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$\stackrel{\Gamma}{8}$
 LTEEFVVKRFGIA DGTVDGLKAEVRKNMERELSQALKASVK
 LDDEFAKDVDEEVETLDALKEKI RTRLDESKKHEAEHHLLR L D D E F C K L L F G I E E G G L E A L K T E V
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## V <br> 

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V

## V <br> L

 LD D E F A K DV S E F D T LLA E Y K E S L K K DLLEKKKK Q D EAAK R T K E
 L D DEFAAK DV S E FE TV E E FK A DI R E K L L K R A K E S E E D A L K




## L

V
 L N E E F F K G F G V E S K D L A S F K V D I R A N M D R E L E R A I R N D V K

 V D D E F A K D V S D D F E T L D E L K E D I R K N L M S A A E K A R E Q A K R






## QUERY

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## A

EQA TEGLVKENETQVPSA ${ }^{60} D Q E \prod N V L R Q Q A A Q R F G G N V E$ EQVI DGLLEQNAIDVPQSLIDSEVDTLRKQALQRFGGDAK
 DTVVEKAAENAEVEVPEVMVTNEVNRMLQEFEQRDQMQGM ESTI SALLDAVSFEVPQALVEQEI NALLRQQAVQRFGGNNQ SQAI E GLVKANDDDVPSALI DSEVDVLRRQAAQRFGGNEK T
$T Q \vee M$
TQVLEGLL
$D T V V E K A T E N A E F D L P E V M V E N E V D R M V N E F E Q R L Q M Q G G$ D TLI EKATENAE IDI PEAMI NTELDRRMLREFE QRLQMQGM NQVVM GLVEQNDINVPAALIDDEINVLIRQQAAQRFGGDAK
 $T \mathrm{Q} V \mathrm{~L} \mathrm{D}$ GLVKENEIIEVPTAVVDSEDNVLRRQAAQRFGGNEK DTVVEKASENATIIDIPSAMVDTEIDRMMSEFEQRLQMQGM
 D AVVMKAAENAEI DI P EAMVNTEVVNRMMQEFEQNLLSQQGG Q QV L D GLLE Q N N I DV P NA AV DEEI NVLRQQAA QRFGGNAK DTVVTKKASENAEVEIMPESMVDTEELDRMVQEFEQRLQMQGM E QVI S GLLEQNPVDVPKALI DQEVEQLRQQALQRFGGDAS E QI L S GL L E Q NLI DVVPK A A V T R EVVEA L R Q Q A L Q R F GA N S K

 D QVIK GLLATHEI EVPQALIDSEIDVLRRQALQRFGNDPK D QVMQALEDRNAVDLPKAVVKDEVIDRLREAGSRFGRSAQ Q QVID GLVKANDI DMP QALINSEINVLRQQAMQRFGMQGN EAVFQQALI A EAELEAPKAVVGSEI NRLMQMTAQNLQQRGM E QADNGLVEQNNIDVPSALI DQEVQVLRQQAVQRFGGNAD ES LI NQAASENAEI DIMPEVMIVENEVDRMLREFEQRDQQQGM
 D S A MD AL L K I S EL EV P K S LL E S EAQNLLMQQTLLQDMESRGM Q QVVD QL L GLS E F EVVPS ALVVDSEVNRMREDAVQRFGGGQM NTMMNK L L D S N P DEVVPKVLI ENELDRRLAERWQERFAHQEK Q QVLEAVVDKHDFDLPDALVKSEVNRLREEAEKRFGGAE

 GKVVVD K V S E NA E L D V P NALVERDTERLA EMTRRQDMAQRGM G K V V V





 QQIVD QLI GLHEI EI PAALTQQEVQKMKQDALQRFGGGQM SAVVMDALLVKVAELDVPKALVQSEVVRMTEAARADLKARGV

 D QVLNGLIKANDVELPS ALVAQEVDNRLRQALLSRFGGNVK N QV MD A L L K LLA EL DAP TALL E Q DQQRLVEMARQDLA QR GV
 EDVIA GLLE QNSIDVVPKALLDQEVEALREQAKQRFQQQS G G QVMDSLL E A H PVVVP GALI DREI ERLQELARRQDMEQRGM


## E

## D <br> \section*{}

 DE A I D Q K I I E K V Q GE TKVIQKI DK SKMEI D E L V E K A A A A N A A E V E IVMD AIVENNEVSVPPEALVDNEINQMLAS LNEKAA QAGQ

 D QVFN QLLKANAI DVPAALI D DEDDNLRRQADQQFGGQDA
 DAAVDADIESAKMDLPEAMVDTQARQMLDEFAQRMQQQGG EAVMDLLMEVN PVEVVPQA LVVRDEDGSMQEEMRRSVGAQGD

 QQVI K GLL A A NDVV V PAAMKE QEVKVLRRQQAMQRFGGNGQ | $D$ | $E$ | $A$ | $I$ | $K$ | $K$ | $I$ | $D$ | $K$ | $S$ | $K$ | $M$ | $E$ | $L$ | $P$ | $E$ | $A$ | $M$ |  |  |  |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $N$ | $E$ | $V$ | $M$ | $N$ | $L$ | $L$ | $V$ | $E$ | $A$ | $H$ | $T$ | $F$ | $D$ | $V$ | $P$ | $T$ | $A$ | $L$ | $V$ | $E$ | $Q$ | $E$ | $A$ | $T$ | $M$ | $V$ | $E$ | $E$ | $F$ |
| $A$ | $Q$ | $R$ | $I$ | $Q$ | $Q$ | $S$ | $G$ | $L$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

 NAVMDALI K S AEELDLPKASVQAEVNAMAQAARQDLVQRGM

 EA VM QV L I D A N P L E L P Q S L V M M E I S R L M H Q A K Q D L A Q R G M
 Q A A F D A LLL E K N E F D V P



A A A QLPRELTFEEQAKRRVVVGLLLGEVIRTHELTMADEEKVV NAPQLPAELGKDQAERRVRVGLILGELIMANEIKADDAKV







 QALELPREDFEEQAKHRVIVGLLLGEVIGNKNSLTADDARV


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HR5
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UniRef90_D6XSZ1
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UniRef90_G9ZLJ1

| QU |  |
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| UniRef90-Q07ZX7 | NTLIES |
| UniRef90-L8D8X0 | A E |
| UniRef90-K6D9R2 | N A |
| UniRef90-W7QVU7 | K ET |
| UniRef90-A8AK17 | K G |
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| UniRef90-I3ECS0 | NEELQK |
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| UniRef90-UPI000373A4F7 | R A MI E E |
| UniRef90-UPI00035ED4A1 | T A ELEKM |
| UniRef90-D2TWC5 | KSLI EDMAS |
| UniRef90-R9C826 | NAELEN |
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| UniRef90-F4HE91 | K S M |
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| UniRef90-UPI00040A | K A H |
| UniRef90-C4LDB2 | K |
| UniRef90-K9DQZ4 | K A Q |
| UniRef90-A1U1Q4 | E K |
| UniRef90-F7NVZ0 | Q |
| UniRef90-H1G5W0 | TAELEAMS |
| UniRef90-E1SQ29 | E A |
| UniRef90-UPI0003C10B6F | R A M V V |
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| UniRef90-K0J1Z8 | E |
| UniRef90-Q4QMK6 | M ${ }^{\text {l }}$ A D |
| UniRef90-D5CSU8 | V |
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| UniRef90-J3YSP2 | RALI E ERA |
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| UniRef90-R5TEI5 | A EI |
| UniRef90_Q47XL7 | A |
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1 DDEFAKTLGLE SLDKLKEAARERLVAEFAGATRQRVK LDDEFAAEVSEFDTLDAYKADVKAKLKEQKVADGNRKKE VTEQFVKSLGDDGGTVESLRADVRKNLEREVKFRVQSRNK LDDEFAKDVS EFETLESFKEDLRAKDADRNMAQSEGQFK NAEFFGSFGDETADLAEFKSEIRKNMDREDARGGRNLAK VDAEFAKALGDADGDVAKMREEVKKNVAREVERRTQEQTK LDDEFAKDVSVEFDTLDEGKSDIRKKLMEVAERTAKSSVE VDDEFMKRFGVEEGGVAAFRADVQKNMEHELSQAVTNRVK IDDEFAKDVSGEDTLEEYKESVRKKLTEAAEHRAKHELE L

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 D D L V E K A A A NA T 1 L Q QVMD GLAK LLHDVELPEALVKDEIVQHDQEFSQNMQA D KVLD A L L EVVEVVPLPDKVVQA EV DN RMHDAVVPFADHDEA




 R AL L D RL DEA HRFEAP PSLVVDEEFNDMWNSVVKAEMDADED
 A A VMMDA L M A K A E L E L P Q G V V Q A E V QR L L E A A R A D L K S R G





 E QVVMN A L L A V T P I E V P K A L V Q A E S Q Q L A D N A R R D L E M R G L
 DEVVKKATANAT DELLP




 | Q A | $V$ | $M$ | $D$ | $A$ | $L$ | $V$ | $S$ | $K$ | $A$ | $E$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| S | $L$ | $E$ | $L$ | $P$ |  |  |  |  |  |  |
| D | M | $D$ | $K$ | $L$ | $N$ | $A$ | $L$ | $C$ | $E$ | $L$ |
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 \begin{tabular}{ll|lll|lllll|l|lll}
A \& $A$ \& $V$ \& $M$ \& $D$ \& $A$ \& $L$ \& $L$ \& $A$ \& $K$ \& $A$ \& $E$ \& $L$ \& $D$ <br>
T \& $Q$ \& $V$ \& $M$ \& $D$ \& $G$ \& $V$ \& $H$ \& $A$ \& $A$ \& $N$ \& $P$ \& $I$ \& $E$ <br>
\hline

 

Q \& A I \& D \& K \& $V$ \& $E$ \& $A$ \& $S$ \& $E$ \& $M$ \& $E$ \& $L$ <br>
$R$ \& $K$ \& $L$ \& $L$ \& $D$ \& P \& A \& $E$ \& $G$ \& $H$ \& $D$ \& $F$ <br>
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\end{tabular}





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 E KVLDSAV TENAT IDDI P
 ENV Q
 R A L L D GL
 D K V V DKV V E N A Q M DI P E A MV Q L Q I E E LL N N F $\square S R L Q Q Q G L$ NALVMNLIEKVQDPIPHCMFEQRADSLMDHFANQLKQQGG R A L L D K L D D A V K F D L P P S LVV A EAAK Q I A H Q L WHE EN P D V E


 Q QVLE IL L KNNP LEVPKAMVAHETQRMVQNMLQELDRDAGM QQQVLDAL KKANDDMVPSALVQQETDAMKRQAAQQF GLGED
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DMDMF|L|RAQMQGDAEKR|V|RNN|L|A|L|EQ||AKEEKFEVTEDE|V|

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## K

+ P E A A F K A E R K E EA D Q Q RVV R V



 QDEEALKA QMKE DAEKRVKYNLTLEAI AK AENI EVVSDEDV
 T T E D A A K E E Y R K IAA D R R V R L G L V L S E I G E K N K I T V T D D E V






 QDMPFPPELFQQQAERRVALGLILAEVVAENKLEAKP

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V & A \\
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## I

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 D RLITKALIEK NELEVPEALVDRQAQMMLESTKQRLAS QMG RALLD KLDELHKFDPPPTLVEEEFKSVWETVTSDLDKRQEG $R R L L D A L D G L H Q F E V P P T L A E Q E F Q G D W D Q A Q N R T F A D E D$



 K EVLE QLLQTLDNTIEVPRALI ETEEVQHLQRMTRRQFRQFNP
 N DIV V Q Q V K N S K I D L P Q EM I D T EAD H MFNEFA Q GLLS Y Q G M



 A A I I E Q A V K N A S V D I P P E

 VQVMMDA LI A SHTTVDVPKALVANEDQVLRNQMMQRF GGQQQ QQLDDALKAGNEVLVPSALLSQEVEGLKRQAAQQFGLGED



 E QVFQALVESADFDIPRILLETEINRMMQTTQQNLKQRGA


 S E A $\|$ Q A A V

 D QAVVE QAVKNAEYEI

RQLLDKMDESYSFELP
D A A L A K K V V E A N E I
E K A LiF D K L L E A K N S
D QMID K V I E L L K A E I
 $R A L L D A L D K K Y A F E L P E G L V A Q E F A T V W R N V E A E Q K R D E G$ NDVVDALLNSTEFDVPASLVDQEDDRLRQDAVQRFGGQ M R QLLDALDADYAFELPSKLVEAEFNNLVQQVTRELIEQDED

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DDDAFAESFDVKGGVAALRQSLRENMERELRQGMNAVK
$\qquad$ NDEFAKMLGLE LTEELIKKLGIVDGS SLEQLKTLLR GQLEQETAGLTRTQMK

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 K D A GYi E K L V E A A K VEELP
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 D T A D D D V K N E M R G E A E K R V
 K DE E T L K A D Y R R DA E R R V K L G L L L A E E I G R K Q E I Q V S R E E L









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 L K E S L S E K Y R D VA E K Q A K R H LI L D K I I E Q E K L S L K D E E M





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 NAVINAVVDNSEVVCSTASIDEAYDTQLKAYTNMLSSYGG NAVDKVENAEFDLPAMVEQDNSURFAQRLSYQGM DALVAKYYDINDDDVPKSLVEEEVDQMAQERDQQLRYQGM DKVLETLLEQIEIPLPEAFLHNEVHFRQDSURNQLAQAGL GQ| LEQUVKENPFEVPYSFVKEQSDRLAFNAMNQFYQMGL EAVLKAVCEDSKLDI PSGMI ELELDNMLKDFEQRLSYQGG RAFLEKLAEGLEAEVPPSLVEAEERHLLEHDAEDLYPQGV DLVLEKLIELIEVPVPAAFI EDQLEQHFTGENAHANAEGH
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 VNENFVKSVGL VNENFAKTLG FESLLTDEFAKDLSMEF LDDEFASEVKSLE
LNDDLAKSLGL．
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D DEEAAK DMASE M M K

| $L$ | $T$ | $E$ | $E$ | $F$ | $A$ | $K$ | $S$ | $I$ | $G$ |  |
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| $L$ | $D$ | $D$ | $E$ | $F$ | $A$ | $K$ | $D$ | $V$ | $D$ | $E$ |

$L D D E E F A K D V D E C$
$M T D$
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D D E F A K S F G $\quad$ N F KVDDEFAQ$<$

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VD D FAK DCGPYQSLQE DMREKGRAEMERALKKDIEDSYK

Y D N M A
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 I D D QF AKNLGAK D DEVAKKAG FESVVKKMREVI EK S YLLDSRK QLSRSNA Q LD D E FA K D A S E F D T L D E LIK A DI RRK QCEET DA QAR QA T EA R


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 E S L V E Q V I E A

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 | $A$ | $E$ | $V$ | $A$ | $G$ | $K$ | $L$ | $A$ | $A$ | $A$ | $H$ | $E$ | $L$ | $P$ | $P$ | $R$ | $L$ | $I$ | $E$ | $A$ | $E$ | $A$ | $R$ | $N$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

E
D K I L E E V SK N V E V

ADVI K AIVEDAKMDI

NDI YTAASANCKVE PE

GAALDLAVENAEVELP A DEVVNEVYDQQDQYYTSMAGMYGM

 S A I I D Q F I K L V D P V L P L S M L D S Y L A N IV N EVVKTN N Q N M Q N


SENR




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| UniRet90－X1KA |  |
| UniRet90＿－F7V5J |  |
| iRef90＿S3DIU0 |  |
| iRef90－K1XX47 |  |
| UniRef90－R5CY88 | E EKY |
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| UniRef90－ARC59 | KAFAEKEA |
| iRee90－K9YVK7 |  |
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| UP100 |  |
| UniRef90－UP1000419E | T |
| UniRet90－Q2NJE2 |  |
|  |  |
| UniRee90－UP 100035 E － |  |
| UniRef90－1MC00 |  |
| UniRef90 C5WCZ2 | H D Q |
| E1QZ |  |
| UniRefo－HOURZ4 | E E |
| UniRef90－R6BFK0 | E |
| UniRer90－UP100046D8 |  |
| UniRet90＿U2UYH6 |  |
| UniRet90－R7HMF0 UniReigo UPI0003FB3C31 | KDEEVKKMA |
|  |  |
|  |  |
| UniRef90－R6PNA2 | EQK】GEDA |
| UniRef90＿U5QFT8 |  |
| diRet90＿L6GWR9 |  |
| UniRet90＿Q4FM95 | QAEVQKQ |
| 3 |  |
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| UnRef90－YP1000417 |  |
| UniRef90－UP100041 UniRef90 K KZ15 |  |
| UniRef90 K1ZZ15 | EAEELAEMA |
| R |  |
| SoEZK0 |  |
| UniRef90－DoRNK5 |  |
| UniRef90 R5ZIV5 |  |
| UniRef90＿G2HY29 |  |
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| UniRee90 UPIO004637C35 | K EVATEL |
| UniRef90 Q1 | EQLVRDQ |
| UniRet90－R62 | A |
| UniRef90＿Q5M | QKEl ${ }^{\text {d }}$ L |
| UniRef90＿R2P8VC | AKEIKDLA |
| UniRef90－UPIO002F 154D0 | N NKA |
| UniRef90－UPI0003A691D6 |  |
| UniRet90－N6W5N8 | DD YAl Q |
| UniR | FNFLVQQA |
| UniRef90－12K5L3 | SQAlV |
| RiRe90－R5 |  |
| UniRe90－UJH46 |  |
| UniRet90－K5BE13 |  |
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| UniRef90 R6D0G8 |  |
| UniRef90 UPIOOO400CE09 | ID YAIOMS |
| UniRet90 B5JG6 |  |
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| UniRef90 C9RR02 |  |
| UniRet90－DowRB0 |  |
| OU |  |
|  |  |
| UniRef90－10JWJ |  |
| UniRef90－D6RY95 | K DE |
| niRee900－16XY56 |  |
| 俍et90＿R5HMF6 | E |
| 90＿W0F035 |  |
| UniRef90＿UPIO00466DC | NEKYNELIA |



DDE LAKD पNME $\square K T F A D \square Q E K \nabla K S D V L K Q K T A N A K S \square F V$
पNDDFAKDTKDSFNTLVELKEHTREKMLRLVKEKSESLKL LDDDLANEYDGSSSLQVLKDKIKSDLQKNYSEAVKSKKM VDDELAKKMGYEDASVEMLKEKVKEQLETEAMSMYNDDLK LSDEWAHN NFGFENLADMRTQIAQSIKDQKEMNKQRRVE LNSDFAKKVA NVDTMDELRAQVKQQLHDGKHAGALDRAK LDDDFA ELASEYDTVDELRESVKSEVEENKKAEQAAALR



## L

I D N F A K T L LPP E E K N V A L L K E K I K E Q L A T E K K Q E L N N E L K




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VDDD DFA A QLVVS
LN S DFAKKVG
QFDTVDEMRADLRTALENMARLDQAADAR DDEFAO AKVDTMEAFREQVRKQLHDGKHASALNRAK


UniRef90 B9CKM2 UniRef90_D5XBH2
UniRef90_DOMF28 UniRef90-K2A435 UniRef90-UPI000288BF5E UniRef90_C7XTP4 UniRef90_E8RF92 UniRef90_Q88VE1 UniRef90_U2V9N7 UniRef90-J1F2C2
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UniRef90_R5MXV1

D RIV VEEMGKRDQ|LDEVPAEYKNE\|INE\|AQQEF LINNLLQRQGA




 DRVVAA GE QLDLEVPEAYQNQVFNELAQEFLGQLSRRGM DEAI DVAVNNSKUDIPAEMDEDDVHRQDDQYMAGMQQQGG ETVVEKAAENATIDIPQVMIDHEDEHMISDFEQRLRDQGLD DALLAA LVEQLEVELPETLVQEEVVTLLEQTAGQLAQQGM


 P ELLEIVVVK DSFDLPDFVVVDQEDDMAKNKKAQGMSEEEE DSLL EKAAEQAEDNVPEAMI ETETDRMLQEFGQRLQAQGM DLLLEQ LTTSEEVPLPAGVI EAEV VRHLEGEGR PVFLETLVEKIDFALPTSVI EQEINYALNNEEINELKENA NEII AKLLESSEFELPPTLVRRQMKRELDRKVLEFRRSGF $N G A V D A A V A N A T V E I P E V M V E Q K V D Q M L N N V N Q R L M Q Q G \square$ TQVLDGLI AQNSFDVPQALI TNEI QRQKQAMVSRFGGQSF
 EQVMEAVVDVTQVEFPP LVVEMEVDRLLNQRLQRWQTGGS LEI LINEI GKLTKVNLPKELIEQEKTK】TNALQQQDQMYGM EEVKKHLQKEYQFDVPESLVAEETERTKQD
TEVITKLVENVEGDIPDGMVETEDDNMLEQFNQNDAYQGL NSLLNKVVENNDFTPPSGLVESLHKRFIEMEKENARRYGQ NRVLAAMAKHLQLEVPSEYVNQVFNEITQNFLSQLQSQGM
 EKLVENFLEKI HFDLPDLVIDREMDLLFRNSLSSDAEEED EMVLDEVAARTQVDIPEALVDEEVRRRWGSSEGRAVSDLK
 EKVI NA VVDNAKVEIPEAMINREVENMVRDLEMRLGQQGG
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 RALIR ITASRSELSVDPELRDA ADDELYQDFDYRI RSSHG EKVLEKVVETMEVEVPDAMVNSQDDSQVQNFDRNLKAQGM
 MPKALI GNEVNRLRVQAVQQFGGNDK DKVMEE I IKNSEDDLPKTABERQAKELKKEFEQQ DAQQGK SKLLSD VNRASNGEVPPAMFEAEFKKTLSEFSKKNKDNFE
 NECLAA A ASRVEGEMPTAMCELQEVNLLQSFYQQLSQNGY
 DEVLKAALEKVDFELPKSVVDEQVHAQLHQVMGQLAHDEK
 QRVLDKIIEKSDVSPPKKMLDNGVDNKIDETREQIGSEEG GKLI QKVVADSKVDVPK SMVVREVENRMAEMNQQLTMQGM DAAVEAAVKNAEVDIPQEMIDEDVHRQMQQYLQMFFQDSG

 GT ENLHNADDFDLP ESVVAKKK


ESMYETLLKTNSFSVPDTLI DEQLDQMFQRLSQSTSQQGM NKVIDLI REKSVIEI PQSAIVKEADNMYKEFEAKVQSQKE PKLVEALVEKFEFDLPKNIVDQEIDVQLNNKADKELRENK ERVIEAVVDLAE LEFP

 DQVLT QLAASAAEGELPSVLVESTYQQEMQNIQQQLQMQRM




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 NMEQYLQQELLPRGEESLKSSLVVRKIVEAEGLSVDESEI


| QTEEGLEKKYREKAEESI RSQLILHEVARLEGLTVSEEEA TTMEAFRENLRADALKQVKTSLAIEAVAKAENFEVSEEEV |  |  |
| :---: | :---: | :---: |
|  |  |  | MSMEDLRGQMRERALRNIKTSLVLEAVVK

QDEAALKAQMKADAEKRVRNNLVLEAI A
P DQLDAELLFEEQAKRRVVLGLIVAEVVKQHELKADEGRV

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 AFARLTREQFDEDAEESVRTQLFLDTVADEEKPEVSQQELL DVKKLLRQQSQPEADANLRKSFALKEVA KTEEDWKNDVRESTEEQLKERLVLDRIAELEDD DLDQYLKNQLAPMAHNKVQVDLVLEAI AK QTEDSLKKQFAEGADTRVKTNLVLEAIVKKEDFQPSDEEV DTEEEFEAEVKKQAELSARILVVVRAI AEAEKLEDSDDEY





NAEDY $\square R E Q N R D T A A E R A K E L V L E A T A E V E E \square E V T D E E L$ NAGD DGFPVDS $\square W \mathrm{~W}$ TRTSFLLEDI A
MTDEA TRLELFDDAKKRIESYLITDKVRNTEKFEVSKEELL


## SPEMDLHT QFEGEAEGR\KTNLVMEA\|VEAEN】EVTDEDV

SME QY LQA E L R P E A E K R $\square K T K L V M E A V V K$
S LD HQTRENFTANAEKNTRARMALLQVAQNEGLVPTDEE■ R F NE L L VEQ



| UniRef90_B9CKM2 | RAEFEK |
| :---: | :---: |
| UniRef90-D5XBH2 | E E E $\square_{\text {K }}$ |
| UniRef90-D0MF28 | QAFFEKQ |
| UniRef90_K2A435 | QQEQE |
| UniRef90-UPI000288BF5E | EAFIE |
| UniRef90-C7XTP4 | KKEI ${ }^{\text {S }}$ |
| UniRef90-E8RF92 | Q R GYQ |
| UniRef90-Q88VE1 | A A EVK D L A |
| UniRef90-U2V9N7 | RSEF |
| UniRef90_J1F2C2 |  |
| UniRef90-H6SRR0 | NK ALLM |
| UniRef90_F5LAJ5 |  |
| UniRef90_UPI0002001A07 | D AKVKEL |
| UniRef90-D3PS98 | DEFLAELA |
| UniRef90-Q7M7M4 | 1 Q T |
| UniRef90_UPI00046FDD59 | LQAVY MEA |
| UniRef90_Q1GAP9 | D A EIK |
| UniRef90-A0A023VPA1 | EKEIN |
| UniRef90_G7VAA2 | QREI A |
| UniRef90-T0J8R9 |  |
| UniRef90-Q5WEN8 |  |
| UniRef90_D1BJU4 | LD Y L V N |
| UniRef90-A8EVH6 | TQVL |
| UniRef90-M5T5J0 | E A Elie LIA |
| UniRef90-F6B8J7 |  |
| UniRef90-UPI00046F7378 | R A M I E EAA |
| UniRef90-G7CIY7 | TERLVLM |
| UniRef90-U2CDP1 | EAELQKNA |
| UniRef90-X1JLT0 |  |
| UniRef90-G4ELN6 | D A E I EKV ${ }^{\text {d }}$ |
| UniRef90_K2A104 | E F R M |
| UniRef90_R5SZK1 | D DK\ |
| UniRef90-16Z8M3 | EQLAK |
| UniRef90-U2VPF7 | E |
| UniRef90-X0YRH8 | KKEKDNI |
| UniRef90-H5X315 | TER V V Q |
| UniRef90-D3UIF8 | F Q TV |
| UniRef90_S9PBW3 | Q EVI |
| UniRef90_UPIO003B556A5 | EKELERLA |
| UniRef90-Q0TQK1 |  |
| UniRef90_Q1MQ80 | ERALLY N M A |
| UniRef90-C8WAA6 | RAEFER |
| UniRef90_C4LJV9 | T E H $\$ M  \hline UniRef90_B1XL18 &  \hline UniRef90_LOKCX5 & D D R V A D $\square$ A |
| UniRef90_I0AKA7 | K E A K K A |
| UniRef90_UPI00046E5BF2 | D Q K Y V E |
| UniRef90-UPI00047940CD | EAKYE |
| UniRef90-K2FTF3 | NS E $\square$ EK ${ }^{\text {L }}$ |
| UniRef90_R6TMF9 |  |
| UniRef90-K2A811 | G Q A L |
| UniRef90-A9AUT1 | NAEI ER】 |
| UniRef90_B2HNG6 | T ERL |
| UniRef90-R5HEZ5 | SKEAEDLA |
| UniRef90_F7V5A4 | A E F |
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| UniRef90_G5GHG1 |  |
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| UniRef90-U8RKC5 | R EMDE EMAS |
| UniRef90-S6G715 | N NKLEE! ${ }^{\text {a }}$ |
| UniRef90-C2KVF7 | EKELERIA |
| UniRef90-S5YXG6 | ENELVKQA |
| UniRef90_10XLU5 | DREISTLAS |
| UniRef90_K7SGE6 | MQ |
| UniRef90-R7AP50 | SAEF |
| UniRef90-E2ZGE1 | DKALA A R A |
| UniRef90_E7FZZ6 | F Q |
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| UniRef90_V2Y7H0 | K A AL |
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| UniRef90_C5EZR1 | L N T |
| UniRef90-D3DHC8 | QKKYQE $\mathrm{Q}^{\text {a }}$ |
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| UniRef90_V8CA57 | M N A |
| UniRef90_U5N928 | VEHIRRLAS |
| UniRef90-A0A014IKL6 |  |
| UniRef90_E3DQ22 | D E E V N Q $\square$ A |
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| UniRef90-S5LZ80 | EEKY L K L |
| UniRef90_A6Q1C0 | VQT |
| UniRef90_X1MQM4 |  |
| UniRef90-R2Q0G0 | E N EVK Q L A |
| UniRef90-W4TKQ3 |  |
| UniRef90-UPI0004705894 |  |
| UniRef90-C7H1S1 |  |
| UniRef90-D5Z5Y8 |  |
| UniRef90_R5G3D4 | E K Y Y VK V A N |
|  |  |



LNDDFAQE ASEFDTFEEDKADVRKSCEQANEGRQATMAR LTEAFVAENFPDLGTVDAYKEDLRQQMLDSKQQQSDQQRN TVDAYKALVRTNLEEQRKKSAESQDQ
 L D D A F A E E E A A G V


 L D O


LDDEFAK DVS EYET LEE LGKAS IRRNR DKEKNDKRAK DEMI
 L D D E M L K K L G E E K A S V E V L D E K L K K Q I
 DVDS F K Q S T K KRLLE ETMMKNDNKNNT E LAVEAEREQA
$D E \square I S N F G \square D G V T E E E L R Q Y A Y D Y L N E N A Q Q N Y E T N V Q$


 I T D E WVK E T LGGFENV E DMRTRMSESIT QQK GAMLPRMKE LDEEFVVTASSHD TVA QLQDATRKEI EEERRRGRLNQ $\square R$
 DEDFVKE $\square$ N E E F
D D A Y
V
K A NS GVTTV
$\qquad$ V S T S V V
LD K D F F E D LG $\square E V$ D S K E K L E
 EA I AKDYG FKDVGHMEDFARKRIVKQRDQMVFTVVK

L D D A F V Q R V V S P LT D E WV T K N T DYT TVVE EYRE GT R K T L E K EAREESAGEVVLK MT D E W A A G L G A N F T N L A A D L R E Y

UniRef90_H1HTQ3 UniRef90_H1HTQ3
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UniRef90 R6ZVA6 UniRef90-W9EGB7 UniRef90-X0UEY5 UniRef90-XOTA77 UniRef90-E3D9H5 UniRef90_D6DGX9 UniRef90_F3B2C7 UniRef90-R6LKS9 UniRef90-M7MJ54 UniRef90-UPI0003B5D11C UniRef90-TOFFR1
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UniRef90-R5Z9E0
UniRef90-R9MRY0
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UniRef90_K9T2Q6

50
60
70
TS AlL DAVMASSTFEVVSDEAKKYETELQKDRMNKQ|LQQYG|L


 | N N | $M$ | $V$ |
| :--- | :--- | :--- |
| $E$ | Q | N |

 E K L I K K A S E N A E V N M T D T L V


 H NLL LT E L M A DTEELE V GP S LI Q S E I D R V FS E QK H N I E S Q G K D Y I W W H M I I E K S K K F I M P D E L I N D R V D D V L V N G L K A Q L K A S G ll
 M Q I I
 K A A WEKVID GCKIK DYPEDLVKSQMKTYYENLAS QYGLQMG NA AVE TVVAD N ATVVMPEK LYN RYY YQMVD SLK S YVQQQN N $N Q V M E A L V E A H K L Q L P Q A L I K Q E \square T A L K G Q M V Q Q F G G$ KEI LD YLDENCKFDLPEDLVKNEKE IVKHSFIIHEKAHKDE

 PKFADAlVAKFNFDVPKNVVEQEMDMQFRSAWSSFTPEQM NDLME TI SSDNATVVEIPAVMI ENEVVDNLYRDFTNRMQQS GK
 A A AVTAATKNATVDIPQVMLDED\|QRQTDQYLAGLQQQGD

$K R \square I E$

AELLSALVEDSEITCATEDVVDEAVA EHLKGMVADYASVME Y N ALT TA AV Q NAKFKMNDAAI E YEYNNSFKPIVAMLT QYNM D K L M R Q V A A T LDD Y K P T D A E L E Q GVD S Q DEVLVKA QLAARK G G


 D L C K A P
 SAVWEAVLDKSKVKKYPKKVKDDTMNLIDQQYKDAAEYY QM PALRETLSDSYSFDLPRAVVEQEDEQRANNLLRDYTKE QL

 E Q V L N G L L D A T P I D D V P S N L V A M M E R S A L M M E K A V T D D A L L E K I A Q A T E I D I P E P M I E N Q DN Y Y V E DVV R N L Q Y F GM N D A I D E V I E A S E V K M S N LI I D E T A N S Y Y Q G F I N Q I K K Q G I


A TVISNYLI DHSKFY L P E S L V K K D Q

PK F A D K AVV

 N DLV A LAAY QNATVVDYP QEMM D Y QLDE QV T S Y Y K S Y A D Q Y G M D A L L N RLLCEE E M D V E LDP Q S M V D N E E M E V V V K E D R K K E F DR R L G A A ALE LAAVENAEVVLPGEMVHEEVHRAMNEFDSGMQQQGI DQIYHHLVDHTTMEFPESF

LKRWL Q N G GEQP K
 K N A L A E NDVVDALLNSTEFDVPASLVDQEIDRVRKDAVQRFGG EM D A A K K A V E N A T IVEV P Q A M I D E D V Q N Q L N Q Y L G N M Q R Q G G ERVVDS L LA KVVEPPIPEAVLQARVRGQI GQLAQRTGLSPE NECLMAL AQRLLE GELPE MMCETQETRDLSDFYGQLSRMGE NAVMAEWAKRFDGEVSPKMVDAMTTDMLEGFKMELAQQGK SELLYS QIVSETEVAKYPEKEVKEQVKELKEWEEYMKDTGG
 NEALLEAATNGCMFEPPQAMLDDRFA GLYADQMEQVAQYYSA NDVTENLVENTKFDLPASFL
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N R CVV A L A E R L QLEMD A DYEQ SVFE ELGQNFLSNLAARGM NAAI ESAKENAVFDMPEGMLNRMYDNLLLNTAAAYAYMNGM Q DVLS LVVNDS DMK LDSRSEVVSKRYNQELDDNYTKQMA QSYG N TA WN TVVLENTE VE YP EA DVVENADSEA RK SMEVVYAK QA D M


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| UniRef90_N9QYM1 | D E Q $\square$ E K L A |
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| UniRef90_XOUHL4 |  |
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| UniRef90_B6GCU0 |  |
| UniRef90_A9K |  |
| UniRef90_UPI0004065 | SKILLEAVTANCKFERFKGLYS DQA N MVVASYYSANYGSMMM |
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| UniRef90_UPI00037DFC1D |  |
| UniRef90-X8IQ85 |  |
| UniRef90_F0YVT5 |  |
| UniRef90_G9WL18 | D Q AI Q Q I S D K T EV EL S K K FLE Y A K A Y I L N A QL N Q Y K Q Y G M |
| UniRef90_S3XJT5 | PKFVVDDMTEKFDFDLPKT IV EQEEDDLQFRNSWNSFAK E D M |
| UniRef90_E8T3S5 |  |
| UniRef90_UPI000364C3C0 | SLI I D TLL K K I KI II P NLLI EREVVENSLLARLVVRQTEAS IT |
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| UniRef90_A8AVB8 | S A Ald L L AVEENA EV ELLP E EMV HEEVVHRSVNEFLGNMQRQGG |
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| UniRef90_UPI0002E7CA4B | D KV L ELL DE K L D L PVPP S RVV E E EVVKR H L L GEGR |
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| UniRef90_R7D5F2 | S NAWSEVLLANSEVVEPPEEDVDKAVEAYKKLNENYVKEAGM |
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| UniRef90_R7N4U1 |  |
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| UniRef90_I3YTL7 | N DVVEESLIENTK K D L P Q EFIL Q R WI A |
| UniRef90_G8X7L2 |  |
| UniRef90_L1PGQ9 | D R L VE NLL S R T E I LLLPE SVI E HELS HRVV A E |
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| UniRef90-X0Z297 | SETVVRKVVEDSKVDLPLSLVEGKVDERRSQLENRLKERET |
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| UniRef90_S3XJT5 | V Q |
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