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UniRef90 F7NMN5 UniRef90-12K3J9 UniRef90-H5U2H1 UniRef90-W10275 UniRef90 D7CXP1 UniRef90-D4ZTT4 UniRef90-LTWTQ4 UniRet90 R1GN85 UniRef90-A3ZUW UniRef90_C2GHF6 UniRef90_A3GI40 UniRef90-UPIOO047BD387 UniRef90-UPIO002492920 UniRef90-A6W873 UniRef90_UPIooo302DOF6 UniRef90-J3JA51
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UniRef90 H3SPSO UniRef90-R6JIE0
UniRef90_DOWKG7
UniRef90_UPIO004027638

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GAGHFVK

## 10

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$\square$ E AYH TMK 30
40 GAGHFVKMVHNGIEYGDMQLICEAYHLMKDALGMSQEEMA GAGHFVKMVHNGIEYGDMQLI CEAYHLMKDLLGMTADEMH GAGHFVKMVHNGI EYGDMQMI CETYHLMKQGLGLSNEEMH

GAGHFVKMVHNG GA GH Y $V$ V
 GA GHYYV K M V H N G GA GHYVVKMV H N G GA GHFVKMVHNGI

## 


$\begin{array}{llllllll}G A & G & H & V & V & K & M & V \\ G & H & N & G \\ G & N & G\end{array}$
GAGHFVKMVHNG

G S GHFVVKMV
GAGHFVKMVHNG
$\begin{array}{llllllll}G & S & G & H & V & K & M & V \\ G & H & N & G & l\end{array}$
GAGHYVKMVHNGI


| $G A$ | $G H$ | $F$ | $V$ | $K$ | $M$ | $V$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $H$ | $N$ | $G$ | $E$ |  |  |  |
| $G A$ | $G$ | $H$ | $V$ | $K$ | $M$ | $V$ |
| $H$ | $N$ | $G$ | $E$ | $E$ |  |  |




## QUERY

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130
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 VEASKQLKGPTSFKGDRKQFLEDIRKALYASKICSYAQGM VEAARLFGKTTPDEGDKSEWVEALREALDASKIISYAQGF VKTGRLIKGPKGEGAGKSSLVEAVRKALYASKIISYAQGF IRASKVLTGPXVPXSERSAFIDDLEQAVYSKLISYAQGF SAASLASGTLAEAPKDKEQFVEDIRRALYASKMVAYAQGF VAASQVIPGVDFSEADKKDVIEAVRQALYFSKVVSYAQGF VAAAAHLTGPAPSAPEREAVLADLEAALYAAKITSYAQGY VAASQELPGPSNFDGDVTSFINKVRDALYCSKICSYAQGM VNASKQLSGPKDFHGNKEAFLENIRKALYLSK CSYAQGF KAAAGLPSGDLAEKPNDDGFVEDVRQALFASKIVSYAQGF VRASKVLAGPKESYGDKKQFIEHVRDALYASKI SYYQGF VRASTVLEGPTVPITTDRKQFVDDLEQALYASKIISYAQGF VQGAKLFPGVSAVEGDRSEWLECLRLSLDASKI SYAQGF

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 EAVRPTITSRPEPVADDDDFVEDVRRALYSSKVTAYAQGF VLASTLLAGPHCTSQSAELMI KQLHDALYCAKICVYAQGF VAASKVLQGPKPFTGDKAEFIENVRKALYTSKVVSYAQGF KKASSLYPK SGVLGQTLISEKEIKQALYAAKLVSYAQGF


## QUERY

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UniRef90_A6CMT0 UniRef90-T1K9E7 UniRef90_B9XE88 UniRef90_G8NR23 UniRef90_E6T102 UniRef90_M7P215 UniRef90-A6DTK1 UniRef90_F4PAA2 UniRef90_S0DDL1 UniRef90-B9DNT4 UniRef90_L0G521 UniRef90_UPI0003469703 UniRef90_UPI000465C690 UniRef90_K6Y476 UniRef90 O60037 UniRef90_UPI00037CF6D4 UniRef90_UPI000379B207 UniRef90_R9LVA7 UniRef90_F8L6N2 UniRef90_R5BDP2 UniRef90_K9EB32 UniRef90_G8QV15 UniRef90_A6CGB2
UniRef90 D6YUB8 UniRef90_UPI00035CCF2D UniRef90 F1L011 UniRef90-B7Q1Y2 UniRef90_B4L7S4 UniRef90_17KIE9 UniRef90_Q17761 UniRef90_C4JG08 UniRef90_X2H599 UniRef90-R4I1D6
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UniRef90_UPI0004027638

180
$M L L R Q A A T E F G W T L N Y G G \prod A L M W R G G C$ $M L M R E A A K D L G W K L N F G G I A L M W R G G C$ TLMRSAAKTYGWNLNYGGIAMMWRGGC QLMRSAAKTYNWNLNYGGIALMWRGGC RL MREASKEYKLSLNYGEI ALMWRGGC $1 L F R Q A A K E F G W K L N Y G G I A M M W R G G C$ AQMRAASEEYGWDLSYGEIAMDFRGGC MLLREAARELKWKL NYGA I A L M WR GGC ML MRAAAKEYKWNLNYGGIAALMWRGGC $M L \operatorname{L} R E A G K E Q G W N L N M G G V A L D W R G G C$ A QL K A A SEEND WNL QYGNIAMIFR G GC MLLREAAK $\quad$ RHNWNLNYGGIA LMWRGGC ML MREAANTYGWQLNYGGIAMMWRGGC
 LLMREAAKEYNWALDYGSIAMMWRGGC A QMRKASEEHNWNL QLGGDLAMDWRAGC A L M R N A SVS Y GWKL A Y G DI A L M WR G G C NLLMEASKEHNWELNYGDIALMWRGGC AL MREAQKEYDWQLNFGEIATIDWRGGC A L MRE A A K E F G WH L $M L$ MRQAAKDYEWKLNNAGIALMWRGGC DLMMDAAKEYDWNLNYGGIALMWRGGC A QMRAASEENDWNLDYGAIA GLFRAGC SLMRAAARYYSWNLNYGGVALMWRGGC MLMHAAAVEMGWNLNYGS!ALMWRGGC ALDKAAAKEYNWNINFGDMALLDWRGGC S QMANAS QE Y GWDL H L GE IAA KI FRA GC

 MLLMREAAKEF GWT L NYGGI AL M WRE GC A QMKAASEEYGWDLKYGDIAAMIFRGGC MLIAEASRHFDWKLNFGAI ALMWRGGC $M L L R$ S A A Q E Y K W S L N Y G A I A L M WR G G C MLMREAAKENNWSLNYGGIALMWRGGC A QLRVASKENNWDLPFGEIAAIDWRAGC $M L L A E A S K Q F N W N L N F G A B A L M W R G G C$ $M L$ Q N A A K E Y N WK L N K P S I A L M WR G G C A QL K A A SHKYQWNL NYGEIAAKIFRAGC | $S$ | $Q L$ | $K$ | $A$ | $A$ | $S$ | $R$ | $E$ | $N$ | $G$ | $W$ | $L$ | $C$ | $Y$ | $S$ | $E$ | $I$ | $A$ | $N$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $I$ | $F$ | $R$ | $A$ | $G$ | $C$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $A L I$ | $A$ | $K$ | $A$ | $S$ | $A$ | $E$ | $Y$ | $D$ | $Y$ | $N$ | $I$ | $N$ | $L$ | $P$ | $E$ | $V$ | $A$ | $R$ |
| $I$ | $W$ | $K$ | $G$ | $G$ | $C$ |  |  |  |  |  |  |  |  |  |  |  |  |  | $\left.\begin{array}{ll|lllllllll|lll|l|lllllll}A & L & A & K & A & S & A & E & Y & D & Y & N & I & N & L & P & E & V & A & R & I & W\end{array}\right)$ MLMREAAKEYGWKLNNAGIALMWRGGC $M L M R E T A K E L G W N L N Y A G I A R M W R G G C$ DLLS K A S A L N D Y N L D LAG TA R I WK G G C DLMAK A S D I Y N WDL NL G N IA L L WR G G C

 ALL K A A S E E Y H WS L N F GE I A LL WR G G C MLI REAANEFNWKLNFPSIALMWRGGC DEIS A GS QE Y N WNV DR G S L A T I WR G G C A QMK A A S Q E Y G WT L N Y G EI A K I F R A G C $M L L R A A A K T Y G W S L N Y G G V A Q M W R G G C$ $A L M G K A S S Q F N Y N L$ N L L G E I A R I I WK G G C DQI K K A SK DHE WN I RLLGE L A MI WRE GC MLI REASEQYNWDLNYGNVALLWRGGC D QI K A G S D E Y N WN I K P G D L A T I WR G G C
 MLI NEAAKEYGWKLNNPAIALMWRGGC

 D MI R A GS T E Y GW WlV D P G A MA T II WR G G C SLMRRRVS E L Y Y D WR L D Y G T MA T R

 D Q il A A A S R E Y G W D V $V$ N D QLAA GSREYGWDLKLGDLARI WRGGC A QMKA ASDHYDWDLNYGKIAQIWRAGC MLLREAAKVNKWNLNYGSIALMWRGGC S MIS A A S E Q Y G WNV D LA GTA RID W G G C A QMK QASSDHFD WS L NYGA IA KI F R A G C

 $N Q I A A G S A E Y G W N V N P G D L A T I W R G G C$
 DEIKKAGSDE HN WNV D PR D LAA T I WR G G C EQMRDDSDRYDWNLKYGELAQI WREGC QLMSIAA AKEHGWKL DFAE I A K I WRA GC A L DA K G S Q E F D H Q L N L S E I A R I WK G G C DLI L A GA E E Y N WDI N P G A V A K I WR A G C QLLMMDK A QVVA Y N WK L L A QMRAAS DEFGWNLRYGDIAMIFRGGC S L LY Q A S K R Y D WQL DYG T IA KI WR K G C

190
200 $R S V F L G K \ K D A$ R SVFLGNIKQA R S K F L G K I K E A $R$ S $\emptyset F \mathrm{~F}$ G K I K E A
 R A QF L Q K I K K A R S VF L G NI K S A RSRFLGKIKEA R S Q F L G K I K D A R A GFLLQNIK DA $R S V F L G N I K A A$ RSRFLGKIRDA $\begin{array}{llllllllllll}R & S \\ R & S & F & L & G & N & K & D & A \\ R\end{array}$ R S A F L G K I K E A R A R F L Q K I K D A R S AFLG GEIK N A R S A F L G DI K K A R A RFL QRIIKEA

 $\begin{array}{llllllll}R & S & V & F & L & G & K & l \\ R & R & A \\ R & R & F & L & G & D & K & K\end{array}$ R ARFLGQITTDA R S $\square \mathrm{F}$ L D K I K E A R S RF L G KI K Q A
 R S A F L D K I S K A R S T F L Q D I K A A R S R F L G D I K K A R A QFLQKIKEA R S R F L G DIIKRA R S AF L G NI K A A R SVVF G NI K D A

 \begin{tabular}{llllllll}
$R$ \& $S$ \& $V$ \& $F$ \& $L$ \& $K$ \& $D$ \& $I$ <br>
$R$ \& $T$ \& $N$ \& $A$ <br>
$R$ \& $Q$ \& $F$ \& $L$ \& $Q$ \& $K$ \& $I$ \& $T$ <br>
\hline

 R A Q F L QK I 1 N A $\begin{array}{llllllll}\text { K A } & \text { G } & F & L & G & K & I & N\end{array}$ $\begin{array}{lllllllllll}R & A & R & F & L & Q & K & T & D & A \\ R & S & V & F & L & K & D & T & \end{array}$ 

$R$ \& $S$ \& $V$ \& $F$ \& $L$ \& $K$ \& $D$ \& 1 \& $T$ \& $E$ <br>
$K$ \& $S$ \& $V$ \& $F$ \& $L$ \& $K$ \& $D$ \& $I$ \& $T$ \& $A$ <br>
\hline

 

$R$ \& $A$ \& $A$ \& $F$ \& $L$ \& $N$ \& $K$ <br>
$R$ \& $K$ \& $A$ \& $A$ <br>
$R$ \& $Q$ \& $F$ \& $L$ \& $E$ \& $K$ \& $K$ <br>
\hline
\end{tabular} RSAFLGNI RDA R A R F L Q Q i MEA R A QF L D RI K E S R S VF L GEIT K A R A K F L N RI R D A R A K F L Q K I T D A R S VF L G DIIE K A RSAFLDHIKAA R A GF L N K I K Q A R A QF L Q K I K E A R S A F L GNI RDA RAGFLNDIKQA $\begin{array}{llllllll}R & A & Q & F & L & D & R & K \\ R & A & T & F & L & A \\ N & R & T & D & A\end{array}$ R SVV L GEITAA R SVVF L N N I R D A R A Q F L Q K I T D A R A K F L D R I K D A R S A F L E K V T E A $\begin{array}{llllllll}R & A & Q & F & L & N & T & T \\ R & D & A \\ R & R & F & G & D & K & E\end{array}$ $\begin{array}{llllll}R & S & R & F & G & D \\ R & R & K & E & A \\ N\end{array}$ R A R F L N RIV VEA R A R F L D R I R A A R A Q F L G R I S D A RA QFLQKITDA R S A F L G NI K D A R A R F L D RI A E A R A QF L Q HI T D A R A NF L Q K I T D E R S V F L E H I K K A

 I R A QF L N V K E A | $R$ | $A$ | $K$ | $F$ | $L$ | $E$ | $R$ | $I$ | $K$ | $E$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $R$ | $A$ |  |  |  |  |  |  |  |  |
| $R$ | $A$ | $R$ | $F$ | $L$ | $D$ | $R$ | $I$ | $K$ | $Q$ | R A K F L N R I R D A R A QF L QKI T D A R A $\square F \mathrm{~F}$ Q S I T K A $\begin{array}{lllllllllll}R & A & G & F & N & K & K & \text { K A } \\ R & A & F & N\end{array}$ RARFLNRIAEA R A V V L Q S I T D A RA RFLQ K I T D A R S R F L H N I K E A R S V F L E K I T Q A $\begin{array}{lllllllllll}R & A & V & F & L & N & R & I & T & E & A \\ R & A & R & \end{array}$

QUERY
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240
$F$ D K N Q N L S N L L L D D F F K K E V V Q K C Q D S W R R V V A S A V



Y DANPKLTNLLLDKFFKGA KES QRSWRNVVAIDAAKKG I P
Y D K N P K L E NL L M D DFF S GVL N K Y Q E S WR KA AVAA I E L G I P
Y D R N P E L L
Y L A N P E L K N L L L D G F F K T A 1 IA Q A L P P G WR K A V

F DREPGLSNLLLDKFFGEKVQSSQGAWRRIVGEAVAAGVP
Y D N N S E L Q N L L L D P Y F T DVVTMNYQ S A LDR DVV A E S V A N GI P
Y D K N P A L E NLLL L D S YFT DAME KA Q Q GWRKV CAA A L E Y G V P
F DKNPGLPBLLLDDFFKEKVQNA QAGWRKVCAAAVTN GI P



F D N NP S L E NLLLDDGFFKEAVLSAEESWRRVCATAALQN GI P
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Y D N Q E DL K NLI L D D Y F K D I V S A Y Q P A L R Q I V G H A V Q A G i P

F D K N P Q L E N L L L D D F F R N A V E K A Q P S W R R A V A T A V VE L G L P


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 E A GTNVHVNWT QEGVF HTEW
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KPGSF HAE EADKD円H!NWT K A GEDIDUN WT

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H RAGDF HVDWS RDGTTFHTDWT REGSF HYPW FPGTWHHTDWT KPGAF HTDW REGAF HTDWS KPGHF HTQWS KPGTFHYTW NPGQF $\square H T N W T$ REGTYFHTRWS
KPGTF HFDW
QTG YFHTNWS RPGEFFHTDW $\begin{array}{ll}\text { RPGSF } & \text { HTEWT } \\ \text { APGKF } & \text { HT L WS } \\ \text { KTGKF } & \text { HTDW }\end{array}$ $\begin{array}{ll}\text { KTGKF } & \text { HTDW } \\ \text { RDGSF } & \text { HTLW }\end{array}$ AEGTF HTLWS RPGNF HYSW KPSKKYHDE WN
KPGTF HTE $\begin{array}{ll}K P G T F & H T E W \\ R P G V F & H T N W S\end{array}$ KKGKTFHVDWS RPGEFFHTDW
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| REGVF | HTDWS |




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| $A$ | $Q K$ |
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A

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#### Abstract

210   240 Y VK D P S L S S L L I D A DFANE L N A R H F S WR RVVVSLAVAS GI P   $Y$ Q T Q A N L 

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G A G H Y $V$ V $|K M| V|H N G| I|E Y A D M Q| L|A E S Y L L L| K Y|V| G G F N N Q E|L| A$ GAGHFVKMVHNGI EYADMQVI AEAYDLLRNGLGATPAEIAA







 GS GHFVVKTVHNGIEYGDMQLI A EAYSLLNDLQKGDHEATA GS GHYVKMVHNG■EYGDMQLISEAYMLLRDIGGMDNS QUQ GAGHFVKMVHNGDEYA DMQLIAAESY LLLLKRGGNFSNDEELA L I CEAYHFMREALLGMNQDEMA
 GA GHYVKMVHNGI EYA $\square$ MQEFSEVYSLLRDVAHKSNGEMS GAGHFVKMIHNAI EYAEMQADAEAYHLMKDLLGLDHGAMH
 GAGHFVKMVHNGDEYADMQLIAAEAYLLLKHVGHFTNREIAA GA GHFVK T IH NG】E Y A DMQMI GEVYGLLRRGLGLEPAA G




S GHFVKMVHNG历EYGLMQ

L I A E T Y E E L L R N G L L K L N N D E $⿴ 囗 十 ⺝ 丶$ L I C E S Y H V M K D I L G L E Q D E M A | $L$ | $I$ | $C$ | $V$ | $Y$ | $H$ | $L$ | $M$ | $K$ | $D$ | $V$ | $L$ | $G$ | $L$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $L$ | $A$ | $Q$ | $D$ | $E$ | $M$ | $A$ |  |  |  |  |  |  |  |
| $L$ | $C$ | $E$ | $T$ | $Y$ | $H$ | $L$ | $M$ | $K$ | $D$ | $V$ | $L$ | $G$ | $M$ |

L I C E TY H L M R N AL G L G Q D E M A



GAGHF VKMVHNG $\square \mathrm{E}$ Y G D M Q
L I CETYNDMK DVLGMDQDEMS LI GECVVWVLKNAFNMNSKE
 EMA
GCGHYVKMVHNGワEYADMQFDAESVVLLRDVLGFDNEKQS GAGHYVKMVHNGIEYADMQLIAAESYLLLKYLGGKTNEELS


GA GHFVKTVHNGワEYADMQVICEVYHWMKSVLGMEQDEMA GAGHYVIV GS GHYVKMVHNGI ESDMELIAESYFLLKKLLGVNNQEMS

GA GHFVKMDHNGDEYADMQVI GETFELLR AA GLSVAEAA GAGHFVKTVHNGIEYADMQMIAEVTELLRRGGGLSPDQLA
 GA GHFVKTIHNGI E YADMQMIA E DYGLLRDGAGL SAGEMA
 G S G H Y V K MVVHN GILE Y S N M QLL I A E S Y F L M K NLLLKI D N K E L S

> D M QLIC E A Y D LMR A L GMN QKEM A

GS GHYVKMVHNGDEYS DMQLI SETYSLLKNLIGMNNIDAS GS GHYVKMVHNGIEYS DMQLI A ESYMMLKHBLGMDNIEDS GCGHYVKMIHNGI E Y A DMQLI SEVVYYLLKEVLKDNNKEIS


LI A E A Y S L L K Q A L NLL S N E E L A A
 GAGHFVKMVHNGDEYAEMQLCEAYHMDMLSKLGGNQQEEMA GAGHFVKMVHNG■EYAEMQLLAETYAVLAH MK S L
GS GHYVKMVHNG】EYSDMQLISESYFLDKN』IGMQQEQMS







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UniRef90-Q5JBG2
UniRef90-DOUPK
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160 EAARTLAGGDRVADTERDAFVEDVRQALFASKIVAYSQGF


 E DYESVNPFNSFDLGNLSNGMKPLEDAVVLSTVABYAQGM VS LIE EAY GKKKENKDI K ILSKLYSKEKNDIVNKEEMI EHLKKALLF GVFMSFSQGL K SGEEIYSAAPSPITGDA DT DMLENALLAGKDACYAQGF VRAAARLPAAPDSSSDASDFVDRIHDALYAAKICSYAQGF TKLSKKYNKRRSALLQKSEFLKDLKDSLEFAMFMAFSQGM EAAEKAYKPAPRTLADQAQFLADLEQGLDAGKDVAYAQGF LAAERLFPAPPTAPEDRDQLSSRLEQALSLAMALDYAEGM VAASKIDTGPNDERGDKKIFIEEIRRALYGGKIISYAQGF
 NKAHRLYPETDPAPDF ELSVVDIHHALYASKI IDAYTQGF VKLISTI IGENKAEFANKEDLVDLVKKSLYASKIVSYAQGF VEASKILKNAPVFDGDKKEFLAKI EKALYASKIVSYAQGF


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K QMDSQKSLVRPTGGKGGANLVETIRKSLYTAKIVAYAQGF

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$V$ Q A S K K L K G P Q K F S G D K K S S F L E D I I R K A L Y A S K I I I
 EVA S K K L P GP K M DN T D P E S Y V D HIDA K ALLYASKIIVS Y T Q G F
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 Y Y A S K I L $\quad$ G S K N I CK N K D DF I E D L R R S L Y L S K I I S Y A Q G F S H A S K V L S G P T P F S G N K E E L I D A V K Q A L Y A S K I I S Y A Q G F


 EAA GPALGCARDP A LDEDDPDTLR DALLAARVLEYAQGF
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 $V$ K A S K ELL M G P K DI Y D G D K K E M I






 QEGGEVLG TTRGILTLDPDAVADALMAARVLEYAQGF K H A S A HL S G P T V K P E NL P E F L N H I K Y A L Y C A K I I S Y A Q G F V I A S K K L L K G P CVV S F E N K K E F F I E E V V R R A L Y L G K I I S Y A Q G F


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 RILGTASDEFGWDLDAARIAEIWRAGC MLMREAAKDNNWNLNYGGI ALMWRGGC SQLKKASDKYSWDLKYGEI AKIFREGC MLMREAAQQNKWNLNYGGI ALMWRGGC MLLRQAATEFGWTLNYGG| ALMWRGGC

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Q A|V|F|L N D| T H A RAAFLDDITRA rarfleqnitda
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RSVFLGN KDA

RSVFLGDIKRA
RSAMLKROLTEA

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RSVFLSNIK DA
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RAALLGNFRDA
IRSVFLGKIKAARSVFLGKIKDA
RSAFLGN:KDA
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RAKLLETIVRAQAEFLGKITEA
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RSVFLGNIKDA
RADLLNDIVASKSQLINEIAEARAQFLNNV VDARASMEDVAVRARILLDD: SAARASFLEKI TDA

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## UniRef90 R5F5L9 UniRef90-UPIOOO405F580 UniRet90-Q5ZGR5 UniRef90-U3P5M1

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FCQDPENPSLIFQEFFKSALKNAEAGWRTVVAGUGVGVP LGKEP SNVNLLESQKTVEYLKPRTEPTLKVCQIGAREAQI P YK IDNPNLKNLIFDSWFNSQUSAKINNLSFVVASSNKAGUP YDKNNSLEHLEGDGGDQDGIKSHNGTRKTISACIUNGGUG GRENEEDANLLHSDKALDFLKDKLNSDYQVTEDGKNYRUP LKKTPDANLMFAPFFVERLKNSHGDLRQVVSQGALTGNS Y ISDENAHLLESEEVISLLKERIGSLKNVLKMSUENEIP F EGQEDENLLLVPAFVERMGKASKGLRKIVAQAALDAGLP YSKNPNLANPLLDADLAAKLRPAEKALREACGWAAQSGVP YSYNEKIVNLLLTPYFSKIGAKYETSLRKIVVESVKNGIA YKQTPDLSNILLNQEVAALVKSAEGNTRSLIAFAAQSGIP FTKDPHVANLIVTPAFSALVKETDAP乌RRVVSYAADSGLP YKLTNEYENLLFTPYFREK ILCDPFWRKVVQTADAAGU A YTRNPNLSNLLDDDFFSNADLKSQQSWREVVSQAVLLGGVP FASDPELKNLIDAPFFKEKI NKCLPSARKVAALAVATGIP FQKSPNLSNLLLDPFFKDVIEKCHQSCRTVVSQSVLLGVP FDKNPKLDNLLLDDFFKKAVAEAQSGWRAVVAQAVMLGVP YADGKELTNLLEDDGYRRKLMEDNLPAWRKSVEFATKKGGVP
 YETDPALDNLLFAPFFLKRVNEGADSLRQUVSTAVCAGVP YDQTPDIETLVLAPGLTPLFEGAAGALPEVVAEAFRHGHA YTKNPSLSNLLLDPFFAKVISETNQSMRNVVATAATLGVP YXKNPKLTNLLLDDFFKKAIIENAQDSWRKVISTAVLLGVP YTTNPDLENLLFDPFFQEATSKAQESWRAVIANAVLLGIP FDKNPNLSNLLMDDFFRDADKNCQQSWRQAVAAAVTVG| P YGKDKTLEHLLLDGDVKDLVVAALPGMRNVVSAAVTAGIA

 FNKNPSLSSLLLDPFFAKALSDTQQSVREVVATAARVGVP IKENTENVNLLNSEKALSEFLMNKFDSLKYYTNLSKEFYLS FDKNPELTNLLLDDFFRDAVHKCQASWRNVVSAAVQAGIP FDRNPGLQNLLLDDFFKSAVEDCQDSWRRAVSTGVQTGIP FTKDRRLYNLLLDPYFSERMKESHCAMRQVVAQAALSGVS FERNPQLENLMLDDFFCNELAECQNSWRTVVGLATSSGIP FVKNSKLDNLLFDPYFKDRI AASEQSDRRVVAKAALVGVP FVRNPNLSNLLEDDFFKNVITDGQASWRQVVSKSVLWG| P YRSQPNLENLMEAEFFLTKINANLESLRRIVAAAAGAGGP LTSQPSSTNLLNDPSTSEKVKKTVPSLRRYVVTCTENGYP FVTNPELQSLLVDEYFSKEVQGAQGNFRKVVSLAATSGIP FSKDPSLPNLLVSAYFRQRMDASHLSLRETLVEAMRGGVP FDLGDPQDELILSPQMAQTLSRCDPSLRQVVCSAVHGGHP FSKNNDVINLLLTPYFQDVINGYQQSLRRVIITATKNGTA FENNNDLINLLFSPYFSALVNDYQTSLRRILIFAGKNGIS YDKNPKLWNLMLDPFFTDRVEKNVGALRQVVARSALVGG| P YSADPQLVSLMAAPSDAPKLGEYNAAWRRVVVAAAQAGIA FHEGAPRGELLLSPRFAEVFSRGDPALRCVVAQADSAGHA FHKNPDRSNLLLDPYFTEQLKNTHESLRQVVSQTSLLGGP YDQAKEPAHLLLMPAFVDTMTMASPALRRVVARGVEAGLP
 YSDDNNLINLLFTPFFKDI ANKYQNSLRY:VSGS:KNGMS Y LKNTNVVNLLLTSYFKNIVNKYQDSLRYIVSISIQCGIP YERNPSLKNLLLDNFFREAI ANGQMSWRKVVSNAVLWGVP FKRNPQLTSLLLDDFFKSAVVEQQNSWRQVISQAVLWGIP YSENKNLIDLLFAPMFREIINKYHQSLRNVVSTAVSNGGS YSANNDLLDLEFTVSLK KLLNLYQHSLRNVVVTATNQGUS LTCCWLLTSSKLPMTTSRRCAMSSLMRYRTVS FTKNGDLDNLLLDDFFKKATNDCQNSWRKVIA TAVT DGTP YEKNNNLVNLLIVPFFQNTLNNYQSSLRNVLKDGIENGIA YAQNAAIANLLLAPYFKQUADEYQQALRDVVAYAVQHGUP SEKNANNLFEETFIIKTARENDGGLIKTVSTALKSSMP YDRNADLANLVDPEFAKE DDRQAAWRRV SASRACP

 LTMNYNNTNLLTIPNGSNKI IKSLPSLRRIVIACTKHGYP FKETND VLMSAT TANNI DGCKPAIKRVVSDCVLSDVP




| UniRef90_R5F5L9 | R E G/VF H H EW ${ }^{290}$ |
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| UniRef90_Q8RD52 | REG】F HTEW |
| UniRef90_UPI00047E3650 | EEGA HNGPWN |
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| UniRef90-B9KBL4 | K E G VF H $\square \mathrm{N}$ W |
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| UniRef90_E0E4Y7 | VD G\F H H D W |
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| UniRef90-E8LHM1 | H N G E $\square$ H H N WS |
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| UniRef90-X4RAE0 | MDGT F H T R WS |
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| UniRef90_C5CAT0 | REGSF HTLWS |
| UniRef90 E9KG93 |  |
| UniRef90 U7UQR8 | R D GAF HYE W |
| UniRef90-UPI00040E9407 | AEGQ HHGPWS |
| UniRef90-A9XZG8 |  |
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| UniRef90-A9XZH2 |  |
| UniRef90_H1YDM3 | K E G VFF H T Q W |
| UniRef90_E9KGA8 |  |
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| UniRef90_L7R006 |  |
| UniRef90 L7QVW5 |  |
| UniRef90-E6NAU8 | K P G T Y H S S W |
| UniRef90_D3T436 | K E G $\square \mathrm{F}$ H TEW |
| UniRef90 ${ }^{-19 X Z H 1}$ |  |
| UniRef90-P14332 | K P G H F V H T N W T |
| UniRef90_L7QV98 |  |
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| UniRef90-K7Z5P6 |  |
| UniRef90_K8ERX2 | K E G K F HAD W |
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 $N$ L F A E WQ K G P L

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 A F G WN S GEETYLI QI GSD
 E QF SK WN TE E L D S F LI E I T ERMK $\quad$ WWAKD GADSYLLNAT EIF EKWGEKELNSYLLEDT QL, LISQK EGGELLLDQVQD D P I F A K WN T G A L


 DVFESWK GGFLKSYMLDI SDAACRAKEPAGNYLSEKVKDC
 AVFE E WN K GELLDSF LI EI TKDDFKYQDKDGD LILPKI RD S EVVF T E WN N S E D VAQWNGELRGTFVV NFFSS QTEKNKSSYLT E IF R T WN T G R LDD S Y L I



A VFEDWNRSGPDSF LVD IGGAR IERQQQEDDR\RDKVTQDV QAFQQWNGELHGTFLVKIAADACKARKHDGGYVLDDVLDK

$N \boxtimes F T E W N K G E L D S F L I E T T S N\|L K Y K D E K G Y Y L E R\| R D T$ K WN S E E L D S F L I E V P O L D L L K Y K D E S G N SVIFS E WN G GEELESFLIDMITADIDFAVKDEGGEELVVDKILDK

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 GKCGE
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UniRef90 L7QVS9 UniRef90-L7QW84 UniRef90-M7Y735 UniRef90 B5TYP9 UniRef90-C7D8Y7 UniRef90-A9EAT6 UniRef90-U5C015 UniRef90-S6BNG4 UniRef90-V7Z429 UniRef90 L7CQVY5 UniRef90 H6BUU4 UniRef90-FOYEX7 UniRet90-C8VP36 UniRef90_U1HRR9 UniRef90-R1E7P1 UniRef90-G9P8T2 UniRef90 L7QX51 UniRet90 W3X2G5 UniRef90-XOYOL9 UniRefigo-RTYWE2 UniRe990_L2G3L7 UniRef90-V5FSZ4 UniRef90-K7Z3A1 UniRef90 UPI00036C3674 UniRef90-A0A059EW14 UniRef90_UPI0003B6C7E9 UniRef90 L8DT02 UniRef90 UPI000248DB2F UniRef90-Q1HM92 UniRef90_P31072 UniRef90_Q8STB6 UniRef90-A4HNO1 UniRef90-K3ZIP7 UniRet90_S9ULN2 UniRef90 C9D9E2 UniRef90-Q8TA07 UniRef90-A0A037ZGE3 UniRef90 M2V7C4 UniRef90 UPI000379CE6D UniRef90-D6A1E2 UniRef90_UPI00037B58A0 UniRef90 Q4UGE1 UniRef90-B8BWA1 UniRef90-UPI000470C2C3 UniRef90 M7SV06 UniRef90 E9ET20 UniRef90_UPIo003B4FDF1 UniRef90-F5WK23 UniRef90 UP10001E8E9CC UniRef90- R4JBR7 UniRef90-K7ZHZ3 UniRef90 Q5IWZ8 UniRef90 XoXS30 UniRef90-U5G4D9 UniRef90-B0XIF4 UniRef90 E9E048 UniRef90-B2AV36 UniRef90-S5RNU8 UniRef90 H3FOI2 UniRef90 UPI00037D5CC8 UniRef90-D8M7K1 UniRef90-D5UF36 UniRet90 UPI00047EBD6A UniRef90 A0A011 Q9K9 UniRef90-A0A011AAE8 UniRef90_14VRT4 UniRef90 H8GW19 UniRef90-A4AEW3 UniRef90-G7UUQ3 UniRef90 A0A023NPY8 UniRef90 ${ }^{-}$X1RGF5 UniRef90-UPI0001FFE666 UniRet90_A0QND7 UniRef90 W6K1Y1 UniRef90_M4KOK1 UniRef90-UPIO00465B120 UniRef90 IoWVX1 UniRef90 UPIO0029CB934 UniRef90-UPIO00376BF47 UniRef90-M4Z4J3

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AGQKG\GKWTAlVADHQGVRDRRSARPSSRVAC PER VQDDGTPSWSTMESAMRHVSCPTLAAGFYFRVASGNREER DNSEGTGTWAAEEG 1 RLHVVHPTIALSRПFRAALTDAAKR



$\square \mathrm{ERAMP} \square \mathrm{FDA} \square \mathrm{R}$
A $\| E R \square R P \prod F E A$
 ARAMP:FDALR RRAMPDFDALR RAMPLEDALR RLMPVFDALR RFVRRAKPDF RPVFEA DERAMPVFDA品

ERAMWDFDA $\square R$ RAWS QVERLF

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 | V | N | A | S | S | Q |
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QCLRELDKVHGFGLNLPATIATFRAGC\|LQGYLLIPMTKA QCLRELDKVYHFGLNLPATIATFRAGCILQGHLLKPMTEA MLLREAAKENKWRLNYGG\|ALMWRGGC\|IIRSIVFLGNUKDA NLI AEASKOYSWNLKLGGI ARI
NVIATADRAHEWEIDYSQVWQUWRAGCIIQADYIIELAPV ELISKFSNDENNN:S LEVVDNWSGGCII RSNLLSELKKE NLIKKSNVWDFFDYNIDDIFQAWSAGCILQGDYTNFTSQK HLISEASREFGWDLNLCKLANIWSRNAIISCDLLNEISKS SIFQAASDVESWDLN A ECVRLWNPGSFLESDSLRKVHSA

 MLLREAAKVHSWNLNYGGI A
MLMREAARENNWNLNGGUA $\square M W R G G C \| I R S V F \square G N \square K E A$ Q
A LLRAASDEYDYNTA $\square D G \Pi A R \Pi W R G G C \| R S K L L D P \Pi A A A$ NLIRARSSIKGWDLKQGELARIWKGGCIIHDVFLDRIKKA MLLRKAVNEYKWNLDFDGLALMWRGGCII RSVFLENIRNS ELIARASIDEGWDISLSECIRIWRAGCIIQSEFIADLLEP
 NLKYGAIDLMWRGGC
 ALGRRASEDFSWAMKLEEVGRVVAGAASFRSGLLVVLKES TIMEKKEE LDLDLAQTSETWRYGSVVRSWLLDLTADA dMEKKE DLLTAAAVVE ELLTAAAVVE SILKHKEE ELMKAHQT ELL DSRKD AI LERKA
SLLKHKTA SIMKAKRV ELMQAS ella A ELLEKK DíkTKNSDN AILQRKRE ELLEATELVE EL A A ELLAAE A L L $D H E S V A R V W N N G S$
$D V P G V L K W Q E G T$ FGLDLAQI GNIWRDGSVVRSWLLELATDA FNLDMAQUAEVWRHGTVIRSWLLDLTAEA DSVPAVIEAWSRGT DILRNANSEHRFDLDLADTVEAWRRGSVIRSWLLDELVAA DLMRNGPFE KLDLGGIADLWGQGSVVRSWLLELLATA ELDQAEPLIEE DLMKTK
ELLAAAPQVE DSDLNLADIAEVWRRGS
DILKEAPEEYRFDNVPEVLRAWTRGT位 Di R R A ANAERRFDDDVPGTFKAWSRGTVVRSWLLDMMVA EVLAKSEFDY DFAKVAGVWNHGSVIRSWLMELTEQA
UniRef90 L7QVS9 UniRef90 L7 LTW 84 UniRefefo－M 7 Y735 UniRef90＿LOAXZO
UniRef90＿B5TYP9 UniRef90＿C7D8Y7 UniRef90－A9EAT6 UniRef90－U5C015 UniRef90＿S6BNG4
UniRef90＿V7Z429 UniRef90＿V7Z429
UniRef90 LTOVY UniRef90－H6BUU4 UniRef90－FOYEX7 UniRet90－C8VP36 UniRef90－U1HRR9 UniRef90－R1E7P1
UniRef90 G9P8T2 UniRef90－L7QX51 UniRef90－W3X2G5 UniRef90－XOYOL9
UniRef90 R7YWE2 UniRef90 RTYWE2
UniRef90 L2G3L7 UniRef90 ${ }^{-}$V5FSZ4 UniRef90－Q0C164 UniRef90－K7Z3A1 UniRef90－UPI00036C3674 UniRef90－A0A059EW14 UniRef90－UPIO003B6C7E9 UniRef90 L8DT02 UniRef90－UPIO00248DB2F UniRef90－Q1HM92 UniRef90－P31072 UniRef90－Q8STB6 UniRef90＿A4HNO1
UniRef90＿K3ZIP7 UniRef90＿S9ULN2 UniRef90－C9D9E2 UniRef90－Q8TA07 UniRef90－A0A037ZGE3 UniRef90－M2V7C4 UniRef90－UPIO00379CE6D UniRef90－D6A1E2 UniRee90－UPIO0037B58A0 UniRef90 Q4UGE1 UniRef90－B8BWA1 UniRef90－UPI000470C2C3 UniRef90＿M7SV06 UniRef90－E9ET20 UniRef90－UPIo003B4FDF1 UniRef90－F5WK23

$\square D N G \quad L V V D \square L F K E \square T V E K \square E N \square S K V V S \square G A X S S \square P$ FEKNPNपSNपMCA FQTE TRAGपQNYRDMVALITSKपEVS FEENPNDPNG DAFTKEMKEGLPAYRQUVAMLTASTAVS
FEKNPNMSNLLCA FEKE $\square$ TEG DDDYRQ【IATGTVHTKVS FTRN

LTQDAA RNDMFAPYFAGLMTTHAGALRRVVGTAVAHGLP LKSKPSSENLNLSSRVAKDVMKCFPALRRVVAKSVETDQV

YENHKNLNFEFLHSLIEEKCSKKFKLDREFNSNGTRSGLP FKENDQM LPFHPKFNGVLRDNMNVWKKVVKMCLENDIP VKDDADESSLMVISPDAAELQEMHMHWRRMVTLSFAYGUS VFRDHDRDEVLGNAEVERELAERFPAAKEAVLRAVEADFF

FESGQASVSLDFAPYFKDA $\square E K S Q A A W R R D I A R A V E G V P$
FTRNPQ
YKGNPKLANLLVDKRFAK乌TNARTRADRKVIAEAMKAGVP YDRNPDLPNLLVDPGFAKEGIERQSAWRRVVS $\square A \square N S G 1 / S_{P}$ FVRNPAMSHLLLDNFFKNADV
FRENESFTNAKLNSCVGRELQ
VYKTGKLDNLLANTSVAEELQRDYPGQEAAVWRADEADLH
KKNFFLTNFFLDNFKKYKKKFFCIKKVIFFI
LAKNPT A

LTEDPR
LK KNPKL
FSADPKL
LQEDPNLL
LSKNPEM M
LKNSADFDSL
LKENPT品
LCAEDQDM1

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L R G N P
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LKEDP
LARQPGRE
GF S
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LEEDPGLAQD

LERDPQLEN
LEEPDL
$L$
$F A G Q$
$F$
FAQDAB
FQADP
YDKNPELSNLLLDPFFKRALTESHEALRAVVAQGALLGVP FKDN TSI FTTKSGKSKIKEMKLDLTYVVGLGLQHSHA FERDALLSNLLLDEFFKNAI QNSQQSWRLVVSNAVLWGVP FRQGTPEGQLYLAPSMVEKLNDTPPALRRVCiAALGGGYS FPTLTPGTNVLYHDNGRALIGETMESWRKVCKTCI NYNMP FDKKPDLNNLLMDDYFADIAAKYQQSTREVLSLAI QAGVP VLARPDHDNLLANKELGDELTRCFPALKNVVIKSLEADAY VEASNGGENLKLAPPTAAMLEARVADWRAVVGLAVATGVP VEADNHDGNDLLDHELGAPLKENYPALKRVVLRADEADAP LKENKTLTNNGKLDSSVGRELQCSYSALKEIVVRGGAADDHY YTTNPELPNLLLDPFFLEGMCSSUGSLRHAVAAAVLAGVP FREQPDLPLLEL
DF ENERMMNMKLDDEVSADDHKNYEP DKKVVLKGTE WDNY保 LLPADVRYTNMKFIHGVAGELHKSFSALKEIVVTGVRADHY
ondis SLFTSNAFQARLQHGAGELANVIGQGLKAGIA FAAS EEVDNLELDAPAFVEQMSVHGNLKSFUKRSUDKNUP R FGENNDVFNLUNNIFSTLDKNRASUSKVLQDTTKYNDP DGFAAYVADSGEGRW DGiAPYVVDSGEGRW SDYVADSGEG
FADIAGYVEDSGEGRw

SGIKAWVQDSGEGRW
VSDYTADSGEG DGYSGSVADSGEGRW
 SDKGFVNDSGEGRW SDYTTDSGEG
ytgabad skegrw GYAQDSGEGRW RGYVEDSGEGRW FTGYVQDSGEGRW SGVSGYTTDSGEGRW DFSGYVEDSGEGRW
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TVEAALDDAVP



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UniRef90 C8VP36 UniRef90-U1HRR9 UniRef90- R1E7P1 UniRef90-G9P8T2 UniRef90-L7QX51 UniRet90 W3X2G5 UniRef90-X0YOL9
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VPSLSASLEY $\square$ KYEGGTMLATQFMEAEMDFFGAHAFDKAN V P ALLS QSLE YYKYSTSNELPTRFMEAELDYFGKHMFDKKG I PAMSATLEYLKYCGGTMLPTKFMEAEMDFFGAHAYDKPG VPAMSATLEYLKYEGSTMLPTQFMEGQMDFFGGHAYNKPG VPALDATALSFYDGYRCEKLPANYCK
MPVMSAAI NYYYAVSTEDSTANLVQS $\square R D Y F G E H G C L K V G$ $\square P C F S S A L N Y \square N G \| V L E E G G G N L V Q A M R D C F G S H T V Q L K G$
$\square P \square F M S T \square N Y Q Y S \square S S S K D P A N L D Q Q R E Y F G \square H G \square E K \square T$ $\square P V L S A S \square N Y$ VTAMFTPT पYGQLVS पQRDVFGRHGYERVD पP VMTASLAYDNAMYTLILYGQLVS LQRDVFGRHGYERVD $\square P V L L A S \square T Y$ VNGMFSSVLYGQLVS $\square Q R D V F G R H G Y E R \square D$

VPAMSAALSYFDTMRTGRSTANMDQAQRDFFGAHSFERTD VPATSATLEYFKVISGTDDPTSFYEAEDDYFGSHMFDKKD TPVLSASLNWFNNVTSVDNPSNMDQAQRDFFGRHKVQLID
CPVLSSNLAYYDLIFSNHK $\square G E T \square Q \square Q R S F F G \square H P \square K S K K$ VPGlGNSLQYDQiLFNKH IPAASSSLTYYDTYRARTDPVGLRAQRDYFGGNGYDRDE FPCLSASLTYFDSYRTGISNANLLQAQRDYFGAHTYERSD VPAVSQTLEWYKYATSAHLPTQFMEAQLDDYFGQHMFD
 VPAFSSLLAYYDGDRSKRLPAS LIQAQRDFFGAHTYGR $\square D$ VLGLSSVLGY $\square D S Y R T A R \square P Q N \square T Q A Q R D Y F G A H T Y E R T D$ TPGMSSSLAYFHAYRSP VPGMSATLSFFDGY四SERSANLLQAQRDY回GAHTYELLG

APVITESLIRRDRSREENFTDRMLSTMRGAFGGHDVKK APVATASGAYYDTMRRDKDPQNVVVAMRDFDEASSFERTD APVISAALLARFASRQGESPAMKAVAARQQFGGHAVRAAG APVITESLLIRRDRSREENFTDRMLAIMRNAFGGHAVKK VIALSGMMRNR SLESDTFSGKVVASLRNQFGGHAVE
 APVITLATQMRFRSQQEVSYGQMLSAMRRAFGGHAVKKTLE VPTISAAMEARFVSRQEDSPSMKAVAARNQFGGHSVRK
A PV
APVITASLQRRLRSRSEQFSDKLLAAMRSQFGGHAVKRAE LPVISAALFARFSSRQDESPAMKAVAAROQFGGHAVK MPVIAASLFARFASRQEDSPTMKVSALRNQFGGHAVKKRDS MPVISASLFARFASRQEHSPTMQAVAARGQFGGH
VPVLSTSLFARFRSRQQTYGDKMLSAMRFGFGGH
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ANVISAALEARFASRQEGGSPALKSALRNQFGGHTMRSAD ANVISAALFARFASRQEGGSPALKSALRNQFGGH TPVLAQSLFKRFESRQDVYSNKVLAALRKEFGGHAVRK LUVISAALFARFSSRQESSPAKAVSALRNQFGGHAMRMVD TPVLASALEARFRSRQENTYARLLSAMRFGFGGHADEKK APVMSAALLARFASRQDDSPAMRVAADRQQFGGHAV ASILTASLYTRFRSRQETFAEKMLSAMRFKFGGH MPVLGAALFARFASRQENSPSMQAVAARGEFGGHAVMHDG ATVLSAALYRRFRSREHASYADLLSAMRKGFGGH


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UniRef90_M7Y735
UniRef90 LOAXZO

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GPGEPHHYEW REGTCTTDW VPGEDHHYEW EPGKPHHFEW EEGTKHHFEW VPGEDHHFEW

D P VGGHHYEW
VK GEDHHYEW
DPGEPHHFEW VPGEDHHYEW VPGEDHHYEW

D D T GTKHLN
K D DF $\square \mathrm{H}$ ID W

HPDELFH
K D G R
K E G R
KEGR ESFNW

TKGA HHGPW
K PVEKHHFEW SSND TVIDDW

DDNK】KPY WT
GA GWF T T T N W W
VPGED HTQW
EPGVF HTLW

RKGAF HTHWT
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ARGMTYHCEWT
A E

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Q Q G R S V

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GA GHFVKMVHNGDEYGDMAAYAEGFN■LHHAHYQYDLNLP


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P S K FD G G
 LD G F S G R

DVAEVWRGSVIASWLLDGSADALLQD
PHLS T F A G H

K V A E VWRRGSVISS W
LLD LT A A A LDAGDSELKQFSGH
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jhmm
jpssm

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VSDSGEGRWTVKAAIDIGVPVPVLAASLFERFASR DEDGRDRE G
NREK

E G

STPGREA


A MAMP $\square \mathrm{FEA}$
PVFMALDPSTPPEA
VS DS GEGRWT T LDA A $\square \mathrm{DEGVPAPVISAALFGRFESQ} \mathrm{\quad GEA}$



[^0]


$N \square L R N N P E F Y Q Y D F D \square P E V A E V W R R G S V I G S W L L D L T A \square A$
 HLLNA QS HFAFKLDDVVGNWSRGSI I ESALL D NI Y DE A V L H H E P S A Y QY DF H L P DVVVEVWRRRGSVI GS WLL D L T A H A NLLRHDPRDFQFD DDVPQVAEVWRRGSVI GSWLLDLTANA GILEEAQPEYYQFDFDLPAVAEVWRRGSVVSSWLLDLTATA A $L$ L G V L $\operatorname{K}$

$N \| L R H H P E H Y R Y E M N L A D \square A E L W R R G S V I G S W L L D L T A A A$ $N$ I L H H NPE F Y QY D F NL A D I A E V W W R G S V I S S WL L D L DA A A

 ELLEAS EYVENVPGADKSWREGSVVKSWLLDLLDRA A L L R A D A DCYTY DF DI A D IL L EVWRRGSVVVSSWLVDD T A A A NL L E H DP D H Y S Y T LDP L A D I A E L WR H G S V I S S WL L D L A S M S



[^1]



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S Y T GRLSDSGEGRW FEGRVSDSGEGRW ADFQGSVSDSGEGRWT AKYAGRVSDSGEGRW GYAEDTGEGRW
DEFSAEVDDSGEGRW FSPQVADSGEGRW


D HF T G SVMA D S GE G R W


[^2]

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sol0
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