC QK QPSRA NLVRYSK WA A WK K Y E HLLGQK K A R E L L F V E K A K T I

 TEWPMMLD LD GKAK QNAGMSRKALPR
\(G V M E R P A S V K D R Q K Y D S W D A Q R G L S R T E A K R R Y V E A L I E T\) TPKPS LMHPILRLMWNAWNKLGNMTKREAKRTYVE
P P R S GQLDP KKRAK WQA WDAVRSLDKREARHLYCTUVTQ
Y N P G N E E D DR N GF K A N A L L Q V K S V
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\hline UniRe990 LiJIU8 & \\
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\hline UniRef90-K8FDB4 & DKYW \\
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UniRef90_B9F9E6

TRERF \(\square K\) AYE \(\square A S K T D K K F P P D G L L H F Y S Y Y K R A T E Q N G F\) KAFATAYAQVKTLKQAPDTDQKLKDYGLSKQADQDPPF FEEIVEKAKKLDDTITKEDVLEFYGYYKQATVGDCN QEVYK IDAVRFFKEKEGKLTYQTKLKLVAFTKQATFGKFR F LKAVDEANNYPKLLPTDDKLQFYAYYKQATEDSGL

\(\square R N L E S T G N N E Q K\) MQLYGYFKEQATVHDDVN SDFD DACNFYRNLESTGNNEQKLMFYALQKQAENGPCT QKLLLYALRQQADHGPCT

 QHNFDMASKIAKSFKSSLDQRDRLMLYGLYKQAVEGDRN KRYQTADAETSGVLSVATYEEKLKMVALVKQVLMGPYN SDTDFKAAAEASRRLLAKPSNDELLKLYALYKQGTQDPPF EKYFKAALYFKNSTT LLNDEQKLMFYALQKQAEEGPCT
 LR VP PMRTS
KEFEHAVDCVNAHKDPFPADTLLLKLYAYYKRANFGN EEKFQRLAGIVGKKATRPSLSKKLELYGLWNQVMHGPNK KEFEQAVDRVNNYPELFPADEQLYRLYAYYKKATHGKAD ND ESFQNAAAYINKLPANVSTTTQLQLYAAYKCVTAGKPT RFEAAVA IAAEMSSSLPQDVQLRLYANYKQATFGTV

 EL LYK LDAVRFYKEKNGKLKYQDKLRLVAYTKQATYGKYR KARFDAAVQFLAENKNKLSFDQQLSLYGLFKQANQGPT YKLALKKYKEKEGKLS YQDKLKLVALTKQVSVGKFN

\(\qquad\)


YI GNLEESPSDAQRLMFYADRQQADHG
FQEAVNVVNSCEEPFPADFLLRLYAYYKKATH QEEFEEHAEKAKTLPENTTNENKLILYGLFKQATVGLVN EAFEEAVNKVNSYTDPLPADLLLRLYAYYK■ANKIDSS

FKEAFSS \(\square\) SE \(\square\) NEAVAPD \(\square\) MLKFYAYYKQATFGSTS
促 FHEAASYLSKASSQTSNALKLELYGLIKVLTDSPPD ESFQKAVEDSKKLTSKPNTDDLLRLYGLYK ETEFAEAVLFVESLKQENSSPRK DFYAFYQQATVGPCP FKTAVVSINDHKEPFPADVLLRLYAYYKRAT NEA
 ATAFFKEHEGKASYEDKLSLVAYTLQVTHGPFN KELDYK \(\square A C S F Y K E K S G K \square S Y E D N L K L V A F T Q Q A A H G P S K\) ETDFVGAVMFVESILTMQENSSPRKDLVAFYYQVECGPFD KEQFDAATNVIQSLDKKPSTEMQLMFYSLFKQATIGQCN KEQFDAATNVIQSENEKKPSTEMQLMFYSGMKQATGGQCN SEFIDAVKFVNDYTDPDPADFLLKLYAYYKDANE NF KRFNDALVNTVKRDPARPPAAERLACLYGLYKQSMEGDVC SKFDKAYDMASCTQQQFPPDVLLHFYALYKRATERNGF KEFEEAVERVNSYENLAPADFLLLRGYAYYKKATQNS F DEAFKNAQLIK QSVP DDMQL LLYGLYKQATDSDHF LS YEDRLKLVAYTQQTAHGPFD
TAEDFERLTGQYEK \(\square N S K P G P D D F Y R L Y A L H M Q A T Q G D N A\) RFRQAVDRVNSYTKPDPADF LLKLYAYYRDA NKD KNFEEAVEFDNSYKEPDPADCLKLKGYAYYKQATKGDCD KEFKAAYEKASATTQALPQDIQLLLYAYYKQGNHKSDP AKFTETYEKVSKMKS GPSNDEQLHLYAYAKVAQGQDFS
 ETRFEAAVKVADSL KNGMHSSPA ETRFEAAVKVIQSLP KNGMHSSPA
\(K K D F Y A Y Y Q Q A T V G P C P\)
\(K L R T V A L H K Q V L Q G P Y N\) AKFDEVYKKVSAMGEKPSNDEQLQLYAYAK IVAGTDFS FTDAVDRI NEHKEHFPADFLLRLYAYYKKATN SYS SAFYTA AESVGNLAGYDDPGVKLLAYSLYKQTRVGDVT EFEETVTLVNNYTEPDPADILLKLYAYYKDAN SNF EEEFVKAVNFVDGGNGKLGSELMMQLYGDQKIAMEGPCH ERFKEAURIANEQKTSVPQDVQLVLYYAYYK QALSEENDS
T G A K F Q E VY K K V K E G K S G P S N D E Q L Q L Y G Y A K IA E G K D F S
AVNF YKE K Q G S L S Y RER L K L LA LT K QVK Y GP LK
\(L Y \vee F F L C M C F S V W T V \underset{Q}{N}\)

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KKFNAAFAKASSEEQSLPPDLQLHLYAYYKRAIDEPYV QELYYRLAFAFYKQNSGKLSYEDNLKL
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\footnotetext{
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\hline UniRef90-Q016A5 & GARPGFWDPRGADEWEAWSMLRKI SADKAMELYCEVIEM \\
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\hline UniRef90-A0A016U &  \\
\hline UniRef90-J911N9 & DEAPGNDEITNP\KFKAWKSQKGKCTDKCQQEYI GLMM \\
\hline UniRef90-U6PSK7 & GDESVECAEE WKKLVGKSKVEAQREYI HNA \\
\hline UniRef90-D8LKD7 & DGLVTAQNPVGSVKVRAWVT NRGKPTAQAMQEFIVVLGRV1 \\
\hline UniRef90-U4UW37 & \(\square \mathrm{LPPLGTDDVVGKDRREAWQKLGN} \mathrm{\square SKDQARTGFVEL}\) \\
\hline UniRef90-U6H6G6 & KACSSMSALEAKREYEAWKACSSMSALEAKREYVRRAREL \\
\hline UniRef90-W8VP62 & SNRSEANDLRSGFKMNALIQVQQDSKKEAKKRYIE\|IEKL \\
\hline UniRef90-A4RUW2 & GEKPMWASHGGRERWDFWNKLKGLSRED \\
\hline UniRef90-H3FHC9 &  \\
\hline UniRef90-L7W7D4 & SNRSESNDLRNAFKMNALIQVQADSKKEAKKRYIEI I ENLL \\
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\hline UniRef90-B4L801 & TPALGVLDVIGRDRQQHWQLLGDI TREQAMEGFIDLLDTM \\
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\hline \multicolumn{2}{|l|}{lupas_21} \\
\hline lupas_14 & C C C \\
\hline \multicolumn{2}{|l|}{lupas_28} \\
\hline \multicolumn{2}{|l|}{jnet} \\
\hline conf & 71369 \\
\hline \multicolumn{2}{|l|}{\multirow[b]{2}{*}{}} \\
\hline & \\
\hline \multicolumn{2}{|l|}{sols
sol0} \\
\hline jhmm & - \\
\hline jpssm & \\
\hline
\end{tabular}```

