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NMNERLI NALKKGEVVDKKPAVSVTMTADVVEMDDTGAE
 MTPNDLFLRALLKQPVERTPVWMMRQAGRYEYREDRAGN MTKNDRFI RALLKEPVDRTPVWMMRQAGRYRAVRAKAGD
 M K N R Y L R AL M R QPVVRRTPI WMMRQAGRYEYRQVRGGD


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 MNKNDCFI KALLREPTHRTPCWMMRQAGRYRATRAKAGN KNDRFLRALLREPVDVTPVWMMRQAGRYKATRAQAGD K NDTELRALLRQPTDYTPLWLMRQAGRYNATRARAGD KNDTFLRALLKEPVDYTPVWLMRQAGRYKETRARAGS $K N D T F L R A L L R Q P V T Y T P V W M M R Q A G R Y R E T R A K A G S$ $M 1 K N D L F L K A L K G E T V E R P P V W M M R Q A G R Y F M K L K E K Y D$ MI K N DL F L K AL R GEEV DRPPVWMMRQAGRYEFIKLRDYD
 $M L Q N D R Y L R A L R C Q D V D R T P I W M M R Q A G R Y E Y R A L R A G S$ MNKNDLLLRAAKGEKVERTPVWLMRQAGRPEYRAVRASG KNDRILRAARGEEVDR】PVWVMRQAGRYEFRELRSYD ND L L L R A A R R E P V E R T P V WI MR QA GRY E Y R A L R A D E $M \square K N D L V R A B L K G E D T E R P P V W M M R Q A G R Y Q F R A L R K Y D$ MTKNDTFI RALLRQPVDYTPVWMMRQAGRYNQTRARAGS MNNRFLDACWGKPVDRTPVWLMRQAGRYEYMAVRSCS NDLLL RAARGEAVVRVPVWMMRQAGRMRAVRQRAGD MTSNDTFLRALLKEPTTHTPVWLMRQAGRYRETRARAGS K NDRYLRALAKESVDQTPVWMMRQAGRYKATRAEAGD K NDRY L RALLLRQPVVDTPVWMMRQAGRYRATRAAAGD $M \square K N D L F L K A L K G E S V E R P P V W M M R Q A G R Y E F M A \square K K Y D$ NDRFLRALLRQPVDRTPMWMMRQAGRYRATRAKAGT $K N D L I L R A A R G E K V E R V P V W L M R Q A G R Y E F Q E V R K Y D$
 KNDRFLRALAREPVDVTPIWIMRQAGRYRATRKQAGD K NDAY I RALLDRESVVDTPVWMMRQAGRYEYKKIRAGD $M T S N E L G I R A A L Q R K P V V T R T P V V W F M R Q A G R Y E Y R K V R A C D$ KNDRFLRALLREPVDCTPVWMMRQAGRYKATRAQAGD N D R L L R AL L R E PVDRTPVWIMMRAAGRYEYRELRAGS
NDRLL RTARRRQPTMTTTPVWLMRQAGRYE YRAAIRGDA $M L K N D L \mathcal{L} L R A L K R Q P C S R T P I W V M R Q A G R Y E Y R A V R K T D$ KNDTFLRALLREPTEYTPLWMMRQAGRYCATRKRAGS K N D R Y L R ALL LQEPVDTTPVWWIMRQAGRYEYRELRKGS KNDRFLRALLRREATTTTPVWVMRQAGRYRATRARAGN K NDTFLRAARGEDTEHVPVWCMRQAGRYEFREWRGKD MAFNDLLLRTINGEKTERPPVWFMRQAGRYEYRAIRKKS KNDLLLLRVI K GEKVERTPVWWMRQA GRPEYRAVRNS G K NDRYLKALMRQPVDQTPVWMMRQAGRYKATRAEAGS NDTFLRALLRRPTEYTPLWLMRQAGRYRATRARAGS $K N D V F L R A L L R Q P V P Y T P I W L M R Q A G R Y N A T R A R A G S$ MPKNDLLLKAL RGEEVSRPPVWMMRQAGRYEFMALKKYD KNDLI L R TII RGERTERTPVWLMRQAGRPEYRKVRNS G MNDLLLRALRREPVSRPPVWMMRQAGRYQYRAVRGSD
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V V LEA I K II I R E V VGP DVP IVGGGME GPVTVAS DLVSVK S FM AVLEAMKILKEKTDGKVPVIA GMEGPITLASDLCGVKRFM $Y \vee M D A V R T I R R E L D G R V P L I M G S G S P W T L A T Y M V E E G G G T K$ YVMNAVSTI R R ELKGEVPLI GFSGSPWTLATYMVEGGSSK AVLEATKII DDKVGDKIPLVAGMEGPVTLASDLVSVKKFM
 $Y \vee M N A V R T I R Q E L D G R V P L I \quad G F A G S P W T I A T Y M V E G G S S R$ YVIDAVRLI K T NL Q GRVPLI GFSGSPWTLATYMVEGKSSK $Y \vee M N A V S T I R K A L K N E V P L I G F T G S P W T L A T Y M I E G G S S K$
 Y V M K A V S T I R K A L N G DV P L I G F S G S P WT L A T Y MVVEGGSTK YVMNAVSTI R SALNGRVPLI GFSGSPWTLATYMVEGGSSK
 $Y \vee M D G V R A C K K G L A G R V P L I G F A G S P W T L A T Y M I E G S G S K$ YVMDAVSTIRRELNGRVPLI GFSGSPWTLATYMVEGGSSK Y V M D A V R T I R R E L D G RVVPLI GFTGS P WT L A T Y M V E G S S S K YVMDAVRTIRRELQGSVPLI GFSGSPWTLATYMVEGSGSK YVYEAI RITKKNLNGRVPLLGFAGAPWTILAYMVEGHGSK YVMNAVRTIRSELNGRVPLI GFSGSPWTLATYMVEGSSSK YV M N AV A TI R RELNGRVPLI GFSGSPWTLATYMVE GASSK YVMRAVSTI RGALNGRVPLI GFSGSPWTLATYMVEGGSSK YVMDAVRVIRRELHGAVPLI GFSGSPWTLACYMVEGGGSK
 Y V L D A I K I T K E GLA GRVVPLI GFAGAP FTIF CYMTE GK G S K YVMEAL RLTRRELDGRVPLI GFSGSPWTLACYMVEGGSSK $Y \vee M D A V R L I R R E L N G E V P L I G F A G S P W T L A T Y M V E G Q G S K$
 YVMQAIAATKEKLQDEIPLI GFAGSPWTI LCYCVQGQGSK YVLEAI KILRRELAGKVPLI GFSGAPFTLASYII EGGGSK $Y \vee V N A V S T I R R E L N G R V P L I G F S G S P W T L A T Y M V E G G S S S$ Y V M D A V S TI R K AL L N GRVVPLI GFS GSPWTLATYMI E G G S S K $Y \vee T D A V S L I R K E L N G R V P L I G F S G S P W T L A T Y M V E G G S S K$ $Y \vee M D A V S Q I R K T L N N E V P L I G F A G S P F T L A C Y M V E G G S S K$ Y V $V$ M N A V V S T I YVMDAVRTI RRELKGEVPLI GFSGSPWTLATYMVEGGTTK YVTDAVRSI RHALDGRVPLI GFSGSPFTLACYMIEGGGSK

 YVMDAVRTIRRELNGRVPLI GFAGSPWTLATYMVEGGSSK YVMNAVRTIRRELKGEVPLI GFSGSPWTLATYMVEGGSSK
 YVFKAVTQIRTELNGRVPLI GFSGSPWTLACYMVEGQGSK YVLEAI RITTKKNLDGRVPLI GFAGAPWTIFAYMVEGSGSK $Y \vee M D A V R M I T K E L D G R V P L I G F S G S P W T L A T Y M L E G S S S K$
 YVMDAVRSI RRALDGSVPLI GFSGSPYTLACYMIEGGGSK YVFDAVSSI RKALDGRVPLI GFSGSPFTLACYMVEGGGSK Y V M D A V S T I R Q E L D G R V P LI GF S G S P WT L A T Y M I E G S S T K YVMDAI KMTKKELNDEVVLI GFAGSPWTILCYAVQGQGSK YVMDALDDTKKELDNKI PLI GFAGSPWTILCYAVEGRGSK Y V M D A I KL T K E ML N DEI PLI GFA G S P WTI L C Y C CI Q G Q G S K
 $Y \vee F E A B T L T R H R L N G Q V P L I G F T G A P W T L M C Y M I E G G G S K$
 Y V L Q GI H LTTK E RLMDEVVPI GFAGAPNTIFCY VVEGKGSK YVTDAVRQIRTALNNRVPLI GFSGSPFTLACYMVEGAGSK $Y \vee L Q A I R R L R K E L A G K V P L I G F G G A P F T L A C Y M V E G K G S K$ Y V L D A I R L T T K K E L N N R V P L I GFA GAP F TII F CYMTE GK GSK YVMDAVVEIRRALGNSVPLI GFSGSPYTLACYMVEGRRDK YVMNAVRTI RKNLNGSVPLI GFSGSPWTLATYMVEGSGTK Y V M D A V R T I R R E L K G E V P L I GF S G S P WT L A T Y M V E G G S S K Y V M D A I R L TK E ML D D QV PLI GFAGSPWTI LC Y A V E G Q G S K YVTNAVTTIRRELNGRVPLI GFSGSPWTLATYMI EGGSSK YVFEAI S LTRLLK E GKVPLI GFSGAPWTLMAYMI EGSKSK Y V F Q A V T L T R H S L E G K V P L I GF S GA P WT L M S Y M V E G G G S K YVMNAVRLIRQELAGRVPLI GFSGSPWTLASYMVEGSGSK YVMDAVKTI RSELNGRVPLI GFSGSPWTLATYMVEGGATK
 $Y$ V M D A V R R L R Q E MP K D L P L I GFA G S P WT L A C Y M V E G G S S L $Y \vee M N A V K A I R S A L G G Q V P L$ Y V T D A V S LI R R E L A G Q V P
 Y V M D A L R L T K K EL D NRVP Y V T D A V S QI R K ALD GRVP L


 FVMETVRK LVKALDVP Y $V$ V $L$ L $D A$ Y V M D A V R AI R A ALD G QV P Y V F D AV T Q I R T E L G GRVP | Y | V | F | D | $A$ | $V$ | $A$ | V | I | R | R | E | L | D | G |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| K | V | P |  |  |  |  |  |  |  |  |  |  |  |  |
| Y | V | F | D | $A$ | L | D | L | T | K | K | E | L | N | D |
|  | I | I | P |  |  |  |  |  |  |  |  |  |  |  | Y TIIE A I K L YMLDALRLARRALNNRVP F V $\operatorname{L}$ D Y V V D A V ALI R RELGGRVP





 G QWI E A DA A T G C D A $\quad$ G L D WT I N I S D A K R T P


 GQWLD DMAATGCDALGVVWTTDLATA RAKVGDTVVALQ
 GA WL E K I A D T G C D G V G L D W

 G L W L E S DA E V G A D A L G L

 $F F A R K E \square G E L S C S V V G L D W N M D D S E S R A L V P N K T V Q$ GLLWLETMAGTGCDALGVDWTVDLAKA RMQVGKQVALQGN

 GSMLELVAAAGGDVI GLDWRVSLDRAWQTVGFDRGVQG


 G QWLL E H I A A T G C D A L G G L




 FFAREYFKDLDCAAVGLDWTMDIQESRRLVGTNKVLQG NGGAWDSEQANSGANAI GLDWMTDLSHARALVGDVVVLQG
 $G L W L E A M A E A G A D A L G L D W T C D I A D A R R A R V G D K V A L Q Q N$
 WF ALLDKMSRSKASALGVDWTVTP QTA RELTGNRDTLQGN

 H Y A MK QLS TFD Y DVIGLDWTIDPDEARKIVGNNITLQGNL
 WFALE EMSKSCASALGVDWTCNPQ $\square A R R L T G G K K V L Q G$




 WY A L G E M S K S K A S A I G V D WT C S PENAR K GQWLETMAETGAHAL GLDWTTD DA QA RARVGNKVAL QGN

 G Q WL E SIV S S GCDAVVGLDWT $\square D I G K A ~ K ~ Q R I G Q Q V A L Q G N$


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$\qquad$
K NDT F
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M S L
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 T M L


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 T WL F K Y P E ES K ALLEERI A DI CAD YLVGGQVKA GA QLLLQVFE NYMVVS DPK A WF K L M D K L A D MIIDA DI TAA QV EAAGAS A I Q V F D NYMYSEPET WMLL MNK LA D MTI TYIVRAQVKA GVSAF QI F D KASFK TPDK L H P F LDDVAEKA GTLLGKADI EA GA DLIDAVED \(K\) L S F K K Q K L V A E ML D R L A DVII K I I P Y Y EA A GA D Y I C I R E
 \(\square W T I K K P D Y V N A F M E T C T E \square C I E Y A N A D L D C G A D T L S M P D\)





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A S L LP SMRETGADVLGL DWRTP LAFAWGGRRLGGYAVQ
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 PALLPLLRESGGDVI GI DWRVDLGEAWKTVGYDVAVQGNL
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 HYALEELANSGYDVVGIDWTIDPALARKCVGPN
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 \(T\) LGL ALMESS GVDGISVVDNVDVATAVGSVVEKAVIVGN GS L L E L Q R DA G GD DI GLLDWRVVEL D Q S WN R L GPK V GVVQ G

 S H L A R E WH D L P V DVV GL D WR L Q I K EARA C WF A L E EMTLLSKS S A L GVVDWTIVRPE DARKLVGENMT LQ GN

 GLL \(\quad\) W L





 GHSLAEQATEGYDVI SLDWTVDPEEA RKQVGPNIT LQGN


 NMIVELMWQSGATAI SVEQKNDVAK TREKLGEEAIIIFGN G Q WL DL Q S QS GA DAL GI D WQ TDD L GNA RKVVNDK I AL Q GN T A H L E E P I S K L L G Y D V V

 S H LA K EWH DLLPV DVI GL D WR LS I K EARA M GLTTKTLQ G GNLDMLADSGADVI GLDDWTVDIVSARETLGDQP
 \(M G L L Q E M R Q A G G D V L G L D H H T P L P W A R E V L G P T P D K T V Q\) \(G L W L E D L V Q T G C D A V G L D W C V D P A Q A \quad R V R T G G K V A L Q G N\) STLL E MS A S S G A S V L G L D WR I N I G D A G K RVVPG

 \(G L W L E A D A D S G C D V V G L D W T M N L G A A A R A R V G D R V A L Q Q N\) S GELLP HLLTGLKA DVVGGD WRVP DAEGRRRTEEGKFAA QGN
 SHLIES WNALPIDVLGLDWRTSINEARA KGVSKALQ A GLAGELRQLGTDVLGVDWRIDLDVAWAQYGYEHAVQG

 S H L V H E WN D LP LDDV I GL D WRL S DR EAR R

 \(S G E L L P T L R G L L Q A N V I G L D W R V S V A E G R R R L G P N Y A V Q G N\) \(G E L L P L M A A A G A D V V G V D W R V P D D D E A S R \quad R I G P D Y A V Q G N\) GATMNS AMD QS Y EVI GL D WTVVDPDEARK QL G G A NV T LQ

 N S V I T T VM Q E S G Y D A L L S






330
DPEHVRVLVEAVHEVGA
\(P\) VENAEAFVRAVVDW

\begin{tabular}{llllllllll}
\(P\) & \(P A\) & \(H\) & \(A\) & \(H\) & \(F\) & \(V\) & \(A\) & \(V\) & \(H\) \\
\(S\) & \(L\) & \(S\) \\
\(S\) & \(L\) & \(D\) & \(K\) & \(I\) & \(A\) & \(A\) & \(L\) & \(T\) & \(K\) \\
\hline
\end{tabular}




\(P \square E N V Q \square L V D E V H E Y S\)

\begin{tabular}{lllllllll|llll}
\(S\) & \(L\) & \(D\) & \(K\) & \(L\) & \(Q\) & \(R\) & \(L\) & \(T\) & \(E\) & \(F\) & \(V\) & \(H\) \\
\(D\) & \(E\) & \(Y\) & \(S\) \\
\(D\) & \(E\) & \(N\) & \(V\) & \(K\) & \(T\) & \(F\) & \(L\) & \(K\) & \(E\) & \(V\) & \(H\) & \\
D & \(P\) & \(A\) & \(H\) & \(V\) & \(E\) & \(A\) & \(F\) & \(V\) & \(E\) & \(A\) & \(V\) & \(H\)
\end{tabular}

NPDHVRVFIDAVK
P P E K A I F M V D CVV H R L
\begin{tabular}{lllllllll|llllll}
\(P\) & \(V\) & \(E\) & \(N\) & \(V\) & \(R\) & \(L\) & \(L\) & \(V\) & \(E\) & \(V\) & \(H\) & \(S\) & \(Y\) & \(S\) \\
\(N\) & \(P\) & \(D\) & \(H\) & \(A\) & \(K\) & \(V\) & \(F\) & \(V\) & \(D\) & \(T\) & \(V\) & \(H\) & \(E\) & \(Y\) \\
\(S\)
\end{tabular}
PTENLRAMVEMAHKY
\(P\) VD HV I A L V E EVVHS Y
P P E N A A A M L E A V R K H S
EPAHVDAFI K AVQQDS

\(P\) LENAEAFIRAVVD W
\(P \vee D H M R V L I D Y V H E A T A\)
EWEKVKCFI DTVVKGF
P P Q NV S L L V D EVM S Y S S
\(N P D V V E A V D E V H N Y S\)

\(P \vee S M A K Y L V S L V Q K\)
P I A S MEAFI K GVV H
P P ENVDVFVNTVHSFS

 D P E DMR WF LQ CVVQK Y S A PPEHVTALVEAVHSHS DPAKARFLVETVHKLS \(P\) IVVSMEVFVDAVHK \(P \vee E N V I A B V E T V V K E L S\) QPE HV GA L I A A V Q R H S SKENMLLTMVEAVKEF P P E N V PTETVKAVVDAVHAF D P E D L R WF FE CVVHKY S S
 NPDTLK RLLTSFVHEYS
PVENVAAFFETVKETAA
P V E N V K H L V D L V K

\(P \mathrm{H} D \mathrm{~N} V \mathrm{R} V \mathrm{~L} V \mathrm{E} T V \mathrm{H}\) H Y S

 P P E HVVA AL V Q A V H E H S \begin{tabular}{lllllllllllllll}
\(P\) & \(P\) & \(E\) & \(S\) & \(V\) & \(A\) & \(V\) & \(L\) & \(V\) & \(D\) & \(E\) & \(V\) & \(H\) & \(T\) & \(F\) \\
\hline & \(S\) \\
\(P\) & \(P\) & \(D\) & \(S\) & \(V\) & \(S\) & \(V\) & \(L\) & \(V\) & \(D\) & \(A\) & \(V\) & \(H\) & \(S\) & \(Y\) \\
\(S\)
\end{tabular} \begin{tabular}{ccc|ccccc|ccc}
\(P\) & \(P\) & \(D\) & \(S\) & \(V\) & \(S\) & \(V\) & \(L\) & \(V\) & \(D\) & \(A\) \\
\(S\) & \(H\) & \(H\) & \(Y\) & \(S\) \\
\(S\) & \(D\) & \(K\) & \(L\) & \(R\) & \(E\) & \(L\) & \(T\) & \(E\) & \(F\) & \(V\) \\
\(H\) & \(A\) & \(Y\) & \(S\)
\end{tabular} P I D S V Q T F V D T V H N F PLENV SVVI E AV HR Y

P I E S M N VL V Q A V H D
\(P\) K N M Q AL A Q T RNEF
PEENVAHFFQTVRDY

\begin{tabular}{llll|lllllllllll}
\(A\) & \(P\) & \(S\) & \(H\) & \(L\) & \(D\) & \(T\) & \(F\) & \(V\) & \(K\) & \(A\) & \(V\) & \(Q\) & \(E\) & \(I\) \\
\(K\) & \(S\) \\
\(K\) & \(P\) & \(D\) & \(D\) & \(L\) & \(K\) & \(F\) & \(Y\) & \(F\) & \(E\) & \(E\) & \(I\) & \(H\) & \(R\) & \(L\) \\
\(T\)
\end{tabular} A PVENVKYLIDVVK
\(\begin{array}{lllllllllll}S & L & K & L & R & L & T & E & F V & H & E\end{array}\)

D P EDMK WFMQCVHKYSA
 \begin{tabular}{llllllllllll}
\(S\) & \(P\) & \(D\) & \(T\) & \(K\) & \(K\) & \(T\) & \(D\) & \(F\) & \(H\) & \(D\) & \(Y\) \\
\(P\) & \(T\) & \(A\) & \(N\) & \(L\) & \(L\) & \(A\) & \(M\) & \(V\) & \(Q\) & \(V\) & \(A\) \\
\hline
\end{tabular}
\begin{tabular}{ll|llllll|lllll}
\(P\) & \(V\) & \(Q\) & \(N\) & \(L\) & \(K\) & \(M\) & \(M\) & \(D\) & \(T\) & \(V\) & \(K\) & \(E\) \\
\hline & \(L\) & \(G\) & \(A\) \\
\hline\(P\) & \(A\) & \(T\) & \(L\) & \(K\) & \(R\) & \(L\) & \(T\) & \(A\) & \(F\) & \(V\) & \(H\) & \(E\) \\
\hline
\end{tabular}
\begin{tabular}{llllllllllll}
\(Q P A\) & \(L\) & \(K\) & \(R\) & \(L\) & \(T\) & \(A\) & \(V\) & \(H\) & \(E\) & \(Y\) & \(S\) \\
\(P\) & \(L\) & \(A\) \\
\hline
\end{tabular}
\(D \stackrel{L}{P}\) A AKVFVDAVHSY
D P E A L K V Y L E TVV Q T V S A
P PENV A M MV EHI R K
P \(\square E G P E S Y V K A V H E L S\)
\begin{tabular}{llll|lll|l|lllllll}
\(P\) & \(P\) & \(D\) & \(A\) & \(V\) & \(R\) & \(R\) & \(A\) & \(V\) & \(E\) & \(L\) & \(V\) & \(H\) & \(S\) & \(L\) \\
D & \(P\) & \(D\) & \(K\) & \(V\) & \(N\) & \(K\) & \(F\) & \(V\) & \(D\) & \(L\) & \(V\) & \(H\) & \(H\) & \(L\) \\
\(S\)
\end{tabular}

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UniRef90 F7HR87 UniRef90-M2XBG7 UniRef90-Q8CWI5 UniRef90-R71832 UniRef90-E8TTN3 UniRef90-K2GMR4 UniRet90_M1LTC8 UniRef90-H6C835 UniRef90-A0A017HK21 UniRef90-D5XB31 UniRef90-F5LJQ4 UniRef90-K9SK53 UniRef90-M3CIR8 UniRef90-D6W7F3 UniRef90-NOAMN8 UniRef90_V9IDZ3 Unirer90_R7UAN9
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KNDTFLKAAWGEETDYTPVVCMRQAGRYEFRETRSTD
\(F V D A C L K K E V P Y T P V W M M R Q A G R Y E Y R A V R K G G\) K DTFIDKAAKGQQTD YVPVWYMRQAGRPEYRAMKKY S EMTSRERFMAALNGQPVDRLPVDSVCQHATYDQMEQLNSY NERFLQACRRQRTDVTPVWFMRQAGRYDYRK\|RRHS
T A K E R L L A T LD G K E T D R P P C I CMMMNMVTVGGLQDEDGVF MK DL F RKAARGEPTERPPVWMMRQAGRYEYRE LR D YS \(T P K E R L A R A L T G K P V D R M P A I S V T Q T G T V E Q M E A V G A F\) MTPAKPFLRALLAGETLARPPVWLMRQAGRYRAARARAGS NDLILRTAWGEKV ERPPI WVVMQAGRYEYHEAKGRD \(M L K N D R R L R A M R F E S V D V T P V W M M R Q A G R Y K Q T R A Q A G D\) \(M D L K Q R L F T V L N S G K P D V V P V V S V T Q T A T V Y Q M Q M T D S F\) N D S F L K A CLGGEKHDRVPV WYMRQA GRPEYRKDKE H S \(K N D T F L R A A W G E E T D Y T P V W C M R Q A G R Y E F R E T R A A D\) NDSYLRSALRRKSVKRTPIWWMRQSGRYEYQS DKKKD MTENDNNLK A L Q K EPVPYTPI WLMRQAGRYRATREKAGS NDTFLRACLRRATDYTPLWLMRQAGRYKATRARAGS MTNNDTILKAFRGEPTEHTPVWYMRQAGRPEYRKLKKYG \(M L K N D\|L L R S L L R E H V E Y T P I W W M R Q A G R Y E Y R K\| R A G S\)

K N D R L L R A A R GE QV D R P P MWVMMRQA GRYEYHEAKGHD M T MTSKQRVLGLLKGETVDRPACYSGTGTVWGAALKHYGYN \(M \square N N D R F I\) RACRK QEVDRDPDVWYMRQAGRYEYRKDKKYS \(M G G N D L L I\) RAARGEVI ERPPVWMMRQAGRYRELRQKHPN \(K N D L L L R A A R G E K V E R P P I W V M R Q A G R Y E Y H R E K G T D\) K NDRLLRAARGEVPDK LPVVWVMRQAGRYEFMEFRKHS

K N



 \(K N D L L L R A A S G E E T P R A P V W V M R Q A G R Y E F D E V R K H S\) PNKTFLRALAGETVPVPPIWLMRQAGRYEYRATRAGS NSRFMKAVRREPVDTTPI WIMRQAGRYEYMEVRKVT LVRAARREPVVRTPVWFMRQAGRPEYRA RGTT
 \(F V R A C R R E P V P H T P V W Y M R Q A G R P E Y R R A R G V E\)
NDS \(\stackrel{L}{F} L K\)
\(\begin{array}{lllll}K & N D & L \\ P & R & R \\ R & A & R\end{array}\) N D L A AVLGGRVDYVPPANPLA QTTTELMAICNAS N D L L L R V A Q G A E V E X P P V W W L M R Q A G R P E Y R A L R A K G
K NTNVV NAALKGEEVVADVVWMMRQAGRYE FRAAVRA GS MT P K ER F L R A L

K N D L I L R TARGEKVERPPI WVMRQAGRYEYHEAKGKD EMT P K E RMEA Y F K G E E V D R LDP C N L M F E E T A A A V Y A G D MTDK TVLRALKKGEVLPTPPVWLMRQAGRYRATRAQAGB NDLIL RAARGEEVERAPAWVMRQAGRYEYHEVKGGD DILLRVARGEQTHRTPVWLMRQAGRYMAAFREKYP
 EFTLDKRFEKALKGGPTDLIDPVCSVTGTGTVVELMEMTGAY \(\stackrel{F}{F} V R A C R R E P G P H T P V W F M R Q A G R P E Y R E E R R A V P\)
 FLRACRREPVPHTPVWFMRQAGRPEYRKLRGIA MTYNDTFI RACRQQNTEYTPVWYMRQAGRYDYRTIKKYS
 NDTFLRALLLRQPTEFTPL WLMRQAGRYNATRSRAGS

 DRFLRACRREPTDVTPVWFMRQAGRYEYRELRKYT F L R A CRRESVPHTPVWFMRQAGRPEYRAALRAGT MNSRERFLAA CACQPLDRPPDWDMRQAGRYEYRAALKARS K NT T \(\square\) D T \(\square\) K GKETSHTPVWFMRQAGRPEYRKLKKYS
 \(E L \mathcal{L} V R A A R R G E R T E R P P V W W L M R Q A G R H E Y R E E L R E Y D\) L L K VAR GESVSRPPVWMMRQAGRYEYRDLLRDKS MT DQKTVLRALLSGEALPVPPI WMMRQAGRYKATRAQAGD
 \(F\) L RACRREPVPHTPVWFMRQAGRPEYRKLRGTA
 F L A A A T GATPSRRPVWFMRQAGRPEYRELRGIG
 NDTII K A A R GE K TEYTP V WF MR QVGGRPEYN KVVKKY S \(M T L K E R F M R R D T G K E V D V T P V V G C T T A Y P V V E F M S R C G Y A\)
 MTPKERFLL GALDARKEMDRPAVVGVTQSVTVDQMDWA GVE KNDLILRAAARGEKTERTPVVWLMRQAGRYEFKSKHSAS



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UniRef90_F7HR87
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UniRefon
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 GMDLEFIVGRGPVFSDPVVCEEDLKKLDIQKAVKN SED
 GLIKESGRENVGPV GAEVTVGRKDVEPHIVGYAVFDVHDYKQVKPMDLESGRAK
 GQALDYVEGEGP GMLVEMLPAKGPHFPKPLQSPNDPQYSEVLNNVNVSSELQ GLGLYFEAGEGPKFFVKTVRSMAEVEALPTVAMSDA GVDVEDKSGLGPVIDNPDQSKADVEK GERGEVTPEQDVP GVAFDIPDKG PVIEQPLRTKADIEKVHEM QPERSTP GMDVNFYENLGPSFLNPISSISDMKNLNVPHDDPEKNLK GLGLKFVPGEGPVFESPVQSEDEAVAKLHVPDVGTDLK GLGLSFAEGEGPRFAKAVRSEADVAQLAVPDM DDRLR GVDVEDRKGVGP VIHNPVRNRQDVENLGEDDPQSDVP GLGLSFTDGLGPSF SRKIRTEDDVKRLLSVPDMN SLS GMDVQMVDGVGPKFPEPGRSPADKQYKEVLERDVDAKELG
 GINFDIVESKGPBFIDPPIRTKAQIDALVHELDPTTALP

 GMRLKETPTG PMKFENPDDSPEDTKNLEQEPDVEKKLG
 GLGLYFEEGEGPRFERPVRSLRADAD GLEVVMEPSRGPOVLPNPLVTPDDLKRLREDVNVQKEGGO GQHLAFKQGEGPQLDEEAIRDASGLGULNDDHDHDTLG GLDLEYLKGEGP VIHNPIQDASQVDRLRTDIADMDCLD GLDLDVVGVGPVVAEPLRTRADLDVGVLPELTSEHVP GMGGDVDVKNGGPVIENPDRCAADIDRLRAPDDVDADLS
 GLDLDVPGVGP VVERPVRTRADLARLR DVADTPEDVS


 GMEVIMVDKKGPHFPEPLQTPDDKQYKEVLREVDVAESLD GSKMGYNDNGASFLIEPILKDYKMLENMDIVNPYKQGRLP
 GMTVEMTDKKGPHFPEPLTSPTDGRYETVMKKVDVAKELD GMEFDVISGKGP VIPNRITATMDVDNVRRLDDPASSLPR GCTVAEGSDDDQPYVTDFPCKKKKDVKDIPGSLLESRRTS
 GVDLDVKPGVGPVVEKPGRSRADDERLRA ELGEPEDVG SLGVDFDVVKNGPVIENPDRSASDVDRGKPAVDVEGDLA
 GLGLRFAAGEGPRFEHALRTEAQURALQVPELDKDRYVFD GADLWFVTGEGPRLDSTVTMQADFDKLKPVDAVHETLN GSEVIFPTNNTPYTNKPAINDYSEDGKLRPDDPYKDGRIH

 GMNLRFEKGEGPVFDNPDSTLEDLEKLDDQN GGDLSFTQGVGPRFANPVRLKQDVERLTTM俍 GADLWFVTGEGPRL STDTTADQLAADKPAADVNDHLS G EFEIVESKGPGINQPDRTQEQDDQLRFRGHLDLDRFG G

\(\qquad\) G|LDED
 P TGMDVETKKGVGPVIHNPIRNTDDVEKLGELDPYKDLD GCGLGEPAIDLQYYIKVHPFEHNLDGLHCPEDLLMRGRFP GLSLRFEKGVGPVFDKTVDSEKDUDNLD LRPLNADEKLF GATVDLGNRVKTPMLKAHPYSSEDEPVIPEGFLGKGRIA

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 Y V L E T I \(\quad\) K L L L R Q QL S
 Y V LD S I K II C K E L D K K I P L I G F S G S P WT L A C Y M I E G K K Y V T D A V S Sil R S T L Q GRVVPL FGFS G S P F T L A C Y M I E G R G S K Y V F D A V T SI R R A L D G R V P LIG F S G S P WT L A C Y MVE G K G S K Y V LD TI S LLTMEQLN V PLI GFSGAPFTLASYMI E G GPSK




 Y V GEAI T L T R H K L D GKVVPL F GF Y V F E T I K L LT QE QL SVPPLI GFA GAPFTDASYMIEGGYKTK YVGDAI TLTTRYK LE GKVPLIGFTGAAWTLMSYMIQGGGSR F V F K A I T L T R R H R I R G Q CP L L I G F S GAP WT L M S Y M I E G G S S K

 Y V T D A I G LIVRHE L A GRVVPLI GFS G S P WT L A T Y M V E G G S S K
 \(P V Y E T V A K L S A S I P S H T S L I G F A G A P W T V A T Y M V E G K G S K\) FVV Q AVVKI RADLPAD DPLLGFAGCPFTLASYAI E G G S S K



 WAFKSI TLTTRTKLNGRVPLLGFVGAPWTLLVYMTEGQGSK

 YV F DA MY L TKKK V DNEVVPI FGFCGAP WTI L GYMVEGEGSK
 YVYKA I TMTR QK LA GRVPLI GFCGAPWTLLCYMVEGGGSK
 YVYKA ITMTRHKLKGRVPLI GFCGAPWTLLCYMVEGGGSK FVGETLRTLKNEVAGRATLLGFVGAPFTLAAYTIEGGSSK \(F V \operatorname{GEA} L G G L R R Q E V G N N A T V L G F V G A P F T L A S Y V V E G G T S K\)
 FVGEIL QALRQEVGNEAAVLGFVGAPWTLAAYAIEGKSSK \(F V D E A V R R L V V E L G B T P L I G F A G A P F T L A S Y L V E G P P S R\)
 HI LE TI A I L D K ELL DVPLI TFAGAPF TI AS YLI E GRPSK

 AVS Q I R R A LTRRDGVQRVPLI GFAGSPWTLACYMVE GQGSD


 Y V T E A I G MI T A E L G A T P L I GFA GAP F T L A S Y L I E G E H T K






 Y I TEAVG QLVVGELGGTPLI GFAGAPFTLASYLVEGGPSK




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170 180
\(R\) Q

 \(K \square A Y R K P Q E L V S Y I E D G E K A G T M L A Q A M M D A G A D V I A A D E D\) K MMVS R P D L WQ T L M D K L A D M V

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


 T WI Y K Y Q K E S Q A L L Q K I S EVVCV E H L A L Q V A A GA Q \(V\) V Q V F D D QKA A NRPLFEAI L DRLTEATILLYLSKQVEAGAEVVKLGD \(M T V F R K P D L V S G L L E K L A G V L M N V A R A Y E A A G A D Y I C L R E\)

 \(T W I Y K Y R E A A K Q L L Q K I A E L C V E Y L A B Q V V A G A Q I V Q V F D\) \(K W L Y A Y P K D A H K L L E L L T E V I I D Y V V M Q V E A G A Q L L Q Q I D D\) AFMYSEPKAWFALLMDKLGET TI TYVVKAQVNA GAKAVVQI B D E WLYY K Y P N E S H K L L Q L I T N V I I D Y L V M Q V K A G A Q L L Q V F E



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 R WTKTDPPEKAHAFI DAATDFVVAYGK LQAAYGAHIL F L A D



 K D M I K D K E N L H K L L A F MT E C N L S F V R AVVYS E Y G L V C Gl G D
 \(T W V F R H S Q A S K D L L Q K I A E V C V E H L A D Q V K A G A Q M V Q V F D\) NCMMYDPTMLHVVYD KLATAIVGDYACYQIENGAEVI QVFE
 N MAFS QPA ML H E F L G KI A DA I A A V Y V R Y Qi D N G A QVV Q L F D THMYGDPELWHA LCARLAEVTVAFLQQQLDAGVSAVQLFD NHMHSEPEVWHAL A GS LARTTLTFFLRAQLDAGVDAVQLGD NHMYGDPELWADLLDRLADDTATFLKVQI EAGAAAVVLED T Y MF S QP QV WE KL MEKL GDMVIT Y L RAHVAS GGKAF QL F D
 NMMYGEPE L WS GLL GRLLA DLLTI D F L KLLQI A A GA S A V QV F D D WMYSRPDLMHHILRVVAQSVAAYLNAQIEAGAQAVMLGD
 RDLTK NKDMAHQLLEDSTQSVINYI DAACD DGLAPSLA E QLMWSDPEAWSALMGKISEVVRRLLRAQVAAGAQAVQLFD AMMY G E P Q L F H A L L E R L S Gll TA A FL DVVQI R A GA S A V Q L
 K MLLY Q N P E L L H K I L N K L T Q V


 N M A F S Q P A ML H Q F L G K L A D A I A I Y V R Y QI N S G A QVI QMF D \(K\) VAA F T E P A LL L H E L L A R V T D N L A I Y A N F Q

 H H M Y A D P K TWHELL GVLTDDITVAF L RAQL DA GVDAVQLED NHMYGEPELWAELLDRLADITSAFLKVQIEAGASAVQLFD
 NMMYNQPDTWF K L M D K L T D M S I R Y L T A QV E S GA K MI Q I F D RAIIVKPETVRKVLDVTVEAVTKVAQFAFSNGADYFCLGD




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220
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230 K A G IL I I F A K D G S WA S EK DVYF D F S WK Y I LE



 S WA G VLPP E GE F E R WVVVA P T R R I V V F A V





 SWGGVL A HAADYRKF I K K P VM D R I L
S WG G AL T G T

 S WA GS L Q GEDFAAYALAPAA RIT RALKKERHPGLPVIA FPR MSGTTVDVSPKQFNELLRPELVKIIQQNCRVPVVLHICGNT

 S WVG A L A P Q D F E R Y V L P T I K R I F A S L K E V D VI Y F P G V S S WAGVLSATDYASRVLPHSRAVFDALGDRDVPKVHFGVGT SWGGVLAH E A YLEFSLEEPVRRVLEALRRIPVIVITTKGG
 TWGGVVENGFERWVIDE TKKIVVANLKAVVHPDLPVIGFPGAG SWAGCLS PEDYQQYVQPYTAKLVAGVQDHPVINFLTGN







TNAGVL P P HL Y E EF GAKYMRMI A DLVVRRPQALIVGFPK


S WA HQLF
S WA S E
S EA G P DII I A
\(\begin{array}{ll}\text { S WA G Q } \\ \text { S WA G A } \\ \text { S } & \text { S }\end{array}\)
S WA GA L S VK
K D
\(S W V G A L A\)
S S A D HL
S WA G \(\qquad\) T R
SWGGA A
SWA G S L
SWASEELSS PH D F

S WVG S L S I D D Y R E HVQP HVR Y I LIR DLEATGVPVIHFGTNT





S WA G S L H GDDFA QY S \(\square A P M R K \square T S A L D K A Y P D V P I D A G A G\)
SWA GELLS \(\quad P Q D Y E T F A D P Y Q Q R V V Q Q V K A T H P T P F A C L Y \square\)

 S WA A A I E P A KY DEFSWKYMVE \(\square\) A D Y L K EK Y P H I P I I DMP P K SWAGALSS PADYRAFVLPHSERVFTEDADAGVIHFGVGT S WVGALA \(\quad\) P E D Y R R HVVMPASVVKVFRSVVAD Y GVI H F G V G T
 P T S S P DLLS PKAYEKY VLPAVRKVVTNVDGPIVLHVCGNT
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SAYLDKI DGNFDVFGVDWSTP A \(\square A\) RD \(\square\) SHKYTVQU

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 WL QDM K ALLDCEVLDGLDWTANLGQARA VGGGSAGGPGKA L Q




 WY ALDRECQTKYNVVGLDWLHDPKEAYAIAQKHGKVVQGN H Y CLA E Q A D L GYEVLGGVD WTLLEPQVVRTLLKGKNVTVQGN


 WYALDS MCDSAYNVVGLDWLVDPADATKIRGDRNTVLQGN
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 \(G E L L G L M G E A G A D V V G V D W R V P L D E A A R R V G P G K A L Q Q\)






 G G L L E R L K T T G A D V I S S L D G T V D D M A D A T F V L D P L A D A GF E G S S E E K V GVVS F A K G GV G S R VCCL I G N A GIL E RMGKS GVDII SVVWTVDMAEA RQRLGYKMNVQGN GELLGAMGEAGADVVGVDWRTPLDVATGRIGPDKAVQG
 \(S G E L L P S L L T K L Q A D D V I G L D W R V S D I T E G R R R R G G G G Y A V Q G M\)


 K K I WG H MVD T G \(\square\) A NLS L DN \(\square\) D DIIG ELLKEAYGDKVCLDGN GALLEAQRDAGGTVI GVDWRTPLDKAW QRVGYDRAVQGN GELLGGLSEAGADVVGADWRVPD DEAARRRGGGKTVQGNL AP QL M D Q A F CGARVLSVDWTNDLADVRRTLPGNVAVQG H HLI H QWN ELDP DDVL GL DFRTP I TVAR QM GVN KTLVQGNLE
 SVFASMMAEAKPDVI SVDWNAD LLDDK KMLPKG GAVQG \(G G R L D Q L A A T G A D V V S L D W T V E M D T A R E Q L G B R P\)




 GELLGAMGEAGADVVGVDWRVSLTEAARRVGPGKALQG GELLGGLMGEAGADVVGVDWRVPLDEAASRVGPGKALQG
 SHLI P EWNSLLDMDVMGLDWRTSIEEARA LGVGKAGQ DRII HMMCDTGVVAGISVEEKTDLKKAVEDAHGKGVKVFGN
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\author{
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}

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PALLLLAP WEVVLQK KVVME
NFDPAVLFAPKDAVEAKAREGM
\(\square D P G V M\)

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ENGHGLYPDM FDPA MLFAPIDVIDKLAQD LDEGGYVFNDGHGVKPS


\(\square\)

\section*{\(\rightarrow\) -}

 DDPVSIIRSGTIDDVDKAVKLCIEKAGYi V LDPSYMVTGGQEVEATKKVVAAFKNGPHI GNVDPTV GPPEGVAAVDEGVRGGH VNGHGTPKV MDPVS JLFGSKAHITERVLDTIKKAGHVMNLGHGVMQGT VSPSDTLLAKGPEEVIIEARACLEDGDDI DAPGCGLAPHT MDPG VLFGSQDFIRDR RLDTIRKRGHIFNDGHGVLPGT GNLDPALLFAGWPVVEAEVRRIVARGGHIVNLGHGVLPNT DPAVLFAPREAVRRGAADILRAADGEGH|FNLGHGVLPQT
\(\angle D P Q D\) LD T ASRHMVTVFAPPERIEHEAVRAVLEAGGHV


GNPA

\section*{P}
\begin{tabular}{l} 
P \\
\(M\) \\
\hline\(L\)
\end{tabular}

\section*{V}
\(\stackrel{L}{\mathrm{D}}\)

\section*{M}


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\hline UniRef90-R9GLD3 & P FD HVK Y AV DVI K \\
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LKA LDRGEVQKVPP IWMMRQAGRYRATREKAGD MTRSDKLRAARGEHERPPVMMRQAGRMYRDRAS TPRDALLRAARREEVPFTPVWFMRQAGRPEYRADRDVS KNDLI RAAFGQKTERVPVWVMRQAGRYEYHEAKGAD KNDLLLKAARGEKVQRPPIWIGMRQAGRYEYHEAKGRD MTPTRRALAAVLGGRTDYVPPANPLAQTTKDLMEFCGAT FVDACFGKPTSHTPVWMMRQAGRYEYMEVRAGD YLAAVRGDKPSRRPVWMMRQAGRPEYRKVRG \(\mathrm{I}_{\mathrm{P}}\) FLTAMRRERAPHTPVWFMRQAGRYEYRALRGRS LLLRVARGEQADRPPVWLMRQAGRYEFREYSKYG MTPKERMTAFSKGESMDR \(P_{P V V P D M G V T K S E F D \text { GVV }}\) NKNNT LLKMITKGEETSHTPVWFMRQAGRPEYRKDKKYS KMTPAQRAAAKAKGEPADRVACNPNDANGMAR AGYK DLLVRAARGERTERPPVWLMRQAGRYEYRDIRQYT DTPKERKKNDAEGGEPPDRPACVCMMNMGTTDGMDEVKVY

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\section*{UniRef90 B5HCK4 UniRef90－D3BN73 UniRef90－UPIOOO37A00A2 UniRef90＿A9SST2 \\ UniRe990 V6IXT8 \\ UniRef90－UPIO0037AF3B9 UniRef90－S2ZD41 \\ UniRef90－H5WTL6 UniRef90－E2S9A2
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 GCRLR YAPDQRPQM

\(\qquad\) \({ }_{\mathrm{E}}^{\mathrm{E}} \mathrm{L}\) LMTP IDKDGIFWLESAGA GR D L R F E E GRRGP
\(\qquad\)

GI GVELVPGRGPVMDKALT RSDVQN

 \(G V D V E D K T G D G P \quad V I A H P D R R Y Q D V E S L A A F D A K S ~ Q V P\)
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 GSVVMNYPEDNDSLLEK PVVEKKPEDVDDNLTIVDABKM GKMP GC K \(⿴ 囗 ⿰ 丿 ㇄\)




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 \(G V G V V E V P G R G P V M D Q P V R T R A D \square D N L P D L D H E V D E\)


 G L G L



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 \(D\) Q KP A H I L A F E N L I E IL T K A T I I K Y L S A Q I D A GA E V V K I F D



 E WLYK Y P D D S HK L L Q LI T NVII D Y L VMMVKA GA QVL I L \(K\) D L R R N P E M A H R L L QL V T N T T L N Y I DAMVMD M G C S V S I G D





 L L S L D D P GK T K LAA LD R M K E A T V Q F GIDA QIIE A G A D A L T L P D K A S I I K K P D


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



 \(M M T V T D P E K A H E A I D A A T D F C D E Y G R Q Q V A A G A H Q L F P A B\)
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 \(K\) WMVR A P E K V H Q V M E VI T E S N D R Y I E A V A Q L G L G V G F C N M M Y R D E A T WF A L M N H L V D V S V K Y V TA A Q V E A G A E L I R I F D











 \(K\) GTVVK HK E Q A H K L L Q Y S T D C V V K C C E D L H R K L G 1. QLMYS EP E L WK KL M D K LG D M L I T Y L K A Q I A A G A K A I Q V F D

 K F MF GQP E L F K K L C D R L VDM T V D Y L R Y Q F K S G A E A V Q L F D
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 NHMYSSEPE TWHE L L M R A L T P T I I R F L Q M Q L E A G V D A I Q L F D

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D P E E VI T R TVV RLI Q E
PPDTVAALVDEVHSHS
D P DALARLVDFVHAY
NPENV QLMI DTVR
PPEHVAALVDAVHGHS
\(P\) E E N V R Y V V E LI Q E VA A
\(P \vee E N V K F V V D T V K S W\)
PPEKI MHFI DAARVY
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DPAVL ERDVDLVHD

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PADAVTRAFEEVH
PVSHVERMINRVR
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S L E NL E Y FM E A GRE Y
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PLAN I KAMAETARE

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 QMTPAQRAAAIANGSAVDRLPCNPNDANGVAR VYGCK \(K N D R Y L R A L L K Q P V D V T P V W M M R Q A G R Y R A T R A Q A G D\) T PKERLI KKVVFNNE EVVDRPPVWLMRQAGRHEYREDREYS FLRACRRDQPETTPVWFMRQAGRPEYRALRAVP FI DACFGKKTPYTPVWMMRQAGRYEYMEIRRGN EMTPKERMIAYSKGEEVDRDPTSL SASETAPPLYGID EMTPKERMAAYSKGLEIDRIPCMPQMGVTM APLMGIT FLLRTLDGEAGVPPPIWDMRQAGRYEYREIRAKS LIAAATGGTPSRRPVWFMRQAGRPEYREIRGRG TGDSALVTAYSGTRPERLDVVWFMRQAGRPEYRASRAGT MKSQDRVMRVLSGEKLWPPPIWMMRQAGRYEYREVRAAN MSRLNR IIDAA \(\square G R T P S R P P V W \square M R Q A G R P E Y R A A R G \| S\)
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 PVAEAVRLLVGELGDTPLIGFAGAPFTLASYLVEGGPSR EVADG:RGVLAELRDDQALGFVGAPFTLASYLVEGGPSK FIREVLTLRQEVGDRSTVLGFVGAPWTLAAYAIEGKSSK EVAEGGLILGELSNTQALIGFAGAPFTLASYLVEGGPSK PVAEAVRMLRTELPDGVALIGFAGAPFTLASYLVEGGPSR PVIETVRKVKRAGSPETTFLGFAGSPWTVATYMVAGAGSK PVLETVRRLRSDLPTETTLLGFCGAPWTVATYMIAGHGTR AI AKAVGLLVDELPDEKALIGFAGAPFTLASYLI EGGPSR IVLDALKR LKKLDDGVPLIGNLSGPDSVAASLLEPVDFY VVGDAIKRIGKSRNLEDVPIIGNIGAPVSTASSVMEPGIFY Fi RPLLSTLRKE EGQSTMLGFIGAPWThAAYADEGKSTK K GEAVRLVIAELDPHVALI GFAGAPFTLASYLI EGGPSR PI REAVRLAVAELGA TPLI GFAGAPYTVASYLVEGGPSR FVGDVLTSLRKDIENKSTLLGFVGAPWTLAAYVVEGKSSK WAFDSLRLTRMKLNGEVPLFGFVGAPWTLLVYMVEGGSSK
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 D QAF G DPD GF GK L V D C L V E A V S A H L V A Q i d A G C D A V Q i

 D QAYANPEAMRA L L QLLLA EKSAEYLDRQQ DAGADAVQI F D



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 N Y M Y G Q P E V WS A L ME K L A D L VI T Y T K A Q i H A G S Q A I
 DMMYS QPELWWHALMEKLT TVT QSYLGEQVQA GVDAVQL D D NFAFS QPE I LDHALLQQKFAGSMAKY LQYQAD HGAQA V QI F D \(K D M F H N P A L L H S F L D F D T E Q Q I N Y A G Y Q D E S G A Q V I Q Q L D\)


 D MAF S E P A M L H Q FL S K L A D A I A I Y V R Y Qi D C GA QVVQMF D NHMHAEPKAWHA LMERLVPTITRFLQTQUTAGIDAWQLFD
 DHAYQEPARF GA I IDESVVATA DDY LSA QI EA GVDA V Q L F D




 GHMHERP E V FA R L L D R V A E L D D I A F L R A Q V L A GA S A V Q L F D

 D HMHADPDAWHALMTWAAD TGSFLRAQVLAGASAAQLFD
 D QMHADPGTWQA L MD WCA DVTGA F L R A QV L A GTS A V Q L F D

 DHAYRDPSAFQA IDDAITTEVTDEYLS GQVEAGAEGLQL F D K LIH K N P E AVHKL CRVSLETCKAYAKAALD DGLNPTISE



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 D HMHADPAAWAALMDWTAEVTGAFVAAQVTAGASAAQLED D Q A Y R D P D L M Q R FVD QLVTASIR YLIR QL DAGADAVQI F D
 KFVYEHPEATHTLLQVITD\|CVEYLVGQVDAGAQVLQVFD K WM F K R K A DVEK I L E V T K L A M I DVI NFA F EN GA D Y Y VMA E D HMHAEPQVWHALLTWVAGVTGAFLRAQDLAGASADVVFD NHMHGDPETWHALMQRLVPT』VNFLKVQIDAGDDAMQLFD HFAYTNPEAFDRLIARLTEATITYLSAQVEAGAEVLMLFD
 NYMRD DPDTWHALMARLADUTVTFLQVQLDAGVDAVQVFD

 HHMHSAPDVWHQLLGKLTDDADVFLKTQAQAGVDAVQLFD LF A Y Q Y P K AFERLLTLLAD I SAEYLVTQDDAGADAVVI F D
 \(M M A Y R Q P E A F S Q D I D A L V E N S I R Y L L G Q L A A G A D V L Q I F D\) D Y I Y R E P D L L H K F L N H L ATADIA D Y L CY Q i D C GA QV V QL A L M Y S D P A T WH A L L D R L A D I SRRE F L L A Q I D A G V S V V Q V F D KELRKNNAKAHEFMEFVTNQLIAFAKRQIEAGADII AI S D QLMYSEPELWRQLMDKLGHMVSTYLRAQIKAGADAVQVFD



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S WA GTLLAFPRWSVDPNARVVANVRAARPGVPDI AFPRNA
SWSGDEASF QAFCVEPVAEVRRVRAVYPEVP
 SWA GVLPAGEFRRWVIEPTRRDVDLIKARHPADPVVGGFPR SWSGDEATFKMCCVEPVAE VRRVREVHPDTP IIGFPKGA


SWAGILL PPSAFRRYVIEPTRQUVEYIRARHFPRFAGGDM

\section*{}

SWA GE L CA E H Y R E Y A L P Y T R \(\operatorname{C}\) R V V
 S W I GA V S R E D Y Q E S I FK P Y M N K I F A A L Q P E G V P

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 GELLAPMABVGADVIGVDWRVPDDEAARRVGPGKAVQG

 GS RLS GFVDAVRPDAVSLDWSVDGDAARAIVQRICIQQ NL \(G F N Y\) A S Y R S L T G G DT G L G L
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 G A L H L L Y G E D K D GELL GAMAEAGPDVI GVDWRVPDDVAAERVAGVVGPLVLQ GELLGAMGEAGADVVGVDWRVPLDEAARRVGPGKALQG



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 GELL RAMHD DGT DV \(\square G V D Y R V P L D E A S R R L G N G V P L Q G\)
 GELLVAMRDVGADVVGVDHRDPLDEANRRLGGRTPLQG A GIL K D M L S C GY N GI S I E E A V D M R Y A Q K H E L G D K T Q V C G N


 G Q WI E A I A A T G CD A V GL D W
 GQMRSVYKEVNMDQSNALSFDSVVSMKNARANLPNRILMG GELLAAMGQVGADVVGVDWRVPLDEAARRDGPGRAVQG \(G D G L Y M S D M D G D F D V L G V D W N T P M D Y A L E L G Q D N Y T M Q G N\) KDRWGEVVDAGVSSF WVDNCESLKELLKEAYGNRVAI S GN
 GPRLR Q FA QDTAVSALGLDDSSIDDPVWAAA EFDQNLVLQQGN

 GELLQAMSEAGSEVMGVDYRVAMDAAAQRVNSRDPALLFA DRPSAGFADSAFDVISLGSSAEDESMQRRFS GQCEEKIDQ
 \(G E L L T A M R D V G A D V V G I D H R I P L D E A S D R L G G A T P V Q G\)

 \(T G E L L A A M A E P A D V I G V D W R V P L E E A D H R V G P G K A V Q G\)
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\hline \multicolumn{2}{|l|}{UniRef90_A8CBH0} \\
\hline \multicolumn{2}{|l|}{UniRef90_UPI0003B55A93} \\
\hline \multicolumn{2}{|l|}{UniRef90_C8XF57} \\
\hline \multicolumn{2}{|l|}{UniRef90 M1UD34} \\
\hline \multicolumn{2}{|l|}{UniRef90_Q0BWA2} \\
\hline \multicolumn{2}{|l|}{UniRef90_Q8UBL6} \\
\hline \multicolumn{2}{|l|}{UniRef90_K6AYY1} \\
\hline \multicolumn{2}{|l|}{UniRef90-H6MZU6} \\
\hline \multicolumn{2}{|l|}{UniRef90-G0HED6} \\
\hline \multicolumn{2}{|l|}{UniRef90-C6XIK9} \\
\hline \multicolumn{2}{|l|}{UniRef90_F6ELH9} \\
\hline \multicolumn{2}{|l|}{UniRef90_UPI0003B742CF} \\
\hline \multicolumn{2}{|l|}{UniRef90_U2UY08} \\
\hline \multicolumn{2}{|l|}{UniRef90_G4W924} \\
\hline \multicolumn{2}{|l|}{UniRef90_U1HHB5} \\
\hline \multicolumn{2}{|l|}{UniRef90_Q8DKW0} \\
\hline \multicolumn{2}{|l|}{UniRef90-A0LUP4} \\
\hline \multicolumn{2}{|l|}{UniRef90-T018A2} \\
\hline \multicolumn{2}{|l|}{UniRef90-F5LB16} \\
\hline \multicolumn{2}{|l|}{UniRef90-A5G1D5} \\
\hline \multicolumn{2}{|l|}{UniRef90_C1FD66} \\
\hline \multicolumn{2}{|l|}{\multirow[t]{2}{*}{}} \\
\hline & \\
\hline
\end{tabular}
```

P L A N|I Q A TLLK T|L|K

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\(\begin{array}{llllll}P & R E N A I D A & L & V & M V R \\ P E E N V A H F F E V A K\end{array}\)



\begin{tabular}{lllllllllllll}
\(P\) & \(A\) & \(H\) & \(V\) & \(E\) & \(R\) & \(M\) & \(V\) & \(A\) & \(R\) & \(V\) & \(R\) \\
\hline & \(A\) & \(H\) & \(V\) & \(E\) & \(A\) & \(M\) & \(V\) & \(K\) & \(Q\) & \(V\) & \(R\)
\end{tabular}
\(P P D H V A E L A R L I\) K D W
P DENI DAFMAAARKY

\(P\) P A T L L R R L T A F V R E Y Y S A
S L E N I Q A L TN T V K E
D A D A I T R A VEI I HE
DPENVAALV A RV R
P P E NV A A L V E A V R
P MA M ARSLVRMVQ
NPEDLKKFFEEI HR H
D P E K L K F F L Q E CHR
PPENV GALLVEAVR
E P A KLLK QLLTA FVVE Y S A
\(N P D V L R Q L V E A V H\)
P E E NV A HF F EVVAK
\(P E S S V A L F C Q L A R E S G A\)
PEEAVKWLVDEVKRY
D P D A L L R VV V TV
D A D A I T EAV S II HEEES
DPERRLA QLV A V V R E F
PEENV AFFFKTAK Q
\(D P Q A\) T D AVS I I H
D P E V L T R V V E L V H


D P D A l
\begin{tabular}{ll|lll|l|l}
\(D\) & \(P\) & \(D\) & \(A\) & \(T\) & \(R\) & \(A\) \\
\(S\) & \(E\) & \(L\) & \(V\) & \(H\) \\
\(S\) & \(K\) & \\
\hline
\end{tabular}

\(P\) L T N I Q A \(\square R \mathrm{~L}\) L \(\square \mathrm{AR}\)

\begin{tabular}{ll|l}
\(P E G N V\) & \(G A F C D A A R\) \\
\(D P G A V\) & \(T H V V E L V\) & \(H E\)
\end{tabular}
\(D P Q \vee L A R I V D A V H\)

D P EK DRFF LQECHR
SDENMKAFV EAVKAF


\(\begin{array}{llllllllllll}P & R & E & N A & I & L & V & E & L & I & H \\ D & P & E & V & L & T & R & I & V & R & V & A\end{array}\)

D PTVLLTAMVNARNE
\(\begin{array}{llllllllllll}\text { D P T } & V & L & T & R & V & T & E & L & V & H \\ \text { Q A E } & \text { D } & V & T & R & A & V & H & I & H & H\end{array}\)
\begin{tabular}{lll|lllllllll}
\(Q\) & \(A\) & \(E\) & \(D\) & \(V\) & \(T\) & \(R\) & \(A\) & \(V\) & \(H\) & \(I\) & \(I\) \\
\(H\) & \(E\) \\
\(P\) & \(\square\) & \(E\) & \(N\) & \(V\) & \(E\) & \(A\) & \(L\) & \(L\) & \(K\) & \(I\) & \(V\) \\
\(R\) & \(G\) & \(W\)
\end{tabular}
PFENLIQMMMDTVRE
PVENVRTFVETAKNW
PLKNI Q S IL S T
\(D P G V L A H V D\)





\begin{tabular}{lll|llllll|l} 
D A & \(G\) & \(V\) & \(V\) & \(T\) & \(R\) & \(A\) & \(V\) & \(E\) & \(L\) \\
\(D\) & \(P\) & \(T\) & \(V\) & \(L\) & \(T\) & \(R\) & \(L\) & \(V\) & \(Q\) \\
\(L\) & \(V\) & \(H\)
\end{tabular}
DPENVARMVELVRK

D A EA \(\square\) T R A V S I HE
KPEHAKAFIDDGVKEASA

\(P L E N V L Q L K K A R D D F\)
\(D P D V L T E E L V E F V V\)

\begin{tabular}{llll|lllllll}
\(P\) & \(P\) & \(E\) & \(H\) & \(V\) & \(A\) & \(E\) & \(L\) & \(L\) & \(S\) & \(N\) \\
\(N\) & \(L\) & \(R\) \\
\(R\)
\end{tabular}
D P E NVVTRRLV QRV R
PPENFKAFI A A ARKYGS
D P DVLT R AVELI H
D P D Al TRAFA EV H


D PTVLTRVVELVM
DPENVRLLVERVRR
SREHLVAFMNAAATY
P EEAV GWMVDEAKR
P I A HVE QMI K R VR A Y K A

\(\begin{array}{lllllllllll}D & P & G V & A & A & V & D & F & V & H & A\end{array}\)
\(P\) LK NV K S I L E T
SLD KL Q QL TA F V H E Y S A


DP T A \(\prod T\) S A VE LV H

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UniRef90 K6VDZ9 UniRef90-A0A023D613 UniRef90-F8JDV3 UniRef90_UPI000255F097 UniRef90-U1Y1R9 UniRef90-A3UIC4 UniRef90-D1C0P6 UniRef90_UPI000474EED0 UniRef90-I0GUN5 UniRef90_UPIO001FFF030 UniRef90_U5FZJ6 UniRef90-UPI0004749E59 UniRef90-K4MAJ2 UniRef90-Q6AHF5 UniRef90-FOYVQ2 UniRef90-D2Z704 UniRef90_Q2ISV3 UniRef90-S6B5B4 UniRef90_UPI00036FC3F1 UniRef90 \({ }^{-}\)W7CUY6 UniRef90-UPIO0047D469F UniRef90_FOYU91
UniRef90-F816C3 UniRef90-B8GHN4 UniRef90_Q5B9P7 UniRef90-14BI56 UniRef90-UPI00034AFE11 UniRef90_G7IH45 UniRef90-F5Y827 UniRef90-UPI00037B2B84 UniRef90-HOTTJO UniRef90-A4FAS3 UniRef90-R9N8H4 UniRef90_FOZ1Q9 UniRef90-E4UCE6 UniRef90-X6KZ06 UniRef90_14BBV6 UniRef90-G6F1T6 UniRef90_W2BPD5 UniRef90-EOMN28 UniRef90-M9SHR7 UniRef90-C7N1G5 UniRef90-KOBOI7 UniRef90-UPIO0037F910B UniRef90-K6J4Q5 UniRef90_UPI00036DCAE7 UniRef90_UPI00035041D5 UniRef90_A0QIL2 UniRef90-R6SEN1 UniRef90-F5YJD6 UniRef90_A0A024KD57 UniRef90_UPIO00379E92F UniRef90-F5YVK3 UniRef90-G6A113 UniRef90-U5RNY7 UniRef90_UPIO0047548B2 UniRef90-U5H058 UniRef90_Q6LY43 UniRef90-F7VBQ0 UniRef90_Q5FF08 UniRef90-FOY441 UniRef90-A0A059FDJ6 UniRef90-K0YX95 UniRef90-B2HM23 UniRef90-B1XSD6 UniRef90-UPIO00378E835 UniRef90_UPIO00462A380
UniRef90_UPIO002626107 UniRef90_D5RKI2 UniRef90-A6BKM2 UniRef90-B9E7T9 UniRef90-C1N7L8 UniRef90_UPI00026CD050 UniRef90_UPI00036CFA42 UniRef90_UPIO00470E9F4 UniRef90-E5Y4Q9 UniRef90-Q12YN8 UniRef90-T1BKT9 UniRef90_UPI000417E93E UniRef90-V7PW20 UniRef90_UPIO0016C4421 UniRef90_UPI0004657F65 UniRef90-G4R7Q8 UniRef90 \({ }^{-}\)B6JII7 UniRef90_M2U7R1 UniRef90_A0QW23 UniRef90_C1MKI0 UniRef90-R6BMM7 UniRef90_UPI00047608C0

KNDLVL R VI ENKELER R DPVVWFMRQAGRYEYRQLRKHD RAMRKAD \(R F L Q P F A S K A V L P P P V W L M R Q A G R Y E Y R Q V R A G S\) LI TA YR G GTPSRKPVWFMRQA GRPEYRALRGTD
NDNFL KACRGEAHDHVPAWYMRQAGRYEYRKIRKYS \(M T Q N Q P F L R A D A G E T V S P P P D W L M R Q A G R Y E Y R E V R A P D\)
 \(D \square S P R E R L L R V L D G K T V D R A P V I C M M N S A T V D V I E G C G F T\)

MNTTLVSAAQSETVSRTPVWFMRQAGRPEYRELRGTT


 MTQKKPFIEVLSGNRQASPPMWMMRQAGRYRATRAEAGS \(M N S L E R \square K A A B A F A P V D R T P V V P Q L F G G B A T L A G V A\) MNSRERFLSALDLDTPDRVPVFYQHLGGARHVLDAS GLT

NDLFL RAARKEAVD QIPVVWYMRQAGRPEYCK LKK YS
TANSSPLITA YRGGKPSRRPVVFMRQAGRPEYREMLGDA
KMLSRERMEKVLEGKQPDY IPI FPKDSHATCRA MTSNSRFIRACWRQPVDRIPVWFMRQAGRYQPSYRRQYS


KND LL L RAA WGDKVHRPP V WVMRQAGRYEYHEAKGRD
TRRELYLAAVAGREPPRVPVWMMRQAGRPEYRADRAKT
\(T S G S P L V R A L R G D R P E T L P V W F M R Q A G R P E Y R D L R G T A\)
 TADSRLVRAARGLPVDRTPVWFMRQAGRPEYRALRAMT NKPFIAVLS GQRQAVPPIWMMRQAGRYEYREVVAGG

 M N K K Q K I L Q V L K G N II T P P P I WL


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

KHERVMRVMAGETLERPPIWMMRQAGRYKATRKQAGG MNRKDAVLDALNGBGED \(\quad\) RPPAAVVFTQTATVVQMERCGSR

 SNERYSNAGS GVAQK DP P V V WMMRQA GRYHK H Y Q T K Y T

Y LAAVNGRKPHRVPVWFMRQAGRPEYRALRAHD E LTA A \(\square E R N K L L N E G K D V D R I M C C D D S G E T \quad L A P L D G C T\) S P K E R L I R T LLEKKETEERPPVIVCMMNSAA VEVVMNVTMGTT \(F\) L R AL A GEAVWPPPLWLMRQAGRYEYREVRAGD



NDLLLRSAANENPDHPPDWVMRQAGRPE Y \(M T P K E R V G A F L G G K P\) LDRIVTMPIVTSNT AQLIGGS
 \(D L L V R A A R G E D V E R T P V V W Q M R Q A G G R Y M A D R E K K \square P\) LL K V L G GERLERPPVWMMRQAGRHEYLELRAKN FMQAVSGRRPATTPVWFMRQAGRPEYREERAAS MRQAGRYNATRARAGS \(M T A\) PLLDAYAGRPVSRRPVWFMRQAGRPEYRALRGTS
 \(L L R A L S\) GEALWPPPFWLM

 MRQA GRPEYRKDKEHS
 L L NVLN GE RQDPVP I WMMRQA GRHEYMEL R GKN


MQASGTQ MRQAGRYRATRTRAGD MTPNKPFLDVLAGTRRTVPPLWMMRQAGRYEYREVRAGG IP FW \(\square\) M RQA GRYEYRELKKYN KHLLI RAARGERVERAPVWAMRQAGRWEFRKVRGMS RFL K A L S GE T Q T VVP P V W L M R Q A GR Y E Y R A L R A G G LL DTALGLLKQNRP PVWIMRQA GRYEYRAVRAGS
 TRRE LYY A AAS GRSPHRDPVWFMRQAGRPEYRELRAHR PNDSMLRAAKGEKVDRTPVWLFRQAGRHEYKKVKNKN MTS S E R MKA Y A M GEVVDDH DP FS TGGPDS F VHLYGYT \(M P G S K P L L A V L N G A M P P R P P V W L M R Q A G R Y E Y R A L R K G G\)

Unelo

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UniRef90-E0MN28 UniRef90-E0MN28
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UniRef90_M2U7R1 UniRef90-A0QW23 UniRef90_C1MKIO UniRef90_R6BMM7
UniRef90_UPI00047608C0
 ETAKCLE ILK K EVVGGKVPICAY LTTASMSLPA LMMSMEKWM Y V S Q S I E KVA K HFA S P RP I I GF CGAP F T L A S YMIDE G G S S K Y V Y D A I N L T K N K I N N A VP I L GFA G S P FT L F T Y L K T Y E D S \(\square\) \(P V R E T L R R L S R E L P A A T T L L G F A G S P F T V A C Y M V E G A A T R\)



 AI AR A GQNMAEKNPDVPVI GS LTTGPVSTAASVVDPMTF L AVGDADS LLLDPELG ETPLI GFAGAP FTLASY LI E G GPS R










 \(P V A T A V A Q L V G E L G D V P L I G F A G A P F T L A S Y L V E G E H T K\) PITEAVARTVEQLG DTPLI GFAGAPFTLAAYLVEGGPSK

 DI TE S V T RLVAA LGGTPLI GFAGAPFTDASYUI EGGEQTK
 \begin{tabular}{ll|l|lllllllllllllllllllll}
\(K\) & \(V\) & \(G\) & \(A\) & \(V\) & \(G\) & \(L\) & \(L\) & \(D\) & \(E\) & \(L\) & \(G\) & \(S\) & \(T\) & \(P\) & \(L\) & \(I\) & \(G\) & \(F\) & \(A\) & \(G\) & \(A\) & \(P\) & \(F\) \\
\hline
\end{tabular} DRLEAVRRLLKSRTGNEVVVIGWVEGAVAESCDLMDVSNCL

 \(K V V N G S D T I G T A V A Q S V T L I A G T G S P F T V A C Y M V E G G G S K\)
 VVSESVHSLAEKHGDDLVVVAGITGPLT TLTHVLGAENLL

 F Q K K A V Q L T R E R R S R D K S V I G F V G G G P WTAMFTYA V F G E G N L



 \(P V L E T V S R V K A E L A P E K T L I G F C G S P W T V A T Y M I G G R G T R\)









 \(P V R N G V A L S V D E L G E V P L I G F A G A P F T L A S Y L V E G R P T R\) P V Y A T C E RVA A ALLPPETTVFLGBA GSPWTVA TYMVA G Q G S K



 \(P \vee Y\) E T V V S R V K A R L P K E T T LI G FA GA P WT V A L Y A I E GR GA R Y I Y A V I

 \(P V F E A L R R V R A A L A P E D A L I G F C G A P W T V A T Y M V A G H G T P\) FVYDSINLTKKKINNSVPLLGFCGSPFTLFTYLTPYENSLD
 \(P V Y E T V A R V R A E L D P S K A L I A G C G A P Y T V A T Y M V G G R G A R\)
 PVYEALRRVRRELAPETALIGFCGAPWTVATYMVAGQGTP
 P V A E A V R L L \(\quad\) L T A E L L G D V P L I I G F A G A P F T L A S Y L V E G G P S R


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UniRef90- K6VDZ UniRef90-A0A023D613 UniRef90-F8JDV3 UniRef90-UPI000255F097 UniRef90_U1Y1R9 UniRef90-A3UIC4 UniRef90-D1C0P6 UniRef90_UPIO00474EEDO UniRef90-I0GUN5 UniRef90_UPIO001FFF030 UniRef90-U5FZJ6 UniRef90_UPIO004749E59 UniRef90_K4MAJ2 UniRef90_Q6AHF5
UniRef90-F0YVQ2 UniRef90-D2Z704 UniRef90-Q2ISV3 UniRef90_S6B5B4 UniRef90_UPI00036FC3F1 UniRef90 \({ }^{-}\)W7CUY6 UniRef90_UPI00047D469F UniRef90-FOYU91 UniRef90-F816C3 UniRef90_B8GHN4 UniRef90-Q5B9P UniRef90_UPIO0034AFE11 UniRef90-G7IH45 UniRef90-F5Y827 UniRef90-UPI00037B2B84 UniRef90-HOTTJO UniRef90-A4FAS3 UniRef90-FOZ1Q9 UniRef90-E4UCE6
UniRef90- X6KZ06 UniRef90_14BBV6 UniRef90_G6F1T6 UniRef90-W2BPD5
UniRef9- \({ }^{-1}\) NMN28 UniRef90-M9SHR7 UniRef90-C7N1G5 UniRef90-KOB017 UniRef90-UPI00037F910B UniRef90-K6J4Q5 UniRef90_UPI00036DCAE7 UniRef90_UPI00035041D5 UniRef90_A0QIL2 UniRef90-R6SEN1 UniRef90_F5YJD6 UniRef90_A0A024KD57 UniRef90_UPIO00379E92F UniRef90_F5YVK3
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UniRef90_UPI00047608C0
 ELLMDGDPAVDMLLEKCSDFFRKEIEAYRRAGADVLVYAD \(K M M Y T G S A A W P L L M E K L V T V L T A F A A Q Q V E A G A D V I Q V F D\) RMVYERSEDVHLILSKLSEVCVSHLINQIDSGANVVQLFD

 DRDWSQPDAFDTLMDRLGEMTVTYLQAQIHAGAQAVQVFD
 LNAFNNHKFVNKSIKTLTKHTIEHLSQQILAGADII QI FD KELRKDKANAHRVLDYVTDFLIGYAEVLIESGFPVITIAD NHMRSEPEVWHALMAKLARLTGAFLQRQVAAGVDAVQLFD SMCHTAPQVLRALESHLTM ADSDY:VFQVESGAHCIQI F D RWCIT TDPDALLQLMDLGEKVCAEYANALYDHGADAVIVID
 KDMRKSPEKVQILMDFVVEQLVRFGKAQVEAGADVLTISD
 MDTFAAPEAVEKMTEVATASLKTYGERAAALGLDDVFVDD AFMYTHEAEWHMLMQKLAVMTADYLIAQDKAGASAVQIFD DHMHADPEAWQALAAWAADASGMFLRAQLEAGASAGQLFD VGMLTDPETLHELLERCLAYTVNYVKYLAETGVDADSFGH Y LAADDDPEQFGRVLDFATDVVIRFGTAQIEAGVHLPVVFD

 SMCHTAP H LLRTLKLSHLSKAIAADYVVAQVLAGASAAQLFD ALMHGDPELWNDLCARLAQUSGTFLKVQVDAGASAVQLFD DQAYRHPEAFGKI 1 DALVGTS 1 AYLLKQLDAGADALQQI D NHMHSEPATWHALLEKLADTTLTFLRTQLAAGVDADQLFD
 ■FAYQNNHAFNWLLDFLSDUSAEYLIAQURSGVDVIQI FD
 KMMYENPSLFGKDIDLLVQTTADYLCRQUEAGAEAVKLFD KMMSEDPETWHRLLDWVARCTVTFLREQAKAGASALQLLED QFS LN HPEAFAKMMDVLVEASAAYLVAQLKAGADAVQIFD \(K G L R K H P D Q V K E L M E V I V E N N N R Y I E R L L D D G V G D G F A D\) KDLYSRPDMVNKWLDIVMETFNGYIDEASKLNVGFLFABE SLPKILTDVRNGFLEKTIRFLKENIALQQLEGGAELIMIFD
 H H ML A D PESWHTLMEKLTDIVVGFLRVQLDAGVDAVQVFD \(K G M V K Q P D K V L Q M M D \| I T E N N N R Y I Q R L L D M G V G I G F A D\) \(K Q L R K N P A D A H R L V A Y V C A H L I E Y A G L M V E N G V S I C T D A D\) RMAFGDPLLFGRLDRTLTEATAEYLLAQVRAGAEALMLIDD
 RLFFKNPEAVHK C CELSLLQTC E YAKVVMSLGLSSITISE

 EMAFAEPALFDRIVALLTETTADYLCAQIEAGAEAVMLFD EMCYDKNRNLEKII DKITTEATDSYLDKQUESGDNVLQIIFD HAMHDEPALAHAALDAMADAVAAYAI HQIDEGAQMVQVFE

 TMMFSRPDLMQHILDDINAQSVAAYLIGQVKAGAQALMIFD A LMMRDPQVWNRLLAWVAGITTSFLRAQAEAGASALQLFD D HAYADPTAFGAI I DAI VAMT DDYLARQDESGVEAVQLFD A LMRSEPEVWHDLAGQLADDAVTFGRGQUEAGADAVQLFD RAMRKDKENLHKLLDFAADATI EVGRKFVE

 DWAHQHPAELDLLLDDLVEATAHYMAAQAAAGADALMMFD
 MWFIS HPDTI KELI TFSTD DCDEYSNALLERGADVVCDPD RWLYRYPAELSRLLS LLARHDGDYLVRQLDAGVDVI ML FD DQAYRHPQTFAKI I DTLVENSVRYLI GQLDAGADALQI FD KLI YENSEDTHQI LNTLCNICCISHVLNQI DSGANLIQI FD AFVADAPAVWNGLLERLTGATVGFLRTLI GDGADAYQLFD
 \(D Q A Y S A P E A F A K I\) I DALVETS DPYLVGQLRAGAEVL QI F D






\begin{tabular}{|c|c|}
\hline UniRef90_Q1NDA1 & \multirow[t]{4}{*}{P T-A HIVEA LLLSYIVIRQ PEENKAMIAAAKEY PVENVIQQVARWVHELSSA RVENVRAFIDAVGAY} \\
\hline UniRef90-D9SGK1 & \\
\hline UniRet90-E8X22 & \\
\hline UniRef90-K6VDZ9 & \\
\hline UniRet90-A0A0235 & \\
\hline ef90 \({ }^{- \text {F8JJ }}\) & PPDNVAR \\
\hline UniRef90-UPIO &  \\
\hline \multirow[t]{2}{*}{UniRef90-A3UIC4} & KVETLQRLTAFIHDYSA \\
\hline & \\
\hline UniRet90-D1COP6 &  \\
\hline UniRef90-IOGUN5 & PVENIAAMTGT \\
\hline UniRef9 & \\
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\hline & DPA P PGLIVEEVHRVS \\
\hline UniRef90 & \\
\hline & NMY RV \\
\hline \multirow[t]{2}{*}{\[
\begin{aligned}
& \text { UniRef90-FOYVQ2 } \\
& \text { UniRef90 }
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\]} & \\
\hline & \\
\hline UniRef90-Q2ISV3 & \\
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\hline UniRef90-W7CL & ELTAFVHAKSA \\
\hline UniRef90-UPIO & \\
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\hline UniRef90_B8G & \\
\hline UniRef90-Q5B9P7 & A \\
\hline UniRef90-14B156
UniRef90- \({ }^{\text {aliod }}\) & DPE1 T DMVALVHE \\
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\hline UniRet90-FOZ109 & \\
\hline \multirow[t]{2}{*}{UniRef90-E4UCE6
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\hline & CVEAMVE \\
\hline UniRef90_G6F1T6 & H \\
\hline \multirow[t]{2}{*}{UniRef90-W2BPD5} & HV \\
\hline & \\
\hline UniRef90-M9SHR7 & \\
\hline UniRef90-C7N1G5 & \\
\hline UniRef90-K0B017 & \\
\hline \multirow[t]{2}{*}{} & \\
\hline & DPSV \\
\hline UPI & N \\
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\hline UniRef90-F5YJD6 & \\
\hline UniRet90_AOA & \\
\hline UniRef90_upioot & PPENVAALVRMVR \\
\hline UniRet90-F5YVK3 & V \\
\hline UniReef90-G6A113 & \\
\hline \multirow[t]{2}{*}{UniReforo-UPI00047548B2} & \\
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\hline UniRef90-U5H058 & \\
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\hline & PIVVNVERVLKLLRE \\
\hline UniRef90-A0AO59FDJ6
UniRef90-K0Y \({ }^{\text {a }}\) ( & \\
\hline UniRef90-B2HM23 & DP GVLT \\
\hline  & PPESVT \\
\hline UniRe & \\
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\hline UniRef90-D5RK12 & \\
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\hline & K A \\
\hline  & \\
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\hline UiRe90-O12YN8 & \\
\hline \multirow[t]{2}{*}{UiRef90-T1BKT9} & \\
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TGSSSRUVRTMLLGERVVEKTPVVWMRQAGRPEYRAALRSGT E MT S K E RVVFAML NRKPVVRVPVDTGSVVMV KEYDEKS GS S ELTPKERALLYKSGKEVDRLPCSFSLSETRYAPVMYGLN TRRELLLAAVSGRKPCRVPVWFMRQAGRPEYRALRRYS KMTSRERAIVAVTMESPDQVPVNPL FLSRGIREGGVR EMTPRERSVAYGGMRQERPALWLMRQAGRYRALRATGG MNQDKASLKVLRGECVSPPPTWLMRQAGRYEYRKVRAPD

 LLDTLKGVRQDVAPVWLMRQAGRYEYRELRKGG TADSPMLQAARTGRASEHRPVWFMRQAGRPEYRKARGDP LLDCLRGERAESPPVWFMRQAGRYEYRAGRKGG KMTPDERSYA \(\square S N G D E Y D R L P M D P F L G E D K A R Y D\) GKN F TDACFRKATPYTPMWMMRQAGRYEYQEVRAKN KNDTFLRAAWGEDTDYTPVWCMRQAGRYEFKETRAAD MLAVLRGERRDPPPVWhMRQAGRYEYRALRKGG MTSMQRVLTALGQREPDRVPLFLF PMVMQGARELGLS MTSLERVLTTLGHREPDRVPLFLLLTMHGAR MNQKELGLS KHHS FПDACLGKQTPYTPПWMMRQAGRYEYQEПRKKN EMTPVERRRADQQGKE\|DRIPVDLLI VDNKAQLVNCN PKDRVKAAFRRTFADRVPSYPILGAYTV N NLGAD SLLRTARGEPVERTPVWMMRQAGRYRDGRDRYPT TYDSAFLKACRREPVPHTPVWFMRQAGRPEYRKVRGDP SKAK!AR\|ISQNESDKVPIWLMRQAGRSLPEYRKAVN MNREERVRAALASKDVDRVPVATWMH

EGKQGRKI PI WLMRQAGRPEYRRAVKSS MKGLELIKKAMKLEEVERIPWVPFVGA HAGSLLGLT MTPKELLFAALRHEKTPRAPWVPF GAGVHAGLLIGAD MTPKERLYARLAGKPVDKDPVNDNDAGVLVALEEAGVT MRQAGRPEYRAARGTT MMRQAGRYQELAKRHPS

 KNDLILKAAKGESTERVPIWlMRQAGRY MTGKELFLGALNFEETPRLPVAVL DGYTWIVKRDQ!S MNHRERTLTALNEEPDRIPVSSIADSTYRRLRDHDGLP MNREERVVAATEGREPDRIIPASVWMH

DMTPKERVMAATYDHDDDFFPATCPTSVANFECMRDTNSF LLKLLAGQKLTTPPDWLMRQAGRYEYRKLRKAG MRQAGRPEYRAIRGTT
MNGNADDKPPVWFMRQAGRFEYRAVRAKT FLAAATGRTPSHTPVWFMRQAGRPEYRALRAHK LLVRAARGEPVPRPPVWLMRQAGRYMADFRAHHP \(N D L M I R A A R G E R V E R T P V W L F R Q A G R H E H K R A R S K N\)
\(K E R L L V L N K Q P D R P V I C M M N A A I V D M K S S G Q T\)

LLAA LARRPGHHVPVWFMRQAGRPEYRAVRGVS GEKTERFPVWLMRQAGRYRELRAKEKD MTSRERFLTALSGGVPDRDPI MEHLDFSKLMQLLGYT PKERMELFSKGRD■DRUPCSPRVGYUTVSSVNKT RFRSA \(\square\) RGEPVDRPPVWПMRQAGRYEYREDRSHS LLSVFNNECPKSPPIWLMRQAGRYEYKKVRKGS MNAMERVVKALNHEEADRVPVYPIISGAS R R RLTGVN NDTFLRACLRQATPHTPVWLMRQAGRYRATRAQAGS MTSHTPIVSVLQGQTDKTPPVWFMRQAGRHEYREDRAPD SNDRFQAALKDEPQATPPVWMMRQAGRYHWHYQKKHS MNDLILRTLQGKKTERPAVWFMRQAGRPDYLKRRDHS NMNQWVEGDLADKK RDAIPDMTHPGDE SNTTFTDTLKG\|KRERPPVWFMRQAGRVLPSYLKQYS TGDSPLVRASRGQRSETLPVWFMRQAGRPEYRALRGVA MNGKEKIIYNVFKNGSQKEVPWVPF AGVHAGKLKGYT MTPSERMMAVMSGQKPDRVPVVPFVLGYSSK MTSKERUQKYMSGERVDH|PFATMSTNRIVANHLNYTIS MNGKELTFQVFESGKGDRLPVWFMRQAGRYEYRELGKKYS MNHRERLQAI TQNQPTDRVPVAFWRH
MQKVERVKAALLGLDPVDRPPVSLLWGEKAR KH
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UniRef9-C2KTD3

\(\square L T V L E D P E L A A T D T L Q P V E R Y H V D A A D L Y S D D M A P L A A A\) FLS FCKNVELAVKVSLLPLELLDVDAVII FSDI LVPLLEPM

 F LDLCYSPELACEVTLQPDRKYAFDASILFFADILLIDPDAL


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G Lalvir Te EN
100
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120 GCEL LWAKDSPPTVITHPLADTKEIPTKIPSPA EGRDP G \(\square V E\) EAGRGPVFAQPDRTAAD GLEVKMGR DD \(\square \mathrm{QPSVRSFFNKPEEVKYD}\) NFLEDKY V Q GQNLWFEAGEGPRLAPRLV DHALGGLAAVPERLD GSKLKYPK DSVSFIVEPMLKDYSMDDSLDI IDDPYKDGRMP G I DLD VPDVGP VVGGPVRTATDDHAMK DPGEPQADQ GVGVTIKPGVGPVLDAPVRARADVDALPPPSPEGLEPVAS GQRLWF ETGGEGPRLAPP LVVDSALA SALEAAPGFNPEKGRMR GASMKYPKNNMYLI EEPLI S DYKMLENMQVINPYTDGKMP GQKVWFVKGEGPKLEAVDPTR LDHLSTTGAMDHLA
 \(G L K V E F Q K G V G P L V \quad Q Q D S S A A D L G K V P A R \quad L A A B R L A\) GQGLTFAAGEGPHLAPTLL







 \(G L P L E F V P G F G P\) K F L R G I E S L L E D D Q V L H T A Y Q









 \(G L T V M V P G T\)





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 G P

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Y|VDENIVRTKEKLIAGRVPLIGGAAGPFTLLSYLLEGRPSR MELDVMRRMKAEFGETTALYGLITGPFTLALHLLRGTNIF A AARAVELTMGMLAEELPLDGFAGAPFTLAAYLVEGGPSK PVYETVRLVRAQLPAATAFLGFAGSPWTVATYMVAGQGSR AI IEALKVLTDEFSNERFIGSSLAGPISNVVAIRGAENIL P F FAl SLLVAAGGDVPLIGFAGAPFTLASYLVEGGPSK A 1 QQEI RTVIDKAGLKDTHVLATPVCP \(\square T T A Q M V T G T D E F F\) AVYATVARVAAALPPQTTFLGFAGSPWTVATYMVAGQGSK IDMLKMMEQLQKQFGDYDILKSGVCGPMTCALSLREAGMFIL
 YVAKTVRLLTTGMLDDVPLIGFCGAPFTVASYGIEGGPTK PVYETVRLTRSMIGREVTMLGFAGSPWTVATYMI AGEGSK FVGESLTLLRQETQGQAAVLGFAGGSPWTLATYMVEGKGSK PI YQTVRLCRKQLAPDVTMLGFAGSPWTVATYMIAGEGSR YVYOSUNLTKKKINNDVPVLGFCGSPFTLFMYLKTYEDSF \(T Y Y N A T S R L R E G D G D C P V G A S L S G P G T L A G F C Y G T D R L L\)
\(Y V Y E I T S S V R A Q L D S K A L I G F S G A P W T L A T M M E G Q G S K\) YVFQAI TLTRQRLAGRVPLIGFAGAPWTLMTYMIEGGSSK PVYETVRQVRAALDPQTTMLGFAGSPWTVSTYMVAGEGSR RVLTATRLMAEQARGEVPII GVVMSPFSLPVMQLGFERYL KVLETSSGLKAAVGDEAPMLGVVMSPFSLPVMQMGFEAYLV YVFDAVTMTRKGLAGRVPLIGFCGAPWTLMAYMCEGGGSK
FVYTSSSVRAKLESKALIGGSGAPWTLATYMIESGGSK LYYEVAEDLAEVIVNEVNMHIYMGGPLTVASYLRGVENVM SVLTRLREAVGTAAAVLGFVGADWTLAAYABEGKSSKTYK YVTEAYGLLTRELGA TPLIGFAGAPFTLASYLVEGGPSR YVLNAVKEVVRQLPEEKSLIGFAGGPWTVGSYVIEGGSSK KQIEFARELIRRRTPGTPCIQTDFSPFSTLKKMAGGDRLL MVMEATRKLREQHADVALYGLITGPFTLALHL LGGDDF UVLNAMRRMKREVGDTTALYGLICGPFTLAFHL RGNNL YITEAVGLLTAELGP TPLI GFAGAPFTLASYLIEGGPSK FVRETLQALKKEVDGQAALLGFVGAPYTLATYCIVGGSSK MVVDVMKRVKAAVGDDTALYGLI CGPVTLASHDR G G E EF IVLESQR ALKELHCQVPIVQTVFSPLTTAGKMAGEETGK YVLETDRLLKANLSVLDGFAGAPFTLASYLVEGRPSKTK
 K SWPNRVKRLREETDYALFGMAPSGHDLFNQLRGMENGL YIYRNIDRI IYQKPQNIDPLIGFCGAPLTTLCYMIQGTGMV IQKEARTMI AQGVKDTHAMPTPVGGP TTAQLMTGSSEFL FVADAVRAVRERCH VPLIGFAGAPLTRATYLDGHAGFR QLLKAIRLLKKQSGGEVGIGGKVVGPWSLAYNLYGAENLL YVTESVQELTSQQLGADPLIGFAGAPFTVASYLEGGAKTK PVCEAIRKVKRELPAKVTMLGFAGAPWTLLAYGIEGKGSK PVSNAISLLVAALGDVPL GFAGAPFTLASYLVEGEKTK FVAELLKRLRDELASEAALVGFVGAPFTAAKNIVATKRGM HVLASVREINAQIEKEGLGVPLIGFSAAPWTSRKNTDSGM VVCQAVS L A AKYPGIPVIGSLTGPVSTAASVVDPDQFL YVLDTVKLLTTEQLVNVPLIGFAGAPFTVASYMIEGGPSK F TNETIREVKRTQD RVPVIGFCGAPWTLFAYAVEGKGAK YRLKIFKDVKAANTEDLAVVLGTLGPFTMLWYDMDFETLA LRLKSLEVVNNALSREVNISVGIPTPFTTASGLLGTDKFL YVGELIERLSATLGDEAAVLGFAGGPFTLAAYACEGSTSR PVYETVSLLKQRLPEETTLI GFAGSPWTVATYMIAGRGTP MHIDTCRKLVEASNGEFPVVAFVFGPLGTLSMLRSQQEMY YVFDAVTSI RKALNGRVPLIGFSGSPWTLACYMVEGAGSK AVGETLKTLRSELPREVTLLGFCGGPWTVMTYMLNGRKAH FQKDAVIKTRKRIAKDKSLIGFIGGPWTLFCYATQGKGNLD EYLKANRLTAEAI R DKPVFGGMIGGFSLLAGRLYDMSEFM QVGQTLSLVRSQLEPERALTGFAGAPWTVATYMLDGHHAR HIYKALDVIRERKPADVGLI GFCGAPFTTFCYMVEGSKAD EVFAPIREAVERTVAETPLIGFAGAPFTLAAYLVEGAPSK LVLNVMKKMKEEVGEKTALYGLLCCPFTLAASHLVRGTNLF AYKEADKLAARCHAMGMPISVQTGSTFTAASVVADTSEFL FFREAMERMKEAADGD
PKLERARDGKERPN YADERAKKYGNE KYAIETEIP
 MAMEVTRKMKEAVGDHTALYGLICGPFTLASHLGGTNLF WHLRAVEQVIADKDKDTPFVITIFNPLAMASYLAGDELLL RQVLTTRCAVSLAQKDVPVVPTVYSPLTVARKL AGERVA MYYNATARLREADGFCGVGVSVSGPDTLAGFVLGTDKLA GYKQAD VASRCAEHGMPITVQUGSTFTAASVVAETSEFF DPDREAVALSVRELGTTPLIGFAGAPFTVASYMVEGGPSR

\section*{UniRef90 C7DH18} UniRef90-C0OHC8 UniRef90-U2X103 UniRef90_Q8TII4 UniRef90-M4S176 UniRef90-T3DD10
UniRef90
B8ZQX2 UniRef90-E5XSM4 UniRef90-I4CEN3 UniRef90-N9WFC5 UniRef90-E9RVY8 UniRef90 UPI00035D3B5F UniRef90-F61FA3 UniRef90-W3Y316 UniRef90-A0A059FM56 UniRef90-UPI0002D72963 UniRef90-IOZ9U4 UniRef90-E3H4V4 UniRef90-UPI0001DD087E UniRef90-C6KSS1 UniRef90-D3MUN2 UniRef90-E7AB94 UniRef90-UPIO003AE752E UniRef90-UP100033B31B2A UniRef90-D3RNT3 UniRef90-F9UCP3 UniRet90-U6B6Z3 UniRef90-J6F7Q7 UniRef90-E7FYN9 UniRef90-K1M0E5 UniRef90-UP100046D5DE8 UniRef90-UP100046EC1AA UniRef90-UPIO003754A3A UniRef90-M9WXA5 UniRef9O-UP1000381E591 UniRef90-R7CM09 UniRef90-O5GTT1 1 UniRef90- W7YJP9
UniRef90 A6P2Q0 UniRef90-A6P2Q0
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UniRef90-E4RMD4 UniRef90 - E4RMD4
UniRef90 D8KOM4 UniRef90 UPIOOO36446E5 UniRet90-H1LW15 UniRef90-D5EA11 UniRef90-Z9JNJ6 UniRef90_C2KTD3 UniRef90_UPI0003762783

TFDRCRPDLWSRFMDMAASMTI RYLLRSQVIRTG|VJDAlVQUIED MDMMTDAGYMHRLLNYCAEVAVTUAGYTLDTGMDVVALVD DHLHEDPAAWRALTEWLARVTGEFLALQVESGASAAQLFD MLS \(\square K C M Q K M K D W I S H A L E N K D Y A E A C V E A G A D \square L Y Y S D\) EQAYRDPAAFQAII DAIVAATVDYLSGQIAAGVDAVQLFD KDTVKNKENLHKLLKYTVKCMLRYTEVIYKECGSSVSLAE AMMLAEPASWHTLMDKLTDCTLGFLLGQUDAGVDALQVFD TFLAEDPEFAKEV ELCLDNAKS GAAMMVEAGVDVVNVPD DMALSDPAAFGAII DAIVDLSVTYLSGQIEQGVEAVQLFD DKWAVRQAEMKDLI QFSTADCLKAWMKVVYDEFGCVCSIAD DMAYRDPAAFQAIIEGIVDVTVEYLSGQDTAGAEADQLAD NMLIGAPGVWDALMTKLADMSIAYLSMQADAGADAlLQQFD RWAHGRPEELQSVMDHV1EATAHYLARQVEAGADVLMLFD DHAYRDPARMQALIDALVEVSVTYLRGQ|DAGAEAVQLFD DHMHADPVAWRELAQWAARTAGQFLRAQLEAGASAVQLFD KFLYEDPNDAEQU GALIDQTVGYLRGQUDAGAEAVQLFD KAMDKYPDKVDRLLEYIVECVKLVIDEFSK GGDSFSMAD TYLYSQPETLHALLEKLSSELIAYLSAQVEAGADALMDFD
 DMAYAEPARFQALIDRLDEVTADYLSGQIAAGAEAVQLFD NLMFEQPDLFEHLMR NEAFCLEWANAQLAAGATAVCYFD FFAYQNPVAFSWLLDVISDVSAEYLISQUKAGADVIQVFD TYLYTDPKLLHTLLDMLATVEADGYLSMQIVKAGASMLGMLFD KDMRKHPENLHKLLKTVTESMKKVINAFSEDDGIVFALAD FDAMKRPEYVRDLLELTTQVAVDAAVAAQEAGVGVSYSE AMAFREPALLHQLLAHLLADGIAAYVRYQDDSGAQVVQTFD NHMYGDPQLWADLLDRLADUTAAFLKVQQEAGASAVQLFD KVLNFCPLALEEIIKKITEATIIYLIKQUEFGADVIQLFD
 KVLNLHPSSLEQTIEQITEVTISYLVKQIEFGADVIQLFD MQMMMDPEATHQLMRFATDVAKMMAGNYIEAGADVI ALVD
 DHMRSRPDLWHA TAAKLAA DCGEFLRVQVEAGASADQLFD KMAFTEPQLLHTLLTKFADNIAAYCIFQIDAGAQVVQMFD KDCYK KPEAVDAAEEDITEVLVDYDKAYAKTGVHAIVLDT MDIVMYPEYVKELVGFCVEVCNAMSSYYDDAGMDVIALVD QLMWSRPDLWFQLMDKLADSTПPYLRAQVAAGAAALQTFD QWLYKYSEDSHKLLQLITNVIIDYLVMQVKAGAQLLQVFE MDLLLNREFAEAFLDRYMKTVMRFQELFLDDGADVTADGD QDMLECPELVHGALAADTETTINFVKANIEAGVSGFFFAK KYIVTNKRARKLIEAIAEMSAHYAQKQUQHGVDVFQLFD VWL HAQPEAARLLLDRLTDVVTMDYLRMMAEAGGVQAVNLLD LDTILEPKRTFNFINELSSIPIEFAKAQFEAGADMITWAD DMAYRDPQAFSETIEATDDLTVLYLDGQTKAGVDAVQLFD ALMMGDPKLWHALADRLADVAIAYLSVQIEAGASAIVQLED SWIHQEPVLARKWMDKLADAAARLLNLHIEAGAQGVQLFD AMMLGEPQTWHALMASLTDLTDEFLEAQLDAGVDAVQLIFD YSSTEEEQVLSTVLDKLGSVVADYAVFQVRQGAQVIQFFD KDLRKDPANAHRVFDYVTKLLIGFAAKLIEHGAAVIEIGD NYMYTEPKAWFALMDKLADMTITYVKAQI DAGAKAI QIFD DYMLADAGLFAALLERLTDVAAASIAVQVEAGASAVQLFD LFMWERREEYLEFLGLLSENLVEYLKGQVKAGADLVQVFD
 DQKANDPEAFEQLLDAL VEALI EYCASQVDAGADAIQLED MDFYDDPEAVHEAAGEINETLKDYCRALMDTGVNGIMFDT TMLYQRPDLMHKMLAVNADAVAAYCNAQDEAGAQAVMDFD DFVYEKPQLVAQVMDVVIEASAQYMQADCGAQVLKI FESW NYPK SNPAETEGRLYEALTEMLKENYARLLEGGAEVVMIFD MACYCEPDTANLLLKKCTDFLINYCLELKKQGVQGVVI AE SYAYAEPEKVDEVLAVLVEATARYLKMQADAGADALKIFE KLFYNNPD SAKLLEITVDLSHYAVEQTKHGDDVFQLFED MDMVGAPDYVKKLAGATADEVARAKASYYIVAGASVVGLED SWLIMEPKAAHSLLDKVCDMF DNA DDYFAEAENMLPFDGG RDLRKEPEQVQRLLRLVTDTMKNCVDMVAPFADGRRAD RDLRKNPQGVKELLDFCFEANMKWAKAFKEFGPTSVMVVD IDLVANKDLSHKIMDMSVEYHLQLGYRLIERGVDMLWI AD VFMFSNPEEFKTLMEKTTRLTLDYLNFQLNSGCDAVQLED MDMDTNPGYVKDLLGYTNKUAKKMASYYUKNGVDVVAAVD A HLREYPDKVNAALAALTETTELFMSACFDRGIDGVFFST KDMREYSPDKVHQALEAYITENVKKYVVDKFSAGDVGFSMAD SWILTDPDKVHQLLEKVSDMFDNALDYFADKYGPQPFDGG DHMRSQPEVWDREAAWVAELSGRFLRAQILAGASAVQLDE

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UniRef90 A6P2Q0 UniRef90-F5YBE4 UniRef90_UPI00047C771A UniRef90-R7QF40 UniRef90_UPI0003B35E3D UniRef90_UPIO0040D31D3 UniRef90_UPIO0047C1686 UniRef90_UPI00021A6B7D UniRef90_UPI00016C0B2A UniRef90_UPI000360D9F1 UniRef90-G5HNR2 UniRef90_UPI000237D1D5 UniRef90-F8J7J8
UniRef90-M2ZYY2
UniRef90-C8WDD6
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UniRef90_J2LDV8 UniRef90-EERRNT4 UniRef90-IOXQJ0 UniRef90-D8DTU7
UniRef90 R7DLC4 UniRef90-R7DLC4 UniRef90-E4T7L8 UniRef90_UPIO00364CAF5 UniRef90-B8CYB3 UniRef90 LoL2E6 UniRef90_UPIO00464DD85 UniRef90-C7HV47 UniRef90_UPIO003B75C27 UniRef90_UPI0003B5FF2F
UniRef90_E4RMD4 UniRef90-D8KOM4 UniRef90-UPIOOO36446E5 UniRef90-H1LW15 UniRef90-D5EAl1 UniRef90_Z9JNJ6 UniRef90_C2KTD3
\(S W\) STA S GSUMSKEMWDELGEGDLVEELAEAVVEKNMDHNDGQK \(\stackrel{L}{\mathrm{~L}} \mathrm{~F} \mathrm{~W}\)
AEGFPDPLFDQLVIEPHQRLVQRVRELGVTLPIIGFPRGA TAAGDAS PGFFQEA LLPTIKVLVEAFPGKIGYYAKNLA TNAGVLPQNEYDAHFMPAIRRIGQAVKEMGVPVIYFAKGL
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 PVGCDDVLSPKQVKEFSLPYLKKQLSAYYELNGUHICGHT SWAGM
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UniRef90_C7DH18 UniRef90-COOHC8 UniRef90-U2X103 UniRef90-Q8TII4 UniRe990-M45176 UniRef90-T3DD10
UniRef90
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UniRef90-M2ZYY2
UniRef90-B8FRW8
UniRef90_C8WDD6
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UniRef90 J2LDV8 UniRef90-E8RNT4 UniRef90-10XQJO UniRef90_D8DTU7 UniRef90-R7DLC4 UniRef90_D9QJS5 UniRef90-E4T7L8 UniRef90-UPIOOO364CAF5 UniRef90-B8CYB3 UniRef90-LOL2E6 UniRef90-UPIO00464DD85 UniRef90-C7HV47 UniRef90-UPIO003B75C27 UniRet90-UPI0003B5FF2F UniRef90-E4RMD4 UniRef90_D8k0M4 UniRef90O UPIOOOO3646E5
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250
260
270
280
SGl| MRDDRELLDCEVI|S| GPDVELKLARSALLGNGKSJLQGN|L TQKLDAMCRTGCDSISVDENVDLAKAKRDCDIHDVVLGGN GERRDMASDGIDALGVDYRVPLDEAARGRVGGDLTLQGN GKLPAYARETGVDALGLDETVDPHWAHRSLPEGGPVQGNLD

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 FHDDIKNLLKDDVLSITHKQLIDNTDQFYFKLIFQNNIILQG GVGAYLAHLSGDFEVLGCDWGTPLKMAQETLGDRYVLQGN HFALEELAQAGYEVVGLDWTVAPEKARRRSDGWCRRCWT GKLARYAEATGVDAGGLDETVDPVWANDVLPKGLPVQGND GKLARYAEATGVDAIGLDETVDPVWANDVLPKGLPVQGNLG

\section*{}

\section*{} HS P Q S K P E E S S L G Y S D V A 1 PKGIS GYLEHDF DVFGCDWS T P L ELLAKRILGHRYVLQGNL E K IW D Q I I K L K L S T F S ID N E C N L R E A V L Y F G D K I GIIT GN
 GELLRDMGEAGADVVGVDW



 T P L L K L L T Q V A P D I I G H L L E A M A E T GA E V I G V D F R R I P L GMLLEERMAATGVVDIVSVDWTVDMAEARKRLGPKVMVQG EAMEPVADSFAYESDDCETMADLKEKWGKKTTMCGYVSPA
 GSNDY F E E D Y P \(\square Q Q L\) N WH DR D D GP S M E E ARAK T D R C F C G G
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 T F T Q P I WR DI A N N G C F N F N M Y P G M D H A K R A I G G Q I S L M G T H H L L G L F A D L P A E V V G V D WR T P L S A A R R A L P G R T L Q G N L D
 G E L L A G L M S E A G A D V V \(Y\) LPDSLD QLP CKGLAVPWQVPDAEARRRFPKMVLQGN AELLGAMGEAGATMVGVDWRTSLTAAAQRVGPGKALQG LLEMIQDQLGHVVDVVGI DWSVSMSDARRRLGGKDVVLQG P Y GL A A L Q Q A GY DI I T I DTA M D RTVVAR DVL R H DAEAR GVVE GNLNSVKPLISTVEANAVSTDAVVSLDKLLVDEFPQLTTMMG S H L A K E WH D L P L L D V V V G L D D WR T Q L D E A A R A
 WDVLDDLVD CGI D GLHPVERAAGMDKVKERYKGRLTPDGN

\(D R Y \square D F A D E T G Q Q A \square S \square D Q D \square R D S S V I D A D P D T V V S Q G N L\) \(\square Y\) F DVQ DD R M Q P A A \(\backslash\) S F L Y P P D D C K D F K E CK Y G EVVT T L I G
 Q GS LQS LREVPGLTGFGMDHRTD\|VGFLGNGSHFVQGNFD

 \(P R G S A L H A D R Y A D V Q G V A L D T A C S D E R G K L V Q A D K B I Q G A\) \(G L G L A Q V N F D V A D F V G I D W Q Y S D P E A R A \quad V D V K V V G V Q G\) GHLL TE MHATGGDVQGVDDRTRLDEADELLGGDVPVQG
 CSNQNKNDEHYVKKYVWLFGPETPVKDQDKAFGDHDVIGG
 K K QWKYFK DLDI DFFSVVNCE DL E E CKK E I E D K LI IVVGN EPIIDDLIDVGVDLLNPIQPESMDPAHKKRYGDRIALWGT

 K I F F DEF LD YPVVQALNWHDCHEYPPLRRARALTD KCILGG
 YYTKMREENDWAGKYVWLF GPETPDKNQDDAFGDYDVICG

UniRef90_C7DH18 UniRef90-C0QHC8 UniRef90-U2X103 UniRef90_Q8TII4 UniRe990-M45176 UniRef90-T3DD10 UniRef90-E5XSM4 UniRef90-14CEN3 UniRef90-N9WFC5 UniRef90-E9RVY8 UniRee90 \({ }^{-}\)UPI00035D3B5F UniRef90-F61FA3 UniRef90-W3Y316 UniRef90-A0A059FM56 UniRef90_UPI0002D72963 UniRef90-10Z9U4 UniRef90-E3H4V4 UniRef90_UPI0001DD087E UniRet90-C6KSS 1 UniRef90-D3MUN2 UniRef90-E7AB94 UniRef90-UPIIO003AE752E UniRef90-UP100033B31B2A UniRef90-D3RNT3 UniRef90-F9UCP3 UniRef90_U6B6Z3 UniRef90-J6F7Q7 UniRef90-E7FYN9 UniRef90-K1M0E5 UniRef90-UP100046D5DE8 UniRef90-UP100046EC1AA UniRef90-UPIo003754A3A UniRef90-M9WXA5 UniRef90_UPIO00381E591 UniRef90-R7CM09 UniRef90-Q5GTT1 1 UniRef90- W7YJP9
UniRef90 A6P2Q0 UniRef90- F5YBE4 UniRef90-UP100047C771A UniRef90-R7QF40 UniRef90-UPIO003B35E3D UniRef90_UPIO0040D31D3 UniRef90-UPIOOO46372BB
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UniRef90-UPIOOO2D47BDB
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UniRef90-U1NYH8
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UniRef90-FOZ1S4
UniRef90- J2LDV8
UniRef90-E8RNT4
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UniRef90-R7DLC4
UniRef90-E4T7L8
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UniRef90-LOL2E6
UniRef90-UP1000464DD85
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UniRef90-UPI0003B75C27
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UniRef90-H1LW15
UniRef90-D5EA11
UniRef90-Z9JNJ6
UniRef90_C2KTD3
UniRef90_UPIO003762783



 CVTPASAVIGTDESWDQECRDSUDGGGFILATGCEYPANA

\begin{tabular}{|c|c|}
\hline & \\
\hline UniRet90－COOHC8 & \(\stackrel{+}{P}\) \\
\hline UniRe990－U2X103 & DPDAISSV \\
\hline UniRef90－O8TII4 & SSDKLKTWVKAAADWS \\
\hline UniRef90 \({ }^{-}\)M4S176 & \\
\hline UniRef90－T3DD10 & P \\
\hline B8Z & \\
\hline UniRef90－E5XSM4 & DPGALTAVVD \\
\hline UniRef90－I4CEN3 & PDENLRALI \\
\hline UniRef90－N9WFC5 & P DA HVEHLI \\
\hline UniRef90－E9RVY8 & PKENLDAY \\
\hline UniRef90－UP100035D3B5 & PPEHVDQL \\
\hline UniRef9 & PDA HVEDL \\
\hline UniRef90 W3Y31 & DPKKLHWLTDY \\
\hline UniRef90 A0A059FM56 & P A A V ERA \\
\hline 0002D72963 & \(\bigcirc \mathrm{P}\) S \({ }^{\text {a }}\) \\
\hline  & Q V L \\
\hline NRef90＿E3H4V4 & V \\
\hline UniRef90－UP10001DL & PIA AVEHA \\
\hline \[
\begin{aligned}
& \text { UniRef90-C6KSS1 } \\
& \text { UniRef90 D3MUN2 }
\end{aligned}
\] &  \\
\hline UniRee90－E7AB9 & PRAQALELVRLVRQKS \\
\hline UniRef90＿UP10003AET52E & \\
\hline UniRet90＿ & PDAVLTTSOAVARW \\
\hline UniRet90－F9UC & P EDTL \({ }^{\text {a }}\) A SEAV \\
\hline 66 & V \\
\hline UniRet90＿J6F707 & KPEDMGWFLECV \\
\hline UniRef90－E7FYN9 & PRTNAIE \\
\hline UniRef90 UPIOOO46D & \\
\hline UniRef90－UPIO0046EC & PEENARLFFETGKRLGA \\
\hline & \\
\hline UniRef90 M9WXA5 & PVENI AALVDLVRNY \\
\hline UniRef90－R7CM & SEENLRALRKA \\
\hline UniRet90－Q5GTT1 & P TENIAALVDL \\
\hline \[
\begin{aligned}
& \text { UniRef90-W7YJP9 } \\
& \text { UniRef90_A6P2Q }
\end{aligned}
\] &  \\
\hline UniRef90－F5YBE4 & \\
\hline UniRet90＿UP100047C7714 & G \\
\hline UniRef90－R7QF40 & PEDNVAHF \\
\hline  & \\
\hline －\({ }^{\text {d }}\) & \\
\hline UniRef90－UPIO0047C1686 & DPAll QRLLTAFVHEY \\
\hline UniRef90－UPI00021 & \\
\hline UniRef90－UP100016COB2A & PLANIQAMVNAAHSF \\
\hline UniRef90 UPIOOO360D9F1 & P \\
\hline 仡 & N \\
\hline UniRef90－F8J7J8 & A M \\
\hline UniRef90－M2ZYY2 & PVGHVQRLIET \\
\hline 38FR & PNANLLELVNSIHR \\
\hline CWD & 仡 \\
\hline & DPDVLHQV \\
\hline UniRef90－UP100047AF801 & D \\
\hline 5 \(\times\) BA & \\
\hline Ref90 R70901 &  \\
\hline 019R2 & DVEKVA \\
\hline iRef90－TOIRL6 & \\
\hline UniRef90＿UPI000472B4B5 & QPETLKRMVATVIM \\
\hline UniRef90－W0D114 & ELKKVKL \\
\hline UniRef90 K5YN28 & NVRC \\
\hline UniRet90－UPIOOO2D &  \\
\hline UniRef90－E9E & \\
\hline UniRef90－U2V & PPHHDS \\
\hline UniF & DFARAHRMVE】AKDY \\
\hline UniRef90－J2LD8 & Da \({ }^{\text {V }}\) \\
\hline UniRef90－10XQJ0 & Ni \({ }_{\text {R }}\) \\
\hline UniRef90－D8DTU7 & PLK SLQ \\
\hline UniRef90－R7DLC4 & GNI DAFYEAL \\
\hline UniRef90－D9QJS5 & HVEQ \\
\hline UniRef90－E4T7L8 & KVDNVKFVIDWV \\
\hline UniRef90－UPIOOO364CAF5 & DPAVLTEL \\
\hline UniRet90＿B8CYB3 & PVENTVAVEQ \\
\hline UniRef90－L0L2E6 & PLKL \\
\hline UniRef90＿UPIO00464DD85 & DFKKLD \\
\hline UniRef90－UPIO003B75C27 & PFENIDAFYSAIKKYGS \\
\hline UniRef90－UP10003B5FF2F & DPD KV \\
\hline UniRef90－E4RMD4 & P \\
\hline UniRef90－UPIO0036446E5 & PDNNVA \\
\hline UniRet90＿H1LW15 & \\
\hline UniRef90＿D5EA11 & SPIKVMAMMDAAQMYGS \\
\hline 29 & V \\
\hline C2KTD3 & \\
\hline ef90＿UP10003762783 & DENMDAGMAGUDYW \\
\hline
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UniRef90 G2FS73 UniRet90_B1M3C5 UniRefolo-Q8TSF 1 UniRef90-FOYTU2
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UniRef90-Q2RII2
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UniRef90-M1ZG88
UniRef90-UPI00047EF313 UniRef90-1013N8 UniRef90-F7NFD3 UniRef90_A0A059LPB1 UniRef90 F8L6G3 UniRef90_UPIO003B3867A UniRef90-ToFF57 UniRef90- \({ }^{\text {N1VY65 }}\) UniRef90-F5YJD3 UniRef90-D5E740 UniRef90-LIIT61 UniRef90 A6POJ2 UniRef90-UPI000255CCA5 UniRef90-D1CA85 UniRef90 \({ }^{-}\)O5L510 UniRef90_16YXN0 UniRef90-V4NGB6 UniRef90-том \(\mathbf{T B O}\) UniRef90-UPI00047D5CC6 UniRef90-R5R890 UniRef90_UPIO0036436B4 UniRef90-A5P9L1 UniRef90-Q64RSO UniRet90-E8TSE9 UniRef90 E4Q6Q0 UniRet90-B8CAQ1 UniRef90-D9QPN5 UniRef90-T3DD16 UniRet90_U2CG17 7 UniRet90-R6BAB5 UniRef90_Q978V0 UniRef90 UPI00035E6D22 UniRef90-A0A024EZ89 UniRef90-D6EBP3 UniRef90-F7K574 UniRef90 F4A216 UniRef90-F5YLG2 UniRef90-R1GOH9 UniRef90-UPI00047DED8F UniRef90_UPI000372D665 UniRef90-U1QFT1 UniRef90-K6AHM5 UniRef90- 5 5H2T9 UniRef90-TOLZY4 UniRef90-X1KJL7 UniRet90_FOZ5T8 UniRef90-R5TDU7 UniRef90-V4T672
UniRef90 F4DJY4 UniRef90-UPI0003663F87 UniRef90-×1D5W5 UniRef90 F7KCE6 UniRef90-X1PWM6 UniRet90-F3ZWP7 UniRef90-U2QDN6
UniRef90 O2RG09 UniRef90-M8BT66 UniRef90- x 1 HH 14
UniRef90=ㅜㄱZvg

1
MDEKVRLLTTAJLKGDRVDRPPVDCMMSAC \({ }^{30} T E T S D Q V G G G\)
 MNGRERTLAALNRQEPDRVPTCEWVLNPKV
KLNMKEWI NETI QKKEVVAMPT MTHPGTEM
MTHPGGKT

 MNSYERYVKTDRNEPVDFRPRLPIVMSFATHYD GCN MTPMQRTLTAMEFREPDRVPLFLLLCGTMHGAKELGLS


MNHWQR \(\square E A A L L G D A T D R T P V A \square W R H\)
MNSKE【DQNLLELKPTPRQPATLM SAGAWA LNSNGDS QKVERPPMWVMRQAGRYEYHEAKGKD ND पMTRAADGQKVERTPTWLFRQAGYHEYKSKVGRN MNEKERLLKTLKGEKVDRHPVICPGGMMSACVTEVLDDV

MNN LILDDFYKNE \(\square\) SE \(\square\) P \(\square\) WF \(\square R Q S G R H E Y F \square I R A R D\) MMRQAGRYMAVYEKHPS
MTSKERFVNADEMKDVDRMPYGYLWFGAGNGVLGRMDAC ELTSAERWERLHTQSPLDTMPVVLFDNLVS AKLIDRT MTPDE LLSAATTGSPAPR】PVFCND PDHGARELAMT NSPLLAAYHGRPVGPAVWFMRQAGRPEYRAARAGT TVAERVLRVLSGEAI SPPPAWMMRQAGRYRATRAEAGS KNDLLLRASRCDPVERVPVWMMRQAGRSDYRQDRRER \(M N S L Q R L E A A D A G H A F D E A L C D P L V F G G\) A A AFLTDVK MLKKNRFLRACRKEEVDQUPVWYMRQAGRFEYRKIKKYT MGRERABADADGVGAQ LSKRERVEAALRGEEVDRPPVAAWRH MNKKERIRAAVTGEKPDCDPYSFWSH

MKAYKD LAAKYPS
SKNDL
 NERFANALNLVPQDLPPIWFMRQAGRYHSHYRKTYS MSPREVIQAAVNFREPDRIPFF ISAHGIIRRQRGMVMEQ EMSHADRTLAAMADKKVDRLPVYPLAACGADRKFADAT NDLMVRVARGEKAEKTPVWLFRQAGRHAYKKETGCN KELIFKTMRHEPTERVPWVPF AG \(\quad\) H S GK L KGGYT MNHKERVLTALNHQEPDRVPVFYWVPEFTNKMDAQLGFS EMTKTERIVAAVNGEEVDRVPVCFWHHFRPE

KASRPPVWFLRQVGRYQYRELKKGST
 MNS FLSALKGDSHETDPVWYMRQAGRYYTEDRRGMS MTPRERWEAVLKRQKPDRLPMDYWATAEANEKLRMLGMK
 MRQAGRYEYRELLRKGG \(P \square M T H P G \square E L L N K R\) MNHWQR \(\square E A A \square G G E A T D R P P \square A \square W R H\) FPDMSYP\|LKSTGGFN ELTSRERLRAALGRSTVERTPVWLFRQAGRHEYKQKTGRS ELTSAERMKADMNKEKDDRDPVNPGVTLYANDSNYS MTSKERVRAVMEHRKPDRIPAAFLKHYGFTEYDQLLEKY MTKAERIAAAIRGDAVDRVPYSLWS

FLKALHGLDHDYI PVWFMRQAGRYYKDYRKK LG MTPRERVLHALAFTVTDIVPVDFT\PAREKMSAYLTDPG MNTLFHNALKRTPQAVPPI WFMRQAGRYHKHMRANHS
 MTRRELVIAALNHEETTTIPYHIDDFTGQSDEQLVAYTGN MTSKERLLAVLNDQHPDRI P WAPLIDGYYTSSLAEQGDH MNKNERIKAAITGEKPDTIPYSFWAH

LLLRAARGEVTESTPVWMMRQAGRHRDLVKDYPT MNSRERVMAAANHQEPDRVPVDMVLTDDVYRDMKKRMGR MTGYERFMTAALRKEPDRVPLWELI INEFVEMEDLDGQT ME \(\square\) QE WLQET \(\square R Q K E R R A \square P I M T H P G \square E \quad L C G K T\)

NF \(\square\) S A \(\square K\) GEPHDH \(\square\) P VWFMRQAGRYEYQE LRKYN
QLNSKERVRAAFEHKSPDRVPATMQAVETAWEKMQQYQVE MNMKQWVAD \(\square L A S D K K K S L P V L S F P S \quad \square Q K M G \square T\)

FADLLQRRQAPHRPPVWF LRQVGRYQYHELKGSP MTSRERFLKALRHEEPDRVPI SPWAETVRRWQREGLPAE
 \(\qquad\) \(A A Q V L H D G\)
\(Q K E L G A E D\) MTPKERWLAVLNR QKPDRLPMDYWATDEVNDKLRKYLGC \(P\) V K R A M P V L S F P A 1 Q L M D


\section*{UniRef90 G2FS73} UniRef90-B1M3C5 UniRef90-O8TSF1 UniRef90-FOYTU2 UniRef90-R7D1LO UniRef90-UPIOO0472B429 UniRef90 M4YPK0 UniRef90-UPI00036787A2 UniRef90-H1ZOS8 UniRef90-R9T418 UniRet90_F5YDA4 UniRet90_M4YMR5 UniRef90-Q2RII2 UniRef90-H1S776 UniRef90-UPI00034F7C71 UniRef90-F5YEM9 UniRef90-UPIO001585B04 UniRef90-K0RJ80 UniRef90-K0AZM6 UniRef90-A0A009EYU3 UniRef90_UPI000367879A UniRef90-A9RDE4 UniRef90_V8YD75
UniRef90 - 55735 UniRef90-K1LG70 UniRef90_UPIO00371FB23 UniRef90-C5C5B1 UniRef90-A9W2T9 UniRef90_UPIO004770B02 UniRef90-B8FZ11 UniRef90-M1ZG88 UniRef90-UPI00047EF313 UniRef90-1013N8 UniRef90-F7NFD3 UniRef90-A0A059LPB1 UniRef90 F8L6G3 UniRef90-UPIIOOO3B3867A UniRef90-TOFF57 UniRef90-N1VY65 UniRef90-F5YJD3 UniRef90-DEE740 UniRef90-L11761
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UniRef90_V4NGB6 UniRef90-томзво UniRef90-K2ANW6 UniRef90-UP100047D5CC6 UniRef90-R5R890


2


F \(\square D F C S S T N L V E A T K \square P \square K Y Y N \square D A A \prod V F S D T M \square P W \Pi M\) FRERSENVDLIVE
MS DYY A G A RA MSDVYYSAEGI ARAQLLARQMYHHDNVMSPWCLLVEAEALL





A \(\stackrel{L}{\mathrm{~L}}\)
L

 MP A I D R D P P LIDA EK T WE F F N R Y N L D LVVKTMN NGMY S VE DF


 \(\square R E M M C M N P E I T\) E K I T Y A P V K L L G V D A A I I F A D I I L P L E A M
 VA ELI NS S DK QA E GMK IIDA D S CP TAAASVVSLMD L S LAEAEA F



 VR D L I S S S D L Q S K G M K M V A A D R V P A A A A A V S L M D L S V E A E C F


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UniRef90-Q2RII2
UniRef90_H1S776 UniRef90-UPI00034F7C71 UniRef90-F5YEM9 UniRef90_UPIO001585B04 UniRet90-K0RJ80 UniRef90-K0AZM6 UniRef90-A0A009EYU3 UniRee90-UPI000367879A UniRet90-A9RDE4 UniRef90-V8YD75 UniRef90-D5E735 UniRef90-K1LG70 UniRef90_UPIO00371FB23 UniRef90-C5C5B1 UniRef90-A9W2T9 UniRef90_UPIO004770B02 UniRef90-B8FZ11
UniRef90-M1ZG88 UniRef90-UPI00047EF313 UniRef90-1013N8 UniRef90-F7NFD3 UniRef90-A0A059LPB1 UniRef90 F8L6G3 UniRef90-UPIO003B3867A UniRef90-ToFF57 UniRef90-N1VY65 UniRef90-F5YJD3 UniRef90-D5E740 UniRef90 LiIT61 UniRef90 A6POJ2 UniRef90-UPIO00255CCA5
UniRef90-D1CA85
UniRef90-O5L510 UniRef90-16YYNO UniRef90-V4NGB66 \begin{tabular}{l} 
UniRef90-TOM3BO \\
UniRef90 \\
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\end{tabular} UniRef90-UP100047D5CC6 UniRef90-R5R890 UniRef90_UPIOOO36436B4 UniRef90_A5P9L1 UniRef90-O64RS0 UniRef90-EETSE9 UniRef90-E4Q6Q0 UniRef90-B8CAQ1 UniRef90-D9QPN5
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UniRef90-U2QDN6 UniRef90-Q2RG09 UniRef90-M8BT66 UniRef90-X1HH14
UniRef90_Foyzv9


GTRLNTKDDRYPTTAGYQLSSANEYDRПDPLDTERSHRTE GGESKVTHPNTSRSIVAYPAQALDDVAALPELALETLPVT GCRETLFADDGVPNVADFIDKDDDAKLEIPADITQQPAWQ GVDVHIEPGLGPVIAEPVRDATAARALAARAPGDAARMTE GQDVRFVEGEGP RLDALEGRAQFERLREAGDPADFSHLA GSRVYFPENAYPY I EKYRLEDPRQLKDLRFNPSTDGRMP GSRVYFPENAYPY VEKYRLEDPRQLKDLPFNPSTDGRMP

 GAHFRFDPG GPQVLKPPI RTPAQVDDLLPLDDPPAQLA
 GGKVKFRAKGSTDVLEPLITDIDAELDKINLDRVKDDFHYQ GCTVKYPEEDTPSSEGHLEDYEDVETPEVKEGTRAYELYE
 NASYDFAPGPQUSFSPKEENSADEDPQDYS
 GCDKINFPDDGPPNVADFI IKTPEDワKK\PDD\YSHPEFQ RYRNVEYSGGVYAECVYHPLAQYETVEEVEKNYVWPTVDD GSPVHFAEDEVPT TNEA VVREEEAEALKVPSVGDARTG DYGNGAYTEVVSHPLAGFGSVEEDERNYTWPTAD
GQNLEFLAGEGPKLSPRLVDASLESLTRAP FGAQDQFSENEVPNVIGRLVSNYEEVVGLKDPTDDDARDP GAVSAYRGAANGARVVQPAVLRTEDWRRIAPLDVRQGSYG NVKVTMPGGVGIQVPAPDCGPADMKERLPAAEELNEERDG ELELHEDEDGRKWYKDEFGIKWDCTVEDIENYPWPDPKDP GGELMFTPRGRLPKVIRRPIEDDKDVKNLKMPDVDTA P P GA GFKVRFEDNVGPIVLNNLSDNGFSGUNEFDEASFNHPVLK DMGPDIGNPTPVLSRPSLSGYR FPDPTNP GMGLEYTDHGPQLGFK GAETVVSDDEVPTVVGALVDEDTDPSGGVVPAVGVGRTG GVVWNRNGADKD四VVEKPQIEDGEGCDYRFPVCDEARDR SVYQVYQQGGNTSFRIKHFIENKDDVKTYKYVVQSRYYEP GCEVDFSEIENGGVAKIKTTPDNRAEDFETDKALGRKALD GVDFADSEGGGDTVDPDRTREAFAKMTAVPMFEPETKIS GETWGMTDFGTPYPVDGPVADPSDEKTYTPPDPEAPHRKQ GVGVRIEEGVGP VVDAPVRSAGEVAELVTHQEAPDEGVG GCNI EVKKDIGP GYKIDFNSLGPKDENGYRYNRNMKGDHEFDPAELKYRTYD PFGQQYVEKWNGVEYNSHTПKRPLEYMEELMAFRGWPNPD GSTDRVSDDEVPTVVGSUVSTEEEAEALKVPEDGAGRTQ
 Gi RKNFRTYASTPEITEWAVKTKEDWLKIKERLSPDFAFR GAKIIYPKNNAAYPDPYNPILKSADDYKNFDKLFNWDKAT GVGHEKSPNSMHMTYMRHPLEDAEDLED QKYPFPDFAHG VSYSTGTYRECDYHPDAQYETVDEDEANYVWPNIDWYDYS



UniRef90_G2FS73 UniRef90-B1M3C5 UniRef90-Q8TSF1 UniRef90-FOYTU2 UniRef90_A6L4F2 UniRef90-R7D1L0 UniRef90_UPI000472B429 UniRef90-M4YPK0 UniRef90-UPIO0036787A2 UniRef90-H1Z0S8 UniRef90-R9T4I8 UniRef90_F5YDA4 UniRef90-M4YMR5 UniRef90-Q2RII2 UniRef90-H1S776 UniRef90-UPI00034F7C71 UniRef90-F5YEM9 UniRef90_UPIO001585B04 UniRef90_K0RJ80 UniRef90-K0AZM6 UniRef90-A0A009EYU3 UniRef90_UPI000367879A UniRef90-A9RDE4 UniRef90-V8YD75 UniRef90-D5E735 UniRef90-K1LG70 UniRef90_UPIO00371FB23 UniRef90-C5C5B1 UniRef90-A9W2T9 UniRef90_UPIO004770B02 UniRef90-B8FZ11
UniRef90-M1ZG88 UniRef90_UPI00047EF313 UniRef90-I013N8 UniRef90-F7NFD3 UniRef90-A0A059LPB1 UniRef90 F8L6G3 UniRef90-UPI0003B3867A UniRef90_TOFF57 UniRef90_N1VY65 UniRef90-F5YJD3 UniRef90-D5E740 UniRef90-L1IT61
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UniRef90 \({ }^{-}\)X1KJL7 UniRef90-F0Z5T8 UniRef90-R5TDU7 UniRef90_V4T672 UniRef90-F4DJY4 UniRef90_UPI0003663F87 UniRef90-X1D5W5 UniRef90-F7KCE6 UniRef90-X1PWM6 UniRef90_F3ZWP7 UniRef90-U2QDN6 UniRef90-Q2RG09 UniRef90-M8BT66 UniRef90_X1HH14
UniRef90_FOYZV9

VI L E Alı 130 140 QLRNDKDPVVI \({ }^{140}\) NVS GHDS T 150 S s V TD P LDe MF \({ }^{160}\)

 QY EYLKANRLAAEHLTER PVLAGCIGPYSLAGRLYDMSEIM VTGMKERAKKLHEENEYAIVSLRMPCNFEIACWLRGMENFM R DRTMLEAAELASGHGLFSTAAMTGPGGSANDVLGMENVM

 K
K V L \(\square N L E A\)
\(R Q N E A L\)
\(R\) YVFQAI TLTRQQLAGRVPLIGFAGAPWTLMTYMIEGGSSK TLDKVTKGLAEKVKGENYVALTRWGPFTLAGLLYGAENLMM \(Y V Y K A I T L T R H K L K G R V P L F G F C G A P W T L L C Y M V E G G G S K\) HVLESVRLIRCRMREESAAPWTLLFYMVGGSSKKNQGIGM RMKT TIESIKILDKNDKVVIGNLVGHVSTATS\|VDPLVIPF PLK QALK LLRKDLPSQVPL GF SGSPWTLATYMVEGGS SK FVGESLSILREEVGDGAAVLGFVGSPWTLATYVVEGKTTK TVANSTGULKKELKDEVFIKGAMLSPDMLASQVLEASSLKC RLRQAI E HFLNETHGEVPVRGHFRGPFSMVAGLIESEKIL
 PVFEAVERI RGALPHETTLLGFCGAPWTVASYMIGGRGTVV FTGNVI RRLRETLNEELPLIGFAGAPLTLAFFLIAGEPVL ELLRAVALLKTELGDSLPIAGVVLGPMSGASQLMGLERLL HILDTIHILHKELTVPLIGFAGAPFTDASYLIEGKPSRTK DRVQAAALLKQKAAGERIVEGWDEGPCGQAANLRGDNRDM EHI EAVRRIKEGGQGAHFVSARPKTHTQDAAVQAQYEGLR
 \(F V K S G I Q L L K E E L S\) VPLI GFCGGPFTVAHYLFEKKPEK FTGNVI RRAGAPLTVAFFLIAGESPDKRGAGDSEKAEPVF
 RS LDESRR VVALMGDEYLVSTLFWGPFTLAGLLIGVEQLM

 A QCEKYKDYA DMTAPGYSSPGLFR IQQRLIGRDTFDETMM T QRAMDRALRDMVGFDVPDIMTVFSPLAEAMYAAESRDFD \(\begin{array}{llllll}L M L N R L K & L\end{array}\) YSTYESIRRIKASRSSVPVIGFSGGPLIIASYLAGGRPTK
 ECDKGUCEVCERDTDRPVVAGGIEGPYSLAGRGLDDMTEAFM P TYETVRLCRQRLPE GVTMLGFAGSPWTVATYMVAGEGSR

 HVI ESVKKI RTQMRKESAAPWTLMYYMVGGSSKKNTHUGID S R A GLK K EAK R SAI RSLKFAKDCVENGFGFSVPSGSPFGGVQSVLGTELLL AVREVCEK \(R E Q D Y L K R L L K K T N G E V\)
\(A D S\)
\(M Y R M Y R E P K\) LRYAHDPGFVERHQDTF FQKEAVQATVAVLPSNKSLIGFVGGPWTLIVYAVEGSGSVA LEYEEL VVACKGDRFTMAGFGFCMFERSWSLMGMENVL DYQPF KEQDY GDDGLATAGPLTPIQVLLQDIMG\|EGFT RELEYLSRQMEK RQNQAPVVFTVFSPLTTVNKLCNGRQLE \begin{tabular}{l}
\(F V G D V L K R L R A T A G T D A T V L G F V G L P F T G G T Y L D E G K T G F\) \\
\(Y A G L Q E E M K G V R E T T D L A V L A F A G A V F E L A T Y M R G H E R W Y\) \\
\hline
\end{tabular} S
 EYLKANRLTAERVK DKPVFAGCDGPFSLA GRGVGGSEDM STIRDFRQNHPGTPIIGGFSGGIITVMSYVISGMSDNNLLYT
 \Y IDDA I EKACKLITDR PVLAGVIGPFSLAGRLLDVSEAL FVGDSLK ULRKEVGEHAAVLGFVGAPWTVATYVVEGGTAK Y LTEA

 DI PNQLKGKEM YPVQAGGSEPFLTYKDLRGQEQAF
 YFCKHLPEEPRKKWGF DDGHDF CGGPGEISGLLLGYDKFS FVGESLK KLRSESYCEAALLGFVGAPWTUATYVVEGGNDK

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UniRef90 K6AHM5 UniRef90- \(\times 5 \mathrm{H} 2\) T9 UniRef90-TOLZY4
UniRef90 \(\mathrm{x} 1 \mathrm{KJL7}\) UniRef90-FOZ5T8 UniRef90-R5TDU7 UniRef90-V4T672 UniRef90-F4DJY4
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 LDFSDDPVFVQDLLEFIVELELPFARAQKDAGAELMGVGD RLLDENPQGVHAALENI AVTLARYAAAVVEAGASGIFFAII HIAEGHGAAVHKALKVIAETTANLDAEALRLGADGIFLAS SMALSEPATLHALLQNLARAMAAYACFQAASGADYLMIFD M LHQDPKGFRQILEMITDASLAYLKMQПDAGVHAIQIFD RMIQETPELMHRLLNKLTQMTVNYLNYQISEGAQVVQLFE ILPKVSPVLREGFYKKL RKCLRDKEAVRALLDFCVELIKVCNEETLGLGMGMGGLAE MDMKTNPDVVLEALQKCTDYVCQVSEAFFEEDACDALCVD RWLKEHPVESQKLLDILTSTVIDYMSAQVK
D MLMDEQYVRDLVSYCAEASIIRMCDYYINAGMDVIRAVD YNPRFFNVLVEKVKSFYGAFIHEFFSVTGNNVDLIRIADD

 LLLFGPAEGRRELMNMCCEMFRKHALAAKKSGADAIQIFD DLILYPDUVEYCLDKLFDFCYENTLRTYEQITFSYIAEDM LCYEEPEMVETVLEKVTEFLIEYAKAFKEAGANGVVMAE DQAYRDPGELQAGLDTVAEQTITYYLSGQIEAGAEAVQLDAD ADLRCFPDELERALMVITEVTDRFALDALALGAHGVFFAT EWLNEHPEASTKLMDMLTTVVIEYMSEQVKAGAHMLQLFE MKLVMEPEVVEALLEKIVDFHLGWWEMVLEEGGEYLQDDLD MLMLDEPETAQRILDRMNEFEMEYYRRDFEAGEGKVDILR
 SDMVMHQDFVEDLLDAITSFHLEVIDRALDLGLDGVLFGD VQSKKLAPMFPQFLEKMYPLLKENIRGQLEGGVEGVMGFD MS M I DCP P E L L E R L Y D Q DC D Y F C G L V D DA L E Y D I D G V Y F G D YAVADYPDEMHDLMEAMHKSNLECYKVMAEAEIIIVYEDT FIKAGVGKSVHKALEEDTEVTKLLVEESDTKGASGIFFVS A AMRQLRELVADMLKLLGDRIAQYAIYQIDSGAQVVQVFD RDVVNNQEFAHALMDKICQUQKRTNEVIMAEVGEYVGEDD DHMRADPEAWDREMTWCARYTGEFIATQVRAGAAAAQLFD DAMYVEPENDTVLLEKCTRFLIDYCRAIKETGVAGVIMAE KQVMLNDNYFATMKKMIKNMII DYVKDQI NAGVDAI QIFD LQTIKQPGTGFEGLEVSLKVTHEFCYHIINAGGLPITVDD DYCYDEPDMVHWVLQKVTEFLINYCNEYKKVGANG\|VMAE SMFHTAPHVLRTLLSHLTQAUADYIYQVESGAHCIQIFD DFLYRYPEKFQELLDTLDNSTATYLELQVRAGASAVQLFE VMMIEDPDWFRDMVETTTELVLRVAKLTIEDAGYTFFNDM RDFVHNKDKLHEALDVVEE:QUEVEKQIEAGAQVIMVPV ПMTVLEPDKVRALLDALIPVTVAYANAQLQAGADVVTLPD MDLILHPDIVHYCLDKLFDFCYENTCRIYEVTYSYIAEDM DYCYEEPEMVSALMDKVTEFLTAYCSAYKQVGANGVVLAE Y A M Y D Y P Q L V H I L L R K V T D F I RMCHTAPNVLRGLLSHLAEAISDYIDYQVNSGAQCDQIFD




\section*{UniRef90 G2FS73} UniRef90_B1M3C5 UniRef90-O8TSF1 UniRef90-FOYTU2 UniRef90-R7D1LO UniRef90-UPIOOO472B429 UniRef90_M4YPK0 UniRef90-UPIO0036787A2 UniRef90-H1ZOS8 UniRef90-R9T418 UniRef90-F5YDA4 UniRef90-M4YMR5 UniRef90-Q2RII2 UniRef90-H1S776 UniRef90-UPIO0034F7C71 UniRef90-F5YEM9 UniRef90_UPI0001585B04 UniRef90-K0RJ80 UniRef90-K0AZM6 UniRef90-A0A009EYU3 UniRef90-UPI000367879A UniRef90_A9RDE4 UniRef90-V8YD75 UniRef90-D5E735 UniRef90-K1LG70 UniRef90-UPIO00371FB23 UniRef90-C5C5B1 UniRef90-A9W2T9 UniRef90_UPIO004770B02 UniRef90-B8FZ11
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TPQLEVMCKTNPDSTAVDENVDFVYGKSVSDKYNTA\|SGN \(R K G V P D F T S L G A D V L D P D Q T R M A P E G L K K D F G N M L T F S G G\)
\(D L F F D D V L D Y P V Q V L W S D R L A G P S L R E A R T K T S K C M G G\) DENFDDLYSTGADTLSHPDYHVNGPSLIREARTKTSKCLMGG KVSAPFLNEMGVNMFNMGDDVSLTELKELTENKITLVGN GSMHQILSTAGFNFLSLDWRVELSEVGRSISEVGLQGNLD RLNPVIDALLERTRIEAFYPGPLDDAAESRILNDRALFAG GAIRKIVPDDILNPVQWRCNGMDREGLKRDFGDKLAFHGG EPLLEQUKEVDAKAYSFGNADDDEKALE VIPQDRLVIGN REL LPAMDELGDDVLNPDQWRCRGMERKRDFGQRLIFHGG
 GQCTQAMVATGAKGYHFGNKIDMLLAALEE CPSNALVMGN
GDDIMFDSDYPAEMFNWHDRLTDPTVAQAAERFPRLLVGG QN LVESMLETECMGFHFGNCVDLCKIDKARVPQNKLVFGN SFANEQLSK GYDVVTDDGSVDRSTARAGLQGNYDPRELI ENLKYWTNELKLPSRTVFTLGYEMDMRETAEILGDEYIIGG GPLTPEFDECGVDAPVQKVKGLEVETLAEKYNGKDVFHGG TSSFVFQSGVISDFISVDWRVEMDKVVK QVESGDGLQG QEDFPDLVEIGLDVFNPFQPEMDTFALKEEYRGKDAFWGG AVFFNPWAGQGFDHRNYLPDCFNLQNKGFVQGNFDQSLLF
\(V\) VKMMDSVVDTGAAAFHFGNATSMADVMPLVPADRVAMGN VPKMMDSVVDTGAAAFHFGNATSMADVMPLVPADRVAMGN KGMRYQVANLTVDGVICPPTTGDTWAHEALEMWPGKVIIG QIMYTVFKDYPGETLNYHVWESPPADEEAMKSGKCIILGGR MAPDTHSKESGANVVSVDHTDPDSAARELLAGYESVGLQG KPFDADLIDCGVDVLDPVQPNMDRYELKKEFGNDMVFHGN WATLDDLVQAGIDALDPIEPAARMDEVKAKYGDR\|AVIGN
 GHCTEAMVQSGAAAL HFGNK DMQDALANCPEDRUVMGN ASYMNYVRDTSVDVISTDYSLSLDWLVQNLQQYATVQGNL EPVDLLPDTGADLISLDKVDVSLALDRLSNKMRMV GG AVKTADTVVTNGCLMYHFGNAINMAEMMSHVPENLIAMGN CFEENFSKLLDTQADTLHPDYHDDDARFAKVAPKGLSFQG

EPFTPHLTEAG DDVLNPTQECMDFKE \(\Pi\) CRQYGDR TSFHGT VDRIPLI TEGYDAWHFEWVNDPEKAVEDARGEISLLGG GSIRKILPDMVKAG\|D\|LNPIQWKCAGMDRFGDKLVFHGG A IQMIDS LDTGAAMFHFGNAISMKEMLE HTPADKI AMGN NYPHLLDLMRDIPANVCH DGPKHDLVESKRVLKKCVMGNV GGLLERMKDIGVDVIGLDWTVDMADGRRRVGDGISVQGNV Y QFLSDFDDAGMDVQVSAANMDSKLKREFGGKVTFWGGG
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 NGVEMR RWTPETAERKVREALSGGGFILTDNHGATVYQV VSVQSTLPFGSTDDVRKEVQEMGKNGGYILAPSHALQGGT DDPVGVMLEGSPQQVVKATANMLPFNNFIVSTGCTLPFEV GNLDPCALYASEEEVGQLAQQMLDDFGYLANLGHGLYPDM
DPAELTEANKTVETVRSTVRELLESGGLTANपGEGLGGRE NVSTQLLDVGTKEKIVSITENALSGVDVSPACGLSMST LDPATVLYGTPDALAKATKLMLDDAGYVANLGHGUTQWV NLDPVSLIPENSEALEKNVNLTVRQRRF:FNVGHGGTPEC GNVDPAVLFAPLPAIVEALESVVSKAGHVLNLGHGVLVGT NINPNAFCRDSLDDIEHEVKSCMDAAGFILSTGCEIP PST
 GNDDPAFLAAPWPVLEAHVRDVVARGGHVVNGGHGVPPDT HPETLIEGGRALDAAVDAILAATEGLPHI FNLGHGITPQT NVDNDURDGTLADITVAVETCGKQGGHIRNLSHGLHRDT

VATVEVMRNGSTEDVVRAAAKCHEHAGYVSAGCEDPRDT VDEAGALQHGTPEEVLAEAHAAMEGGRFLLAPGCGVAMDA GLQRMDITNKKKNEVQHQMFKCLQGRNHILTPGCVIRY



\footnotetext{
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\hline UniRet90-A6POJ2 & NT \\
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\hline UniRef90 D1CA85 & WL \\
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\hline UniRef90-V6XN0 & P发 VA \\
\hline UniReif90- TOM 3 B &  \\
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 MTRRQAVIEALEHREHETIP FHMDFTKQALDQLIAYT MTSRERVFAALAHQQPDRCPVDFWAEPDTDQKLLRYFGA MRQAGRYEYHEAKGRD
 MTKKER \(\square K A A V S G Q K P D C L P Y S L W T H\)

FREVLRNGSAENIPVWFMRQAGRYMYREVRKYS MEYAKGNEVDHI PYMLCCGADTAANMYGYT RMDA ILLRGDAMEQIPVSLWRH
MTKREVIKCVLDGKKPPYVPWSFFTKEPKEALMNYYATD MNSRERVLRTLKHEVPDRVPDALGGSAYNDNDDAYKWKP MTHADRTVSAMSDKKVDRLPVYPLACGVLRKFAPV T MTPRERALRALNHEVPDR\PLDLGTTNCTKAYENLKAYL TKKDRVLAVLNGELADRPPVSAWRHFVDKE MRQAGRYEYRELDRAT
NKREDIQAVFHNEKADRDPVGFWHHFGQDEV DVGBAD NQKFYNALHRDEQKVPPIWLMRQAGRYHSHYKTKYT MTSKERVKAAVKYGNPDRVPAA FEAVPPVTARLLKEYG

TKRELVLKAFRGEEVDRVPVGFWYHFA EEDELLRGFN MSKKELVL RADRGEAVERIVVGFWLHYVTQEE MTN RE NFLSLL RRTGYESVPVGSLCPYLIDERMRNELGVD MRQAGRYQ\| I CEKYPS MNKRER ПQAA TS GARPDQ TP YS LWS H MDSKERVIRTLKKKNPDKIPVDLWTLPATYLKYGKAFED MNKKERVLAALRREPVDRIPRGELAIEPGFMAMYLADVE \(K M N S L E R F T E T L R W Q P T D R C C C L P L V F G Y\) AANIAEI E \(M D R T P L V P Q L F G \quad H A A V S A G L S\)
\(V D Y P A S W V P A A D P N L Y R Y F K V N S\) MTSKERVLATLNRKDVDYPASWPVPAADPNDYRYFKVNS MNSRERIKAALNHQQPDRVPIDCGGHMAYRNLREYLGLE \(M T P R Q R L L C A L R A E A V D R V P V I I M M A G S L Y A L L Q Q K S G S\)
\(N D L L L R L A R G E A V E E A P V W L F R Q A G R H M Y K E K T G K H\) \(N D L L L R L A R G E A V E E A P V V L F R Q\)
\(K E R V T A D E G R V P D Y V P G F S L H\)

FAGEPDDRDPMMPFVISYSPRVLNQTQRW


MS K DEK K \({ }^{\text {K K K V }}\) VNGEDTEDDPFSFWTH MTRKERVRAVMNRQPADYVPAGFWFHYKPD
 MTKRERVITALQGGEADHTATGFSLH

\begin{abstract}
MTRREAVIQTELHKEVFPDPFBMDFTEQALVQLIE TADSPLLQAMTGHRPTVAPVWFMRQAGRPEYREARGTT MNKRERVLAA LNNEEVDYVPGCFWRH



\end{abstract}

M NHKERVLKALNNDVPDRVPFFYWDVPEFGEKMDSFFGF NDYMRRFWSFENVERIPPFLPMM

MTHKER V DR A \(\square\) N HE E T D R P P FF T P E FA D R \(\square R A E F H L P P M\)


MKHRERVIRALNHEETDRPPFATFTPEFADRLREVFHLP E MLPREEMI S LL K GNGTPRVGVACGNWLHDDELALQDQKP
 MNHRERVLAVLNKKLPDRIPMDLCESASFPAYFALSNYF
MTS K E RMLC A DE GR DPD R LTP VTVVHQWQPY HLK TYMNGMS MNSKERVRRAVAFKEVDRVPAGLFGTPTYYE EGLAKYDG MTSAERLLTVLRGKPVDRTPVSLYE DDGFGNLYSPDHPS
 \(M T P K\) QR L L A A L R G E KT D R TP WCP N L A Y WY M QVMQEMMGA D


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


MTHKER LMAVKEGRKTDRPAFVAW
G P H
MTPGERVRAAVAGQEVDRVPDCFWHH

\(S G N T\) MNSLDRVMATLNHRPVDRTPI DCWLYQKQFLERLEADYG M M S R E E L L N A F E N K D E Q E D P V S F WH H Y A K D E F VP A

\section*{UniRef90 F0Z5N7 UniRef90-K5ZUE1
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YRES AENRAACQDAAYEKWGHDTMVIEYS LHGVSHAD NDD \(\square M S V V D N H \square L G L G S E \square G F F E D \square G N N R V R D V F G V V W D R\)
\(R F P D D A A D I F S D Q L V I P Q A L\)
\(F P D \square D R \square P E L I A E E T Y Q F Y K R F D L D F I K T M N N G M Y A T E D Y\) Y SVQEMIDA HMK LYRETGADVIKDMQDYMY
HMDFFLNPEVWFQSHWKIHQEYPDII FVPGWWMEYGMAAE LID YFSNDDLWLQANLKAVQEYPEVI FLPGFWMCTEPSAE
 FPKERAFGEEAVKSHLEFFEKTDTDILKIMNENLVPDVG
YTEDANDEERD GTSLYYKQYWGWPTETPEKPGYFRDDF MLESCLNPELAAEDTCQPVRRHHVDGAVLYSDDMVPLADA FPPEQSHGEI FDREQDKFYRDMDLDFLKISCDGYFGWPEK


 FEQLCREPDLACEVTGGPUQEFDFDAADLFSDULFPLDFGT TDRDQLLEHDDVDFRWVEPKY \(\operatorname{LDGPQLVDSNNKKKDUWGV}\) LKELLTNPTKMADALQKAHKLFGYDGIFNVVDCTLEADAC FTEPHHRTWYGYDLEEILTGQDALQAGAGWVTNYYLKPEAY QAETQLNPEKALDAMLKTYDDFGGWDALYTSLPDTETMWL

FSEPHHRDWYGYELEKLTGQDLLQASVGWSPYTDEWGVKW VEDLLRFPEDMQVFYLKKPKLFAEDGDRYTWCDVAGADPS FMWDWEKCMGADDKVKEAYPIWDSNPFDMMKKVGLMRTAM PSEDCRDPDLLVEGLLAE YE RYKPDF LTVGUDVYVEAEALD NDEGEVEPFQALD DFRHVWLKTPTGYQNTMYDDGTFSDE FYPQSFHPVKQTDGSYSCYDDDGVRVLARMPKGATFFDQT D \(\square E A N K A C G L D A S \square N V F S V S G E E S D T W K V S S T R E Q R E G F Y\) TGSIEEMYCAL
 DPTNTGVDERDLKWAGTDFRSVGTQADLPSPHTLVNCWGI NPEIDE KNLNGHKNFDHKVKPDFVKLMSDGYF
PLIRGFDPTKIEYEHDRMYQTFYKGCSIRTMTDRTPDGCL KPEIFQKNVL G GHKKF IGEDNPDFVKIMSDGFFT


F LIE PRRVCSDNWR DQAENDPD DQYK V VRFNC DSPEKT LSM AFAHPELTDKVLAGQADFYKAFQPDLIVIMTDGYF
SEDIVARPDESSALYFRHVFLLPPDGYDPFAVEGMIINEF YF CRNGEGFGKALCKAKEYFGYDQIMLSSDDYVEVEAM \(\square P P T \square W K D E L F \square K A Q M D F Y K E T D V D F \| K L S A D K Y F C W P A P\)

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

NEHPEDTG \(\square\) NVEGHAKY DDDVNPDFVKLMTDGYFQYDFQ

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UniRef90 R6WUS1 \begin{tabular}{l} 
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UniRef90 \\
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\end{tabular} UniRef90－TOMVD6
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 GMGLAFNPGPEFANPLTKQLDNKEKEQSFTLGRESEXGA NYEETMYTTDVDTYFTTTRYPLQNCQTIADADKMAWPDPD GQK可EFEKNFGPKLGELNLNEVAKDDETDFV MAWKGH AYPNPLDKEGISSIKDLAG！QSUGEDHPWFD RYPSALYSREITSIQELKDIQP GEHHPWDE EKSPNSMHMTYMRHPLENASESMEDFLEYPFPDYAHGDAS GCEDDYSEKGGVAKVVSTPDAEPDDWNRDSVCSCSEGSLR MVLQAGMVGEVKKAVVAGTGAEADRAYAPPVEAFKVQWAE GYP YQSPYNDUFKETPHSFQLLKPALEDIEDVEEYQTAD GAPLSFRDDRYPDVVGSVLGADDDPARLRLPEPASAGRMP GGTQDERTLTAPGFFRGKTDPSEDDSFNWPNPSDYDD
 ALLEAAKKAAADPAALVAKKLN
ELVPSDWNKDPTYSLKDDFMQ WSRYVHSPWDHAADDGFW


GMETRMEPGRGPVFPEP पQTPQD\HK RSSVDVSEELG GCKUDYロESGGVAE GTP ESYTDWKKKTLNLDAPALQ PSVMGSKTKFWQDPSEYGTMTCADDWYH：SVGGTDSEEFK GARCTFPENEFPFAHKDFHSTADGHNLTLPN PKTDGLLP


GVVWNRNGADKDTGGPEENVIEDLEDYDYEFPQADEARDR GAEVRDEPGVGPVLDEPVRTASDVDRDTRRHVEDPSA TL YPNPNLESARQLYMKPIGKDHPFlR ETKHSCFDYDYPNPVIAKG KSSLQELSEDQPLGKDHPW｜R GSKПKWPTRDCEWPVTDYSTKNVEDWKKLHVLPMDEGSMK EVDAMNRTGTAP GMELSFSPGPDFEKNLTKSMLDNMQDSAFMHLMDEEYDQ
 TDEWGVEWKDDPYTNDAHNPLRDHDEAAMAYKAPDPTRPE FYEYDRIIEEGFDKFFDEEY IFRDTDWTPEEKEKKDAEQN
K TDPYETPFGTGHYTNTARNPLRDNEDAMAYKAPDPHRP IGRKEIVGVDEEHALDWEVIRRDSE HLLPDAEEATM PGTELPDNASFQMHEVEDTTREDYDFNQTAHGSTDEEQDA GCKIVYFDDSPDVPVEDYPTKNDAD DDKLKPDPTKDGRMP WGVVYRLLGNERAIVKYPLLNADESDLDNYPWLDPYAPGR YFPYDGFPTDYSTLDNEMGKVLWSRYVHSPWDHASDPDFW VKHYTDETPDMTSWVMEHLIKKEEDIHLLRYRPVPKDDRK PNPPQNYAGDTKLPFEYVYTVDEVEAYEFPDTSKFDAA QMETKRHPKIYTTWTTEYLMKTEEDVDRLLSMPYEKA P PQRLVGSYWEIVDPPFRGATVEDLDRFRWPEPRVSEQD A TARY TIPDAYPNPADHKGLENDSDLAGDEPLGADHPWIT Y

VLQSDEHTAWVSDRLIKNKEDDDTFGKYAPVPVCDVEEVR GYP DDELKKP気SPLDLKDTKPLGRDSDWFR GVEKKLLQGMTQLSSTPLADAETEDIDTYPWPPYAPGRTR
 GQM【KHDYDDTWMNVQASAVNDPHQWSKTKVPDLKKGADA PYPAPDTEQITVEQMRFLPRLDLDTPSFR FVEDEYMKADEYDVFITKNPLEFMLDRFRARMALLKGGMAQ PFPNQHGRKFDDHELAEVPLEDP RHPKWLNFTDWNYD


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160
DVDECLRRVEAAPEGKVRLLGILWSAHFQDACAAFGMETAM EYLKANRLAVENDK DKPVLSGCDGPFSLAGRLYDMSEGMM
QE YEAL
FDWRGEKANGDRFTVAGFGFCMFERAWSLMGMENVL FDWRGFSEKLGDLHEKRVIKLHAGGDFEYVWALRGFEQLL
\(N C \square E T \square S \square L K E E V G M S V P \square A G G V L S P F S D P D L Q M G F D K Y \square\) \(P\) PLESAKRLKDRFPDVSMTTSVAGPDSTAIVVRPVEKVL RELAS
\(H G A E L L Q K V K G E D V P V V F T V F S P A T T A D K L S G K K M L S\)
\(K\) HGAETIKKFRENHG DFPIIGFTGAPLTILSYAVNGKATR
\(K G M D D F R K S K E R F P N ~ W G S G N N V A G P M T T A T S I R S L E A T L D\)


A
 NVGETVARVKAELGPETTLIGFCGGPWTVMTYMLNGKKAH A QI RYARKLVSIYGKETPLFYNLFAAPRTIEFMQTGVNDS FQUDGLTLIRRTLPNNKSLIGGVGAPYTLFKFQRHPQSNS
 QQVELVKQVRANFREDVVSVYNI FAPDTHLKWQYGDERVA
 HQKKQVEDIKKRDL IALGDMQVTIWETAWYLRGMENDF YVGEALTILRR
ELLYYKLLLEK LDKGENDPVIFTDFSPDT TADKDSNKQLVS YMPRLDAKIKEARGKGKFII GGWISLFERMQFLRGPENLY LVATSHLLEFYENNTDFFLI SQINGPVSADDWALGMEDYM






 RELTY L RLLLERVQGEVPVVGTVFSPDTVADKVSGGKES I KLEAVIRGIRQEAGEDVLLFQTMFGPFKAAS I AF GDDVLM LQR\|RMQKQRVFGTGEVMPVVTSRGPMCTAGFARGTTELM
 NQLHLVEE LUQKCDTSAFLDGTUHGDCASADHPDEARYFC
AEFEEMTKDKEKDD RF \(\square\) MYGFGFSMFERAWSLMGMEN L \(\square E E A A R L A D T E L G D V T P L I G F A G A P F T \ A A Y L V E G G P S R\)



 \(F V \operatorname{V}\) Q T L S D L R K E V G N QA TV L G F VGGLP Y T L A T Y IV V G Q S S K \(D F N S L N A Q L E K Y K D Y A D M T A P G Y S S P F R I V Q R L I G R D S F M\)
 GELRRRALKLRESSSDRAIVITMGCNLFEWGTFLRKMDNFL
 \(E \square Y K N V E R G M Y R G G M D K F L\) CIFESAWALRGLDTLM YCNAPVE DGRYRLVAWFSDGPWTRLWDYRGMTNSLL
 A E GLLAKRAHDLLQNTDYAIAAHNYGFFDTAWUMRGFDNFL

 A NME GFEDMKHE




K A CEF GERGM\RGF \(\square P G F D \square Y G Q P G C W Q D A A V L F G T E K L I\) FQDGYARKLVSLLYGKEVPLFYNLFAVPRTDEFMQHPVDIA GLKERARHLYYDTDYAIASRAVSHGFFELSWELRGMENML
 GQ \(\square\) N R TKK \(\square\) ME E \(\square\) NGEC LAAF YLIDF CPLS Y L R L E I G YP K MM

 A QMGQIMRNRADYLEEKPMTGFFLAPFDALADVMRGKGTL \(F G G J N D A T A D R D H K G K R C V L D A H C W G M V E G T S S F D G Q E N C W\)

\begin{tabular}{|c|c|}
\hline & \\
\hline UniRef90＿FOZ5N7 &  \\
\hline UniRef90－\({ }^{\text {2CUC }}\) & MSMLICPDELDELFDRTCDYYLPMI \\
\hline UniRef90－UPIO00471D179 & MDMILTPETVHYIMDRFC \\
\hline UniRef90－j9MAX5 & TWIYKYPEESKKLLAKIAD\｜CVDHLALQVKA \\
\hline UniRef90 K8WM77 & DPNALHLLL \({ }^{\text {d }}\) \\
\hline UniRef90－A6LRB3 & YEKPELLEHLIK \\
\hline UniRef90－R6WUS1 &  \\
\hline UniRef90－TOMVD6 & ISTGEASLLHTMNDLKELLTHDIQDQUKAGAEAIQTFD \\
\hline & KDSVRRKEDLHRLLDYCVECNLS \\
\hline Unil & ADIRCNPDAIEAALRVITDVTI DFCLDA R \\
\hline UniRef90－R6VG &  \\
\hline UniRef90－G2MT16 & DMMID \\
\hline UniRef90 Q8THF9 & GDMNTNPDVVLKAVDKCADYVAEVSRAFFEE \\
\hline UniRer90－\({ }^{\text {UniRet900037 }}\) & TLMHEQPDLVHRTLKNMTDYMAAYSQKMIANGLEGV \\
\hline UniRef90－ V 4 P & DFVYDNYQQVDDLI DTVTEASAHYMQADNGAQVDKIFESW \\
\hline UniRef90 R6BAC3 & DWLKQEPNKLAHVLDVISDDYAELSKALVEAKVDGIYLSV \\
\hline UniRef90－DoRN & NLLNNFDPVIEKILEENIDLQFSVDLDILMIFDTEAQHLN \\
\hline UniRet90－FOYUH9 & \\
\hline UniRet90＿W9E2Z6 & \\
\hline UniRef90＿UPI00037F & EFLREDPETLKHVLDVIAYDIAQLVKKVITEAGADGIYYS \\
\hline & A \\
\hline & \\
\hline UniRef90－UPIO0042B1931 & EVLHSLLQKFATSMANYIQYQADNGAQVVQIFD \\
\hline UniRet90 UPIO0036EAF97 & HDQQGCHKQ \\
\hline UniRef90－F3zX77 & \\
\hline UniRef90－FOYW73 & CYCMTDPELVAKLADKIMDFELGRAKMFLDKGAEAILI \({ }^{\text {C }}\) \\
\hline UniRef90－F6DR64 & Ald DPPRLAAALDFSTRLADRYGLAQLDAGAHAVIM \\
\hline UniR & M \\
\hline UniRef90 G8LV & KVQKYLEKAVE\｜YCEDMKKFMDVYMGFGGDDM \\
\hline UniRet90＿S0G2K8 & RALIATDGMKIIATLDHLTRHIAFFAEEQIKAGAEVIVLAD \\
\hline UniRe90－－OY1941 & \\
\hline UniRet90＿G5IMV1 & RHIREDKKPVLEAWKR ADGMCQLAEAYLELGLDGI Y A \\
\hline UniRe990＿K6A6L6 & E \\
\hline 7N2 & Q \(\mathrm{L}^{\mathrm{H}}\) \\
\hline UniRet90＿UP100036 & HDHPGFVKNLLNAIJAEYNIAQIEEAL \\
\hline UniRef90 UPIO0035DE4B6 & RPDLMHR EINADAVALYLNTQLEAGAQA \\
\hline UniRe90＿UP1000 & RWLYQHPSASHQLLKQLTVEYVGVAGAQALQVFE \\
\hline UniRet90 UPi00035D11DD & KYEEKGGQLFKSAL KKI SKA EMVAEA SIGADG Y A \\
\hline UniRef90－B1ZRGC & SVEKPEWA K K L \\
\hline UniRef90－UPIOO & AMMLEPQKDQRLLEKVTQFLKDWLT YQREI \\
\hline UniRef90－X1P3N3 &  \\
\hline UniRet90＿E1ICG4 & \\
\hline － & \\
\hline XILY4 & \\
\hline UniRet90－FOYMM3 & CSMLACPEETEEFFGKIGDYFGHLVDЏALEYDFDGUYFGD \\
\hline UniRet90－W4UHF4 & \\
\hline UniRef90 Golc92 & EGMVEDSQAVKKVLDVIAQDVASLSQALI DAGVDGIVLSV \\
\hline UniRef90 UPIO003B3E5F8 & FDLYEHPDYFRDVQKKYIEYTGSAEQTCLKTSVDGUFLNC \\
\hline UniRef90－D5EDG5 & MRQNPEAFREGIETITQTTINYVKELVNAGADGIIFFAS \\
\hline UniRef90－F7KC94 & M NMIAAPELYEAVNEKVLEFYLKANRIFYEAHAVLIGNDM \\
\hline UniRef90＿J9Y 39 & \\
\hline 隹et90＿W7UB10 & \\
\hline UniRef90＿W7YF & EVMMSHPKFFKAL \\
\hline niRef9 & KNLSDDFSEAYDVIRHANTICIDRLCKCYCERKVD \\
\hline UniRet90＿UP100025553C6 & VDUYTEEDLLDVLMEUHLQSLEKVCNAVGDUVDILRFGDD \\
\hline UniRef90＿R7J8N8 & T \\
\hline 矿 & \\
\hline  & MD \\
\hline UniRef90＿SOFBE & \\
\hline UniRef90＿R6UX & DLYTNPEDVHH \\
\hline & KDVIQUPDKVFEAMQVITDGM\｜A\｜LADQADQUGIRRFIGD \\
\hline UniRef90 B5JGE4 4 & VMTMQDPQYTVKLMEFTARVAAAFGKAFID IGIDPIIFD \\
\hline UniRef90 B8FW54 & DLM \\
\hline ef90＿R6FLET & LLCDPDEV \\
\hline UniRef90＿uploouthe & YDDPEWV \\
\hline UniRef90＿F3ZVR4 & KSQPDVAKAI R R IT FFFEYLKKV \\
\hline UniRef90＿UPIOOO3B75E97 & NRKKFRKLLDFFAERLHNFLDSV \\
\hline UniRef90＿UPI00036DA30F & SVLGPYIDT T T S G \\
\hline e990－F8DHD6 & ANFDDQDALKKVLDT GQDIASLSQRUIEAGADGIVLS \\
\hline 仿 & YALMDYPEEVEALLERRVDRIAVEISAGSDAEVFLTWEDT \\
\hline UniRet90－UP100037FB2EC &  \\
\hline UniRef90 GOIC90 & DLFLENPELFRDVLDVIAEDIALLTKKIIQDGGADGIYLS \\
\hline UniRef90＿N9W1U8 & \\
\hline & \\
\hline UniRet90＿UPIOOO35573816 & METFYDPEWVHTFLKILQGRKKHYIKSMHGTQFDVIEHGG \\
\hline UniRet90＿H1D277 & \\
\hline 隹 & \\
\hline UniRef90－－6BCL4 & \\
\hline IRef90＿R5IMY4 & \\
\hline UniRef90 X1BFY & \\
\hline & \\
\hline & \\
\hline f90－UP10003809A95 & \\
\hline UniRef90－V7EMW3 & MNLGGNPDLMANFFDRYADWMCVQVDQMVEAGVDMMTLS \\
\hline niRet90＿COWPB8 & D A G \\
\hline Ref90＿G5HHL1 &  \\
\hline
\end{tabular}

\section*{UniRef90 FoZ5N7 UniRef90-K5ZUE1 UniRef90-U2CUC6 UniRef90_UPIO00471D179} UniRef90_J9MAX5 UniRef90-K8WM77
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UniRet90
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UniRef90-F3ZX77 UniRef90-FOYW73 UniRef90-F6DR64 UniRef90-N6YXP6 UniRef90-WTY5T1 UniRef90-G8LVS2 UniRet90_SoG2K8 UniRefofo-FOY194 UniRef90-G5IMV1
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UniRefgo-C618Y7 UniRef90-C6L8Y7 UniRef90-B1ZRG0 UniRef90-UPIIOOO36A5630 UniRet90-X1P3N3 UniRef90-E1ICG4 UniRet90-R5TCU9 UniRef90-X1LYF4
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UniRef90-F7KC94
UniRef90- \(99 \times 39\)
UniRef90-W7UB10
UniRef90 WTYFHO
UniRef90-D8F4Q1
UniRee90-UPIOOO25553C6
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DMDDPDLWREYFKPRMADUIDRTAKAMNQVKTAYHTDGCN


SRSSAQWlSSKNFERGFDPVMKRLVNGLNEGU1 HFDSDW GMQNAPFISPELYKEMLQPYHKELFAFПKKKIMFHSCGAV DLGMTTGPFMDLFKPRHKOLCDYVKSHSNMHTFIHSCGSI SLTVISPDDHEEFCDPYDIKMHDALKKHGFRSVYHTCGGM

\section*{-}

UniRef90_G5HHL1

\section*{UniRef90 F0Z5N7 UniRef90-K5ZUE1 UniRef90-U2CUC6 UniRef90-J9MAX5 UniRef90-K8WM77 UniReffo-AGLRB3 UniRef90 D6DGl1 UniRef90-TOMVD6 UniRef90-F7KND3 UniRef90_UPI000477761F UniRef90-R6VGQ3 UniRet90-G2MTT6 UniRef90 Q8THF9 UniRef90-UPIo0037DA118 UniRef90-G5HSV8 UniRef90-R6BAC3 UniRef90-DORNS8 UniRef90-FOYUH9 UniRef90 UPI00037F9B96 UniRef90-U5PB64 UniRef90-U2B8H8 UniRef90_UPIOOO42B1931 UniRef90_UPIO0036EAF97 UniRef90-F3ZXX7 UniRet90_FOYW73 UniRef90-F6DR64 UniRef90-N6YXP6 UniRef90-W7YTT1
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UniRef90_V7EMW3
UniRef90-COWPB8
UniRef 90 G5 Gitll R

\section*{ \\ }



GQWLEAMAATGCDALGDDWTTEDADARR RVGDKVALQGN SSSILEETLESGUKAILVSHTDDLAETKKKVGQRATNLNG SPIWSDLADAGLFSFSIDNCEDLEVAKKAVGDRMR IGAN
 GDDUMFDSSYPVQLFNWHDRLTDPDLRRARQKFSQVLVGG QDLFDDLISTGLNCFNPFQPEVMDDDLLKRYRGRLAFHGG VHYDUQ SK GGTALYSYAYYPSGKGKGSYSYYGKYCCMMG
 GFHNHLSWYREYPRLAVNWAAKVEEGKKLLQKKAVIGGAFG S KNYKEFCEVVKPDVVSVDYNVDPKNVLKNGFGKIPQGG GASNE
GASNEVEKKDYPAQVINWATH NEAEGRKLFGNKAVLGGGF
EPFITHLIEAGGDVLNPIQECMDFKEITCRKYGDRISFHGT EPFDPHLIEAGDDVLNPIQECMDFKEDCRKYGDRISFHGT NNIMFEELKNYPVPI FNWHAWETLPAMDEALTVTGKCLMG

 AGURDCYARDGADVATFDYYLSAAEACRLLEFRRTCLAGG YPLIPELIDAGMDAUNPCKGMDIVELKKNFGKDDTFWGGG GNIMALAGALAPDPWDALSVDSVVSLKKLKPFFPGRALMG
KDGLNMQRYASYRNWGVYETHFS DEEGRELFPGVT DMGGL SSLMPHMDEAGПEVFNPVQTNMSPEFLKKEFGQDCTFWGG TKLTQAMSESGCDMLSVDDAVDLSY VKEVCGDKLPLLIGN DELLDDLIDTGVNCFNPFQPEVMDTALMEHYRGQLTFYGG HYALEDLSQSGYEVVGLDWTIRPQEA RERTGKRVTLQGN NKAMFDVKDYPVQADNWHDGESYPTPREGQDYSQKVIMGG


DLMFKLVADYPVQVLNWDDRRAGPSLREGQALVSKAVAGG KNNDNMRYKTYGNWGCYETNFSLEEGRLLFPDTAVMGGQ YEFIPDUIESGVDILNPVQKGMDTKRGKQEFGDRLSFWGA

NRMEVWKDYESALVSWAMYVDH DDPVQ GARNDIHDFADYPAHVFNWAVGPEKEGREDFKGRAVLGGF GKGRKLLDD DFEAGVNMDCPLETPDEVKAAFCDKLALKGG
 SDIIPDLIDAGVDINHPDQAGMEPEGLKEKFGDRVSFCGG GALLERMAQSGADMVSLDWTVTMEEGRRRMGSEMGVQGNE RKLLPNFISAGAEVLDPI QTRMDPEGLKKDYGKLITFCGA YPIMGDLIEAGYDAINPVQKQMDPVALKKEFGKDIVFWGG YDIDPELIEEDGLDVLNPIQTECMDPEILQQEKYGDQCFFGG
NLPYFKHFPKGAVCLGLDGSTNIFEAKK LLDGWCSFHG
 GASNGSKVHGIESISPAPTGNIVMKEARRVLPKEKFLVG GASNNVTIFKNYPAQVFNWNTSLIKEGQELEGGRTVLGGFE NRDVNLDYYRDYDNWGTFEVPCSDREGREIFHQKTVMGG[L GLDWLEAIAETGCDAVGVDWTVNLADA RARVGHKVALQGN MPFLEKIADMGADAMETFTPVSMGKEAKKRIGSRVCMIGG GFHNHWYKDYPFKAVNWAAKVEGVKEGKALFHGKAVIGFG YRLLDGLIESGVDILNPVQPSADDMDTYRLFGDRLIFHGS NPILDDIVKTGSKVISFDDNDEDSKAFE VFNDLIVFG G DPNRDEDWADYKTAVVSWARY IEKEAKEKFGRTVWGGFD AGTSQWFLDYPVDAFNW
QUYFEFFDRYPAQVLSWSDRLTGPNLEEARTLTEKCLMGG GHHDHHMLELPKGKVLCDDDNQGD DFKAKEVLGGHQCVAG MQ LDDDVEMGYTSWHPVQESMDPREDKAKYGDKIVIYGS NHEWYT DYQLQUINWSTHVDGYTDGEGKKDFGDRVVGGFG

\section*{UniRef90 FOZ5N7 UniRef90-K5ZUE1 UniRef90-U2CUC6} UniRef90-J9MAX5 UniRef90-K8WM77
UniRef90 A6LRB3 UniRef90-R6WUS1 \begin{tabular}{l} 
UniRef90-D6DGI1 \\
UniRef90 \\
\hline
\end{tabular} UniRef90-TOMVD6
UniRef90_F7KND3 UniRef90-UPIO00477761F UniRef90-R6VGQ3 UniRet90-G2MTT6 UniRef90-Q8THF9 UniRef90_UPIOOO37DA118 UniRef90-G5HSV8 UniRef90-R6BAC3 UniRef90-DORNS8 UniRef90-FOYUH9 UniRet90_W9E2Z6 UniRef90 UPIOOO37F9B96 UniRef90-U5PB64
UniRet90
U2B8H8 UniRef90-UPIO0042B1931 UniRef90-UP100036EAF97 UniRef90-F3ZX77 UniRef90-FOYW73 UniRef90-F6DR64 UniRet90-N6YXP6 UniRef90-WTY5T1 UniRet90-G8LVS2 UniRef90_SoG2K8 UniRef90-G5IMV1 UniRef90-K6A6L6 UniRef90-C7N2T3 UniRef90_UPIOOO361127E UniRef90-UPIO0035DE4B6 UniRet90 UPIO0034FF73B UniRef90-UP100035D11DD UniRef90-C6L8Y7 UniRe990-B1ZRGGO
UniRef90_UPIOOO36A5630 UniRet90-X1P3N3 UniRef90-E1ICG4 UniRef90-- 5 TCU9
UniRef90-X1LYF4 UniRef90-FOYVM3 UniRef90 W4UHF4 UniRef90 NgVRQ6 UniRef90-UPIO003B3E5F8 UniRef90-D5EDG5 UniRef90-F7KC94 UniRef90_W7UB10 UniRef90-W7YFHO UniRef90-D8F4Q1

anrsgVLVdgteeelreavrellt gagfllgadctlatem GVETVGTLNNTPTQVREQVLERLEGGGFVFNTVHNLPDV
 MDPC
ПNRWDVTASNFNELHHQ TYRTMFQGKGLILAPACVTP MNNKGNILNGPVEAIEEEVKEI LDAFGGMIGADCTIQGND VNPLEVGVRGTPEEVRAATLDVLEKGGMILSVGGGTSPGM

\section*{TGQWGALLQGSПEEVRAQVADGTAQTGYTAAPGCVMPПPT ANRSGVMVDGTEEQLAEAAKKDVRKKGFVLGADCTMPTED ISTQQCLIPYKTAEEVKEETVKMYENGGYIIAPTHALLAFDV}

FDNRRCGYKGDKEATEEETRR! MALGGF\LGPDCSLPDD ENGKDGLLYRSKEELQAETKRLVEKDGLLLGADCTVPNDU

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\hline UniRef90-UPI000471D179 & P \(\square\) E NIM A L Y D \\
\hline UniRef90-J9MAX5 & \\
\hline UniRef90-K8WM77 & PPEHAGAFVDAVHRYS \\
\hline UniRef90-A6LRB3 & SEDULYE\|SESVNKW \\
\hline UniRef90-R6WUS1 & PKANVEAFIY A ARKY \\
\hline UniRef90-D6DGI1 & D DEMLEYV \\
\hline UniRef90-TOMVD6 & DQRTLRNIVKEVHNW \\
\hline UniRef90-F7KND3 & PRENLYAYI \\
\hline UniRef90-UPI000477761F & ADSAIQAVVEAARDHN \\
\hline UniRef90-R6VGQ3 & S Lie NMLT FIN \\
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\hline UniRef90-Q8THF9 & P LD T SKA MVDV \\
\hline UniRef90_UPI00037DA118 & PPENIVAMYDE \\
\hline UniRef90-G5HSV8 & Y DDELRAF 1 AAAHE \\
\hline UniRef90-V4PCI9 & P 1 A HVEEALKR \\
\hline UniRef90-R6BAC3 & PVSHLKWVREAANE \\
\hline UniRef90-D0RNS8 &  \\
\hline UniRef90-FOYUH9 & P T A NIEALETAGRE \\
\hline UniRef90-W9E2Z6 & N P EMLENLDKVVKNF \\
\hline UniRef90-UPI00037F9B96 & SSERI E WV ReAvi \\
\hline UniRef90-U5PB64 & QLERLDWVRQA \\
\hline UniRef90-U2B8H8 & PLENILAYVEACRTY \\
\hline UniRef90-UPI00042B1931 & PEENVAHFFEV \\
\hline UniRef90_UPI00036EAF97 & PLD Q S MLE YVKK \\
\hline UniRef90-F3ZX77 & PLENDEAVLTCWNE \\
\hline UniRef90-FOYW73 & KVENAKAMY \\
\hline UniRef90-F6DR64 & K Q E L L A M M D \\
\hline UniRef90-N6YXP6 & \\
\hline UniRef90-W7Y5T1 & APENTEALLFQAVK Q \\
\hline UniRef90_G8LVS2 & PPENVVAMFEAVREY \\
\hline UniRef90-S0G2K8 & LPENITRSMVRAAQ \\
\hline UniRef90_FOY194 & \\
\hline UniRef90_G5IMV1 & P Y ERIK K V VE A \\
\hline UniRef90_K6A6L6 & P PENI DA MFDAVKEFN \\
\hline UniRef90-C7N2T3 & P I E NVDAFMDGVRE \\
\hline UniRef90-UPI000361127E &  \\
\hline UniRef90_UPI00035DE4B6 & P P EHVTALVEAVHSHS \\
\hline UniRef90_UPI00034FF73B & \\
\hline UniRef90-UPI00035D11DD & \\
\hline UniRef90-C6L8Y7 & RPEY\KAAVDAAHQY \\
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\hline UniRef90-W4UHF4 & \\
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\hline UniRef90_G0IC92 & A VERI Q WVREAVAK \\
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\hline UniRef90-D5EDG5 & NEDR \\
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\hline UniRef90-J9YX39 & PETNIHLFIDD \\
\hline UniRef90-W7UB10 & PEENAKFFID TVKA W \\
\hline UniRef90-W7YFH0 & PVENV\AMYEAARDW \\
\hline UniRef90-D8F4Q1 & PAENV HE \\
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\hline UniRef90-R6UXH4 & P \(\square\) ENF \(\square\) A F I E E A R Y GA \\
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\hline UniRef90-B5JGE4 & PPEHIDAVRAC \\
\hline UniRef90-B8FW54 & PPENI A SLYRT \\
\hline UniRef90-R6FLE7 & PPQNVLAMFDAVKK F N \\
\hline UniRef90-UPI00046EF6A9 & PPQNLRYFSDAAK \\
\hline UniRef90-F3ZVR4 & PYSHAVA M \\
\hline UniRef90-UPI0003B75E97 & VEENLFAFAETGLHY \\
\hline UniRef90-UPI00036DA30F & PAENIDAWVEAMR \\
\hline UniRef90-F8DH & DEERIEWVREAAAE \\
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\hline UniRef90-G0IC90 & ELERLDWIRQAA \\
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\hline UniRef90-UPI00035F3816 & D 1 DLLRAFADEARK \\
\hline UniRef90-H1D277 & DVNHLA WVREAADRY \\
\hline UniRef90-F0Z475 & PMENI \({ }^{\text {PKFAEWA }}\) \\
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\hline UniRef90-D6TLK8 & P E Q \\
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\hline UniRef90-G5HHL1 & D L | E K V V K Q A V K T A R \\
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\(R M T R A V A L E P T D R T P V M A W \square D A W A A T Y R Q \quad G S\) PREQVIGAVQRRRPSRIPLI MTSKERILAAMNLQRPDRVP LMCQFS \(\square\) G CMMEQLHPD MSKRELVFDAFDNKVTERVPVGFWF HYAPD MNKRERMEALFNQRETDYVPAGFWFHYPAS MNQRQRFHAAVKGQPVDRPPVTAWVH

TKRELVKAALDCRPADRVPVGFWHH MKKRERVFAAMKNQPVDK』PSYFTMH

KER】AKAVALGKTDRTPVVLEFAAFAARAQTMS MS A L Q D Q P V D R LT A YP \(\square A C G G C R R K L L N N A G D T\) MNDRERFLAAMRYKPVDRVPY REFGAWPETDERWLS


MT A KENVIDRTLRHDNPEWDP VNLW
QLP A A K LK

Y H
MNSKERVKATLRRQTTDRTPVDCW
\(\square \mathrm{Y}\) Q K Q

SKKQRFEQ ILNGEKSDRS \(\square V S G W H H\)
MT GRERF LTA \(\square\) S N GKPDR LP VHS WMQYY LDTY L H YRA YE T K RE WVLKAFKNETVDKVPVGFWYHFTTDE
\(R L G K D V I M K K T D R V P I V L N A D A F C T K N G G G K L S D\)
MWF MRQAGRPEYRALRERE
MT S Y E R ITK A AVS H K R P D RVP C D F S A EK DVI E N L K A Y F S \(\square\)
 NKKEWVLKAFRGEEVDRVPVGFWYH F LVPEEEFGQGLD

TKRELVKAALDCKPVDRDPVGFWHH
MTKRERVIAA IEGKKVDA \(\square P S S F S L H\)
LT S R E R I Y K A L N HE EA D RYP IDDGGIM F G \(\square S \square F A Y Y N \square R K\)
MNSRERFHAVMNYQTPDRPGIGGFPDTPRRWAREGYKES
MNPRELVRKT LEFKSPER\PRQDWVLPWAEEHYPAEVSR
\(\square V W Q A Y R A G K P \square R V P V I F V R F T M W L P E A N P R K \square T\)
\(T K R D R F L T A A R G G T T D R P P V G A W V H Y G S A R\)
EMTAAERIKAYNEGKE VDH \(\square P Y T \square\) QAPDPAMAD \(\square F G F T\)
MSKKELVKTVFDGHQAERTPVGFWHHFVEDVYH ANA
SKRDLITAAFHNQETGRMALGFWHHF LKDET
LT K R E N F L E T \(\square R G G R P D R\)
MNDRER LIA CALGKPVDRPPFWLMWQTTWARWEKEGKPD
TKKERVVKALRNEEVVDVPVGFWHHYLEDEHVDALKTP
MAAI H HE ELDRVPI Y A GLDAKFVELITGKRHC MNKREVMFNLLEGQSPPY』PAAFFLH
MTPRERFRA I I RGQMPDRMPYMFGSPASTFSAWRKQGLS
MNSKERFTAAINHEEPDRVPVTTVSVK TYDRLLKKLGID
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MTMRERMLA LIDQGREMDRVP F VQQ DGLVP TEELWALVGR
THTQRLKAVKEGR LLDRPAYTA W GP H
 \(R N G E P C R V P F F E L F\) ADDEDMEEVMGYK
MT TRERFRRVMAGDA VDR LDPA \(\square E W\)
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VA E F \(\square\) S S S LVSAEAMDKTVEKVGYGSYFKYGLEMAWDSKD YHDWATDPKKFASAFDAGQKYFDFDFADMLMDLSVMAGDL \(E G Y E P N N P P D S T D Y W D W Q G G W F F P N P V I E E D E R T V L Y D N H\)
\(L S E D L S S P D M Q A D A V S E D A K R A K T G A A F C F M D L S V E A E A F\)

\(M \square Q A C L T P E L A S E \square T L Q P V R R H G V D A A \square L F S D \| V L P L Y A A\) Y G Q A \(\square \mathrm{D} D \square \mathrm{I}\) NRCE \(\square \mathrm{D} \square \mathrm{L}\) S A PFDDPTEDARHYQ \(\square\) GSYTDCW
 FVEKLTAEYGPREQFLDEFG \(\square \mathbf{D} \square F \operatorname{VGFVPYPNQTGRLWDV}\)
\(F \square D K E Q S A \square D L A E A T \square D F A K K Y D W D W \square K \square N P R A T Y \square A E A F\) YFDMYDEHDLAD W VVDNRD \(\square G Y D D D G N R V W E R \| I I T P E G V\) EQS DGFNPEDFNKNDAGHKKFVADVNPDFVKDMSDGFFT \(M \square G A C L D P A T A A E A T L Q P V R R H G V D A A \square L F S D \square M V P \square A \square A\) DDMDDLLDVLGVDR RHVAPRYVGPPDRTFEDGSYETGDF MEEFTVRMDLDAULTGPDFEKEQV GPRQYRNEWGM NA QLFDKNW QGHQKF \(\square\) KEVDPDF \(\square\) K \(\square \mathrm{MS}\) DGFF

YKKYVT DFKVLVEGN【LCCEKFG】DMVSA \(\square\) S DPCRELFDF F \(\square\) A D QRHADA \(\square\) AHHSAWVDN \(\square\) A GHDTFYKS WKPDF VK \(\square\) MT
FPKNQAVGDEAVAAHLKFFKETDTDVVKVMNEHLVPYYGM YLGLSLDRDQLADTVQMLARVDDDILEKFHCDTVNPPYK DLEGYKT D RWLW WG TLFFPNPPFERQVIEDDNRHLLY DNH
 FEQYFSDPQVMLERQIEHLYWVRHWHVWVDFQNVYEAAWF WSPQQVAEAHLRFYRDYDWDFIKVMHDYR DDL TSQFAKDFEVKSEVIRRRKEEFGLDSFNVGLGQRTDGVAL GADAFLHPELTDEV DQQQEDFYQAFSPDMDK DMTDGFFK FVNQFEAF R ILGYNPDMMVSPMEGYGDLDVVNGWGVVNSWP
\(S \square A D F R S F M N P D E \square P R A V P V N C G P C P R D E F D I L T F D D G W G\) AYHTQNVEGAKKFKEEFDPDFVKVMTDGYFYDPDD YEVLEWNQRLSHEATRKLGTDVFSVSDYWLWPESYTPQYI FDPAFHRGEAAVQKHDEFFRATGMDFVK EEQERNWSKF IGEEGFIGDGKVNFGPIMPFWDDHYGVKRM WLRQNVKPDEDVLERGGVDTRYVHGGDSEFWRGLYVTDEW WRRPELVDEKLIEEAELPILDEMDSAPTCTGDPMETFLQS
GNAGLLRWVMAHRVEHPHCRLVTEEAAFNGRPGLYTPEGQ MSLVDRNVKDFTEAT \(\square A Y Q N S Y Q F D F \square K L M S N G M Y F T E D F\) EVSSYSSGQTRDHASEEF DWDYGFFWNIIPFDEQFGENHT LAKLEEDPDRYFDQLVGFYKEMGYDYVPFYQAPRFPTPDY
\[
\text { A Y WWD K T LE } \square W Y \text { G QG } \square P R G \square D E A A M A D F V G \square D R N T Q F
\]

YMWDWEKAMAATEKVWQAFPVWDSNAYMHGRYAPVGQKCG LQEDYY QVDKNDEAVNRF LIE EYDVDVAPT TPS LDWWASLHD
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S ITRDLAA A \(\square Q^{110}\) S
\(\square G\)
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120
GVNPDNWEAGDTAWISKRPFS DLKGLEKNMPGLPKFEEV GGEDKFPSSEWQQAPSVSRSPVETEEDAWKLELPDSTMAG \(K V A G K E L P E G S L L W Q V D E Q E H D T E D E D Y D R I L Q M G W T A W K F E\) VMGGLS WE I S A D GA L D DS K CVI D D WA K L D E E D D K L P D P E S D P Q
 M N D Y R Y P VP A
DGFFLYPHQQL

K R P GEELDPENELDWQVVEAELMKQSDYDRVVEEGWPNWLMS GSHDRMDEQNTPFVDEPDKDVEGYENDEVPD DTDPKSRSA E G L L I R E R K DNPMSSMP QFVVRFPVEFWKERMQPDLAA R LDP

\(G \square G \square D \| V A G T G P \quad V V S S P V R T A A D V A A D P R \quad L D P A Q V A\)
 G G D \(\square E F S T E R W Y G T \square H K Y P \square V T E K D A E E L P V L G A E N P V F A\) QDLPTFDPGDPRDPRWLTHTDWNYDFAGL

G N Q Y D F N D Y R WVF P R Q S Q S \(\square\) I Q N F A WN VKE VE VA T S A P LQ LTEK GAVNK Y T E W \(\square\) TEEC I K D EKK D WN K Y VPP LPA QVD WSP
 K VP GREDLPDNMDWQDDEKSYMTEDDYDTIDDKGWNYFFME


GGPRKKD \(\square P E T P V Y F P W G D \square E T T D D L K D R Y G T M G D M S W W D\)


DLE E I K N H P FP T VD N S GANVVFPENDVPY CKDFLIKEYVDIKKVKK DPMKSMRMLD

\(\square R T P K D Y Y E L I P S F S R N T N D I E D \quad Q \square E M T K K \square M D\) KLKEWNARDDYRF LIDPEQWTPEDEGDYFVVRRGSEKMRMP

 GCE \(\square R F\) YPDQVPDVVPMNDDNKRMLFDKGVPDPFES GLTK
 LQKAEHLS

SYPAEILQKPLTSRKALGE,KPLAKSSVWFE

\(\square K R K N F K H T E S M S Q F \square E F P \square K T\) RQDWERFKEDPD HPDR LAA
 DK H T F ID WWGKVY R RLP K VGTNY WID G I L K TEEDLE NFVP

 FAAMWFAKMKVPGRELGDNVLWQUDEQGPMTEEDYDT I I D
L VQEK AFEPAYGSASTRKHF DKDPEDYR LLMCF LRDQDVY
 KMGHTD YS D DVVRVFIE EPEDVFDDLFFETYGEKDKSRII T \(\square \mathrm{D}\) GED Y R R E S R K WM NE K G GP I K T L K D L WLPHKTPDCPRETSHGRG VVENESDYERLRPYLLPENAVQ
PGRLKMPGREDGDNAQYQ VVEFEAMLREDYALVKEKGFME \(A \bigvee G A R Y L D E N K Q F Q F \square E D A Y M Q P D D Y D S F \square A N P T K W G L T S\)

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 UniRef90_C5ERT7
UniRef90 X1EKG3 UniRef90-B8FV87 UniRef90_UPIO00381AE1E UniRef90-F3ZW25 UniRef90_R7L5Q7 UniRef90 UPI000474DF72 UniRef90_UPI0003B68646 UniRef90_UPI00023788AD UniRef90-UPI000471ECA4 UniRef90_R5F5X0 UniRef90-A9NKE9 UniRef90-R9MRC0 UniRef90_10HZU0 UniRef90-F9ECK7 UniRef90-UPIO0025550F5 UniRef90-UPI0002D55DEF UniRef90- X0XRY3 UniRef90_F4AOC0 UniRef90_H6P923 UniRef90_U5RTV4 UniRef90-U5KKC9 UniRef90_UPI000360D6C4 UniRef90 X1CFS3 UniRef90-F3ZYQ3 UniRef90-XOUDD0 UniRef90-G5JU34 UniRef90 W5DCH5 UniRef90-XOVYT0 UniRef90-X1CL19 UniRef90-W7XWJ0 UniRef90-H1CXP0 UniRef90-F0Z453 UniRef90-R5J6W3 UniRef90-F5YF00 UniRef90_UPI000379BD59 UniRef90_UPI0001BF7CBB UniRef90-UPI0003B40500 UniRef90_UPI000360BD73 UniRef90-I6Y034 UniRef90-B0G7T1 UniRef90 F21581 UniRef90-R7CRZ1 UniRef90-F0Z5P4 UniRef90-UPI00036B804E UniRef90 \(\mathrm{X1N3J7}\) UniRef90_UPI00036D648C UniRef90-F5T4G8 UniRef90-M7U664 UniRef90-E8N243 UniRef90_UPI000373D108 UniRef90_S0G3U5 UniRef90_U5RNP1 UniRef90-K7V7C8 UniRef90_UPIO00370984E UniRef90-R5EZ23 UniRef90_UPI000471D588 UniRef90-I2F1L5 UniRef90_UPI0003B57AE9 UniRef90_G9RWV5 UniRef90_A0A016AXW1 UniRef90-F7NNZ6 UniRef90_K4LGP2
 A WYEPVLRYILKFDDHDLVYDGGIEGAICDAYTYTDMELFC A \(\square P \square A M E L S R T S K K D G L P I M T P T A G V F T T A G N \square C G \square E K L C\) Y YGRVLGFTPQDFEELGKLGAFPNDPLDPAAGGRSMAKFM FAALI AQAQA IRAQDRYLVFAWWRLFFERPWGLRGMENLF GQLDYlPVSHNLYFRSCSIHGEDTSPDDYYLDLFGYEQGL K QVS LVRNLQKTFDGR AASFYNVFAPATYLKWQLNGDAFG



YVTEHFKVAEMWKEAGTPT\TGGGGVT T TPYEMFCGGKFV TLLEGTKLVVDALGKEVITAGFLEGPLLALTQSRGAEFVF NWKQKLA AYRQRDYPLVVDADRWGGFFGPLRNLLGVERLC DYLNGA ILASERDSDRPTYACVCGPYTVAWQLWGAENLKR QQQVDLVKKVTALQADTEYIYNIFSPFTTLKSLLGVEKLV PVADA \(\square G L V R E L G E T P L I G F A G A P F T L A S Y L V E G G P S R\)
\(\square\) S GFEKTKAF \(\square\) D THKDKF \(\square L G G W \square S \square F E R M Q Y L R G T E N\)
RE \(\square E A V K\|L K D Y Y R D R \square P\| L A T \prod F N P L T A V Q E C A N P E P V K\) NVVEAVRQQGDRRFI LAHIWGIVEGTSRIIGDENCW TPLIGFGGAPFTLAAYLVEGRASR
 DKA A WARCRGFFEISHFMCGMDKFM

 YAKKHIPEQNFDDAGDVPLCQGSVMTGAPFGALYPARGFL DFSEPMRRVKYAHEKGLA I FGGMWCPFFHAGDFFGMENYF A \(\square E E A V R A H S R G A W G W T P L I G F G G A P F T L A A Y L V E G R P S R\)
FTS \(\square P N Q \square D E D E D R G Q Y W \square T T H G D P A G L Q H \square C Q W V G E K F M\) GRYESLKRLVNRYKGKLAVGVHLNDVFSIPRNLAGYEGIL QQVELVKA IKRTFSEDULAI YNIFAPVTYLKWQLSGQUI A KKAELFKTVKSLHEKGLAAAGFMPMTIWEAWYLRSMEEIMM DRAKAVELFNGRIKGYFPULGWVEGALAEANGLRGDNTMM
 GVDKDAFTMGTLHGMCASGDHPDEKMGEGYNYDQVVQMQV LDGFFFD GSWIQAKDYPDEENLEYFCHEAERDYQETDKF DWVA QLK A WRAEPAMDMMMSDRWGGFFGPLRNLLGVEELDC
VFCK NTDRFVLSGTTPRPFERFQFLRTMQQAR
VNCK Y FHFKRHTDRFVLSGTTPRPFERFQFLRTMQQALL EVLEVIVRT KRAAPEAAVIGTVAFSPTQALVRALGGSVI P ILE SAKR DKERAPDVASMTTSVAGPDSTAGAVRPVEKVL SQQAYAKLLQKKYGSEVPLFYNVFAVPRTDEFMQQTAGSP
 GWDAQGREWMRQGWP AQ LVNLHDVLSFPRDLRGLEALL
 PDPDEFNYDLVDFDGDYPVI GGIH \(\square A G M F P Y \square M M G G D N F S\) EPDAVVKGLVQAAKPEAVVVLTVMYSPFMCAGHLGSDRACLS \(G V E E Q A R Q L A E A G E Y G V V G S F A W E T W F E R A W K L R A M D R F Y\) KGWEYMKKELYNRDGYHPEELPQMDMFETLSGARKDSKFF
 REVEACKRICDHFQGEVPVLPTDFSPFIWMGEMTGGETIV

 QMLP K I R Q TPFYENGQTLVWYTLDGFFWWPRTLLGDEN HLL YRDTFDLERVHQVSREEDAAAQKEMAPFDGFSMMRSMDKFY \(F L P R \square H K E F S E P G S Y R A N L A L D K G A A A M A M Y N G Q T G Q G \square M\)

\footnotetext{
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\hline UniRef90 X1NO37 & RWMVKKPEVAHRLLRLLATDHVAAVTAYWVDAFGPNTIFAFE \\
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\hline UniRef90-X0S & G \\
\hline UniRef90-R6VB & MGL \\
\hline UniRef90 W3AQY1 & L L \({ }^{\text {den }}\) \\
\hline UniRef90-R5GM & DEVFMK \\
\hline iRef90-UP100047 & RHRGEALIAALEVVTEVMS \\
\hline UniRef90-R7 & ALKEVMAVL \\
\hline UniRef90-X1E & VLDAMKRIADGLCQLAGKFVELGLDGILYAG \\
\hline 而 & \\
\hline UniRef90-UPIOOO381, & K \\
\hline & MLIFYDPAFLEEMMEAEAD \\
\hline et90-R7L507 & E \\
\hline UniRet90_UPIO00474DF72 & \\
\hline UniRet90-UP10003B68646 & DHMHADPDA \\
\hline UP100023 & NHMHSDPQTWHALL \\
\hline UP1000471 & VA HYTVPEYVHECYEMQLETAMKNVKLKEAAGNK QAVF \\
\hline UniRef90-A9NKE9 & PKVLHALLHVFAESMA \\
\hline UniRet90-R9MRC0 & \\
\hline & \\
\hline & DHMHADPGAWDALMTWCARLLTGDFIAAQVRAGASAAQLFD \\
\hline UniRet90_UPIO0025 & C \\
\hline UniRef90-UPIOOO2D55DEF & \\
\hline & \\
\hline AA0c & \\
\hline & \\
\hline UniRet90 U5RTV4 & \\
\hline UniRet90_UKKC9 & DKMYTNPDVVAAVTSHIVDFYDETNKRWFEJAKDYCTNDF \\
\hline UP1000360 & \\
\hline & \\
\hline  & \\
\hline x0udo & EL \\
\hline & \\
\hline UniRef90_W5DCH5 & \\
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\hline x1CL19 &  \\
\hline W & \\
\hline H1CXP0 & R \({ }^{\text {COM }}\) \\
\hline Ref90-R5J6W3 & DFLRWDEKKMLDSMERIADMCILAERYTKDAGVDSVYYAG \\
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\hline iRef90 UP10001BF7CBE & D \\
\hline & ID M \\
\hline iRef90-16Y034 & E \\
\hline & R \\
\hline & \\
\hline UniRe990 R7CRZ1 & \\
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\hline  & \\
\hline UniRef90-XN3J7 & RDF YLCP \\
\hline (eir & \\
\hline & \\
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\hline Ref90-UP1000373D &  \\
\hline & \\
\hline  & RDLIYRVPDKVRAALDVMEEAELENTVKAMKAMPGVYFIGG \\
\hline  & \\
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\] & D \\
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\hline 588 & D \\
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\hline & GDQLEELLWUVNDAVIAGCEAAARTGSNR \\
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\hline Uniret90-upfoouth & \\
\hline UniRefo-R7CM26 6 & \\
\hline Ret90-×1EK & \\
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\hline 0 - 7 & \\
\hline Uniret90-Upioout & \\
\hline UniRef90-UP10003688646 & S WVGSLSRADYVTRVAPHSAAALIAQUADLDV'PTVHFGVGS \\
\hline UniRei90-UP1000471 ECA4 & so \\
\hline 90-85F5×0 & \\
\hline & \\
\hline Reifo-liohzuc & \\
\hline UniRefopo-F9EC & \\
\hline UniRefe90-UPIOOO25550F5 & \\
\hline Unireti90-X0xRY3 & \\
\hline Refi90--4AOCO & \\
\hline  & \\
\hline UniRefe90-U5KKC9 & \\
\hline  & \\
\hline UniRef90- \({ }^{\text {- }}\) & \\
\hline  & KVTSEDYRHYIAPSDLAIIEAAHQAD \\
\hline UniRe90-W5DCH5 & \\
\hline
\end{tabular}

GA QQGLMMGKEVWMEFELKRMYANTKSHGKYQLIHSCGD】 PHPDMTYEKYREFDTPSEIAVLEAANSVSDYNLLHDCGYM LDKFDEFWMPHFKK \(\square\) NGWIH DHT DWK TII KHSCGAVFD Y LGAETRWYTDEEFAKWDKPFDDKDMKAIKDAGGYCFDHMC GMQSGPFFSPDCFEQFVMPYMKEFNHDVHENSNDHCCGS SWS G S LA
 \(P\) VTCMDVISKKQFDEFSLPY IKKLID
NNVSPDGDTEEEYRKYIAPYEDKDANEAK G S N N L L H V V C G Y L LGMDTGMFMQELDKPYHKQLNEYVHKHSNMKTFLHSCGS GSQTSTFDSPEMFEEFYDPSYKKI YGLYRSMGVDVIVGHS D FADNPFVSPEMFREFGYPEMKRVVKNLGFYVIVKSDGNL

 A S M \(\square\) S P TMMREFMDPRYK QLYDFFKSNGVECVMMDTDGHV

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 NDTAPV GGEDYFRRYCLPYYDEMAGLLDERNISIAVHMD QCGMAKLMGKEMFEEFGKKYDDRNDEAVKWFNMAHVCHGD
 D Y K T S T I I F S P P R H L R R L V SA GT G S MVVS PA T I T E E F MVVP Y Y K R L T S F F L K E H G V I D T D G D C S Y N H GP MLL S E E LIF N E F IVMP Y Y Q R L I P E E I K K H G T R V F D G D I GS QES Q F CSSV EVVFNE L WLP HYRRMMND WI H E H T T WH S C G A I



\footnotetext{
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AEVIDEELIDAGVNS \(\quad\) DNPFQPEVNVDELLNTYRGKVTFHGG GCHWYR DYPFKAVNWAVAFEGVPLEKGEEDFNHRCVIGGF
 K S GL NMKRY D DVVNWGVVYEAPMT LAADGKKQFPGKT LGGGL K P LI P GLI EAELDVQQISASDMDPAELKAKFGGKLTFWGGG




GA HNR LEKFADYPASAVNWATGPEKEDGKK \(\square F K D K V V V G G\) GFRNHLEWYK DYNVANHVEGDTLGKEKKLFGGRAVIVGGFG GFRRNHLE W





EAF LP YFREFPKAQC DWDPDHVTD DRK \(\square K E \square L G D K M C \square T G\) G G LL E RMKNTGVDVI GLD WT VDMT DGRRRLGNGDSVQGNV G DLLKP L WRA \(\square G G S\) RVTGLLDSFSPPPDN DTRAGEAVAMMPM A A T S E WF LDDYPDVAFNWSDQDPAMY NFTGFVDDDAACSVNGFVMEPCTIDMSYVCEKYGSTHVIVG





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UniRef90 W3AQY1 \\
UniRef90 \\
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\end{tabular} UniRef90-UPI00047D037E UniRef90-R7CM26 UniRef90-C5ERT7 UniRet90-X1EKG3
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UniRef90 F9ECK7 UniRef90-UPIOOO25550F5 UniRef90-UPIO002D55DEF UniRef90-X0XRY3 UniRef90-F4AOC0 UniRe90-H6P923 UniRef90-U5KKC9 UniRef90-UPIO00360D6C4 UniRef90-X1CFS3 UniRef90 F3ZYQ3 UniRef90-XOUDDO UniRef90-GJJU34 UniRef90_W5DCH5 UniRef90-X0VYT0 UniRet90- \(\times 1 \mathrm{CL} 19\) UniRef90-W7XWJO UniRef90_H1CXP0 UniRef90-F0Z453 UniRef90-R5J6W3 UniRef90-UPIOOO379BD59 UniRef90-UP10001BF7CBB UniRef90 UPI0003B40500 UniRef90 UPI000360BD73 UniRef90-I6Y034 UniRef90-B0G7T1 UniRef90 F21581 UniRef90 R7CRZ1 UniRef90-FOZ5P4 UniRef90 UPIO0036B804E UniRef90 X1N3J7 UniRef90_UPI00036D648C UniRef90-F5T4G8 UniRef90-M7U664 UniRef90- E8N243 UniRef90-UPIO00373D108 UniRet90_SoG3U5 UniRef90 U5RNP1 UniRef90-K7V7C8 UniRef90_UPIo00370984E UniRef90_R5EZ23 UniRef90-UPIO00471D588 UniRef90-I2F1L5 UniRef90-UPI0003B57AE9 UniRef90 G9RWV5 UniRef90-A0A016AXW1 UniRef90-F7NNZ6 UniRef90_K4LGP2

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\footnotetext{
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