## QUERY

UniRef90_O27710 UniRef90-UPI00035F2F08 UniRef90_N6VP87 UniRef90_FOTCR8 UniRef90_U6ECS1 UniRef90-E3GW90 UniRef90-A6UTC3 UniRef90_F6D3M4 UniRef90-A6VIR4 UniRef90-D5VSW2 UniRef90_C6W2T3 UniRef90-A1ZKQ8
UniRef90 R9GRG3 UniRef90 Q64BB5 UniRef90-M7N2E4 UniRef90-R9SKE8 UniRef90-K8DXC9 UniRef90-I2EV39 UniRef90-I4AMX0 UniRef90-D0MK18 UniRef90-F2SJ07 UniRef90_E4RV77 UniRef90_UPI0004726DA3 UniRef90-B8D019 UniRef90-W0F2M5 UniRef90-UPI00040192F2 UniRef90-Q04GM2 UniRef90_F6CKS3 UniRef90-B6QM58 UniRef90-F7WBIO UniRef90-H8KLT3 UniRef90-H6BLX7 UniRef90_G2SHJ1
UniRef90-Q2RM82 UniRef90_UPI00030DA77E UniRef90_A5D175
UniRef90-T0CFD9
UniRef90-Q2NEV6
UniRef90 UPI0003B77B62
UniRef90_UPIO0035D28E3
UniRef90-Q5BDB6
UniRef90_UPI000476D2EC
UniRef90 D5XFA4
UniRef90_UPI0003B4C4F2
UniRef90_U5BS71
UniRef90-K2RV28
UniRef90-Q67L18
UniRef90_G9WH39
UniRef90_UPI00024909F1
UniRef90_Q1ASZ8
UniRef90-H6REA3
UniRef90-D9QQR5
UniRef90-UPIOO03614886
UniRef90-UPIO004087EB1
UniRef90_L8G3T0
UniRef90_UPI000375E693
UniRef90-A5UJB3
UniRef90_UPIO004699986
UniRef90_UPIO00248D2CA
UniRef90-D7DV26
UniRef90_R7YJL5
UniRef90_I4CCX4
UniRef90_C8W0B5
UniRef90_L2GHI2
UniRef90_W2E3B3
UniRef90-UPI0003B4A8C5
UniRef90-UPI00037BDF9E
UniRef90_E6SK17
UniRef90_B14G7
UniRef90-B3DV01
UniRef90-K5AAK9
UniRef90-UPI0002888201
UniRef90_UPIO0035CC068
UniRef90_D5BZ77
UniRef90-F2IER2
UniRef90_UPI0004702EF8
UniRef90 C7PAQ2
UniRef90_M9M6C5
UniRef90_UPIOO03634067
UniRef90_F5L3K3
UniRef90-B6HF82
UniRef90-M1Z9X5
UniRef90_UPIO00467EA91
UniRef90-LOK8WW1
UniRef90_J9HNK5
UniRef90_E9F126
UniRef90-D3F441
UniRef90_UPIOO0405527D

1
10
MKAFEFLYEDFQRGL M NAFDFLTKPRKNGI
 MKAFNFLLDEDERGL MNAFDFLTKDR』RGV
 MK AF D F L N VP DNNGGI MNAFS F L L N LEKGTENT MKAFEFINVKYDRGLTV

P ER $N L P E R T V V K P R R E D G$
 $\square P N R T Q K P R Q N G F$ MKAFKF

HVPKRTAKPRTTGI IPERPSKPRSSGG
MPER

| $R$ | $P$ | $R$ | $T$ | $F$ |
| :--- | :--- | :--- | :--- | :--- |
| $K$ | $L$ |  |  |  |
| $K$ | $P$ | $R$ | $K$ | $R$ |

HVPERT
$N L P E R T S K P R Q Y G F T$
RVLKPRHKGV
MPERLVRPRTNGI
$P E R T V K P R S Q G Y$
M N A Y
R L E K P R Q Q GLL
PRPKKPRMKGV


RAFPFLRKPRTRGLT
PDRTEKPRQRGL
RS QKPREQGL
$K P R D N G L T$
$E \square G P N T N T$
M N A F K F $L$ D
D R S EK
$H \square P$
$\begin{array}{lllllllll}K & R & D & K & P & R & T & K & G \\ P & R & P & K & K & P & R & S & Q \\ G\end{array}$ REDKPRRNGL
$\square P G R T N K P R \square K G L$
$\begin{array}{lllll}K & P & R & S & T \\ G & C\end{array}$
$N \square P$ VRTEK
PRPPKPRTTGV
$P G R A R K P R S V G L$
 KAFDF L N Q D N K N GK T AF GF
MPSRPEKPREKGL
$N \square P \square R T-L K P R N N G l_{1}^{L}$

PGRNLKPRTCGL | $R$ | $L$ | $E$ | $K$ | $P$ | $R$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $P$ | $L$ | $T$ | $G$ | $K$ |  |
| $R$ | $P$ | $K$ | $P$ | $R$ | $L$ | RMQKPRTTGKT

R MKK PRESGLT RTEKPRALGKT
MESFSF LK KPRKTGVV
R A F P F $\square$ P KRSVGI

PRDP K

PDRQEKPRTKGLTT $R$ FPKPRRQGVN R P P K P R HRGL


K PRTTGMT
K P R L L G K T
K P R T T GK T
$R L N Q R Q T$ $H$ I P ERTT QPRNN GV N I P QRTS
$\mathrm{K} \square \mathrm{P}$
$R$
$R$
$R$ RTRKPRTT


## $L N L P P R T T T K P R A K G G L$ <br> PRPAKPRTKGV

 K P R E N G I TRTSKPRQRGGL
FEFPEKPRTMQGL
RAEKPRSTGLL
TPPRDPKPRKTGV
$T P P R D D K P R Q R G L$
 $M V \operatorname{D}$
 VML D K G L P P K F IDE S Y L
 M ML D K GM G P V F L D D L L E I S GRYA D


 | $M$ | $V$ | $I$ | $D$ | $K$ | $G$ | $L$ | $S$ | $P$ | $D$ | $F$ | $I$ | $N$ | $D$ | $Y$ | $L$ | $K$ | $V$ | $C$ | $G$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |



 $M V$ LD K G L G Y R A A Q DLL M E S A S E Y I D $M A M D K G L G N R E A E D F \mid L S V A G P Y V D$ | $M$ | $V$ | $L$ | $D$ | $K$ | $G$ | $L$ | $G$ | $Y$ | $E$ | $T$ | $A$ | $K$ | $C$ | $L$ | $M$ | $E$ | $L$ | $A$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $M$ | $E$ | $Y$ | $V$ | $D$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $M$ | $I$ | $I$ | $D$ | $K$ | $G$ | $L$ | $G$ | $L$ | $G$ | $E$ | $T$ | $R$ | $D$ | $L$ | $L$ | $N$ | $L$ | $A$ |
| $G$ | $D$ | $Y$ | $I$ | $D$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

 M V M D K G L S V R E I E D L L S | $L$ | $M L$ | $D$ | $G$ | $L$ | $S$ | $V$ | $R$ | $Q$ | $V$ | $E$ | $D$ | $L$ | $E$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $E$ | $A$ | $A$ | $G$ | $P$ | $Y$ | $I$ | $D$ |  |  |  |  |  |  |
| $E$ | $I$ | $R$ | $P$ | $Y$ | $M$ | $G$ | $K$ | $R$ | $Y$ | $L$ | $S$ | $D$ | $F$ |




 MV MDK GLSVDEAKSFMSVSYPHVD $M \vee M D K G L S I R E V E D M \backslash S V A G D H I D$ | $M$ | $M$ | $D$ | $K$ | $G$ | $L$ | $G$ | $S$ | $R$ | $S$ | $L$ | $D$ | $D$ | $L$ | $L$ | $N$ | $T$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $M$ | $A$ | $D$ | $Y$ | $I$ | $D$ |  |  |  |  |  |  |  |  |  |  |  |
| $M$ | $I$ | $D$ | $K$ | $G$ | $L$ | $G$ | $L$ | $V$ | $E$ | $T$ | $K$ | $D$ | $I$ | $L$ | $H$ | $V$ |
| $C$ | $G$ | $Q$ | $Y$ | $I$ | $D$ |  |  |  |  |  |  |  |  |  |  |  | El R GP Y M GK R Y FA DLL E TM G A H V







 MI L D K GLLG IR A TK DLVVETAAAY ID


 MVI D K G L G L S A Y Q DL L Q L T G E Y I
 E I R GP Y M G P H Y L S DVL H TMGH QV D
 $M V L D K G L G L N E T D C D L A A T A A C S I D$ $M M L D K G M G L$ H A VD D L I S T A G D Y I S E $\square R G P Y M G K R H L A D V F E T M G E Y V D$

 $M V \square D K G L G \square R E T L D L A E L A A P Y$ D $\quad$ D $M V I D K G L G G H A L T M D L L E T A S P Y M D$ EMRGPYYGTR HL E DVVF TMGTHVDD $M V I D K G L G P R A F E D L M H T V G G Y I D$

 \begin{tabular}{ll|lll|lllllllll}
$M$ \& $V$ \& $L$ \& $D$ \& $K$ \& $G$ \& $G$ \& $L$ \& $L$ \& $Q$ \& $F$ \& $S$ \& $D$ \& $V$ <br>
$M$ \& $M$ \& $E$ \& $T$ \& $S$ \& $A$ \& $P$ \& $Y$ \& $I$ \& $D$ <br>
$D$ \& $K$ \& $G$ \& $L$ \& $G$ \& $L$ \& $H$ \& $A$ \& $L$ \& $E$ \& $D$ \& $L$ \& $L$ \& $Q$ <br>
\hline

 

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


 $M$ I ID K G LLG LR A FE DL L E TA G E Y I D HVLDD K A L S I R QVE N ML D VA A E Y I D MLLDK GLGLGETRDLLHKAAHHI D

 $M \vee M D K G M G I N E F T D M L E L A H E H I D D$
 E I R GP Y M GKR Y L R DV L E T M G A Y V D MMMDK GLS LTEAENFI QAS GHLTID $M$ M T D K G L


 $M L L D K G M G L E E T R D L E H T A G B Y Y: D$ EI R G P Y Y Y S A G Y F S DLIS R M A Q F | $M$ | $V$ | $D$ | $K$ | $G$ | $L$ | $G$ | $D$ | $G$ | $L$ | $K$ | $D$ | $L$ | $L$ | $E$ | $V$ | $S$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $M$ | $A$ | $Y$ | $I$ | $D$ |  |  |  |  |  |  |  |  |  |  |  |  |
| $M$ | $V$ | $L$ | $E$ | $K$ | $G$ | $L$ | $G$ | $L$ | $N$ | $A$ | $T$ | $R$ | $D$ | $L$ | $M$ | $D$ | EI R GP Y Y GK K HLLA DL F E TMGA WI D M I D K GLGG I R E T K DLLLELAT S Y I D

 E I RGP YMGKRYL Q DVFD TMSH QV D


|  |  |  |
| :---: | :---: | :---: |
|  |  |  |
| UniRef90_O27710 | A HLNDKVEEYFQEARSLGFETLE | SNGTVEI ETEEKCRLI |
| UniRef90-UPI00035F2F08 | SFLK GVFQEYLDECKELGFECI | S D G M L S L ED |
| UniRef90-N6VP87 | AVLKNKLDQFFEEADNLGFSAI | SDGSLDI SLDLRKEAI |
| UniRef90-FOTCR8 | A Yit NKFNEFLKEAQELGFGAI | S DGTVDISAVERSDI |
| UniRef90-U6ECS1 | A Y SQNKLEEFLGEADKLGFSAI | S DGTI EI S |
| UniRef90-E3GW90 | A Y L K NKLDKYFEEAKDLGFEF | S DGSINLS |
| UniRef90-A6UTC3 | CHSKGLYDEYLKECKELGFGCI | SDGSMELSKEDRKNAI |
| UniRef90-F6D3M4 | AYTHNKLDRFLNEADKI GF GA | SDGSVDI S Leerekvi |
| UniRef90-A6VIR4 | CFSKDVFDEFLKECKDLGFEC | S DGS MELK PEDKDYAI |
| UniRef90-D5VSW2 | CYINNKFEDYLNECKDLGF | S D G S |
| UniRef90-C6W2T3 | FVVRNQFDDYRKLLDKYQL |  |
| UniRef90-A1ZKQ8 | FLVRGQFDDYRRVLDKYNLS | $V$ S G SI ELPHEEKCKYV |
| UniRef90_R9GRG3 | FIIRNQFDDYRR\\|LDKYGMK | V S G SI DI PHEEKCEYI |
| UniRef90-Q64BB5 |  | S D G SIRIS R |
| UniRef90-M7N2E4 | FIVRNRFDDYRR ILD K Y K M Y | $V$ S GS I DMPHDQKCEYI |
| UniRef90-R9SKE8 | A Y L N NKVPEFFDEAKRDGFD | SNGSTELSYDKKLDY |
| UniRef90-K8DXC9 | AVLQDKLRQYLAMARDFGFTA | SDGT I D M S L L R A A I |
| UniRef90-12EV39 | FLVRDQFEDYLRVLDQYG | SDGSIETSSEEKCKYI |
| UniRef90-I4AMX0 | FLVRNQVDEYQKVLDKYGME | S DGSLELDHEEKCKLI |
| UniRef90-D0MK18 | F YLRGELDAYCRLVERLG | SDGVLT P Le K KRV |
| UniRef90-F2SJ07 | PD N T TVLDRYFRKCKDLGFDV | SAGFLSI PEDDWLRLI |
| UniRef90_E4RV77 | F VVRNQFED | $V$ S D G SIT L P HEEKCNYI |
| UniRef90-UPI0004726 | FVIRDQFDEYRRILDKYDMT | $V$ S G S M I D H D K C C Y i |
| UniRef90-B8D019 | A ASQGKVNEFLFRAKQLGFT | SNGTFDI GEKLRQESII |
| UniRef90-W0F2M5 |  | $V$ S D GS 1 TVPHAEKCGY |
| UniRef90-UPI0004019 | FLVRDQIEDYRRVLDKYQME | S D G S I E P H DEKCKY |
| UniRef90-Q04GM2 | SVLKGKVDRFLKESRELGFT | $V$ S ${ }^{\text {a S TEI TKEERAK I }}$ |
| UniRef90-F6CKS3 | A I LQEKI E E Y L Y La K Si GF TAV | V S D GTI T L P P E I R EKAl |
| UniRef90-B6QM58 | A DTETVFEKYLLKCKDLGFDVV | LS S GFLS FPADDWLRLI |
| UniRef90-F7WBIO | P DAHSAVDKYLSHCKSLGFDV | STGFLSLPPDDWLRLI |
| UniRef90-H8KLT3 | RGQFDDYCRILLEKYKMEYA | V S D G i Ti PHDVK CEYI |
| UniRef90-H6BLX7 | PDANTVVEKYLRKCKDIGFDV | S A GFLSFPPDDWLRLV |
| UniRef90-G2SHJ1 | VVTQGAVHRYI QECRDLGFDI | STGFITIPADDWLRLI |
| UniRef90-Q2RM82 | AVLQGRLSLYLQTARELGYTFI | SDGTI DLSRTLRYAAL |
| UniRef90_UPI00030D | ALLQGRVVEYFDRARELGFTGI | S D GTI SLD |
| UniRef90-A5D175 | AVLQGKLVEYLAFVKQAGFTA | V S D GTV SIPPEVREKAI |
| UniRef90-T0CFD9 | ALTQGVYDKYVERCAKLGF | V S D G I EL D |
| UniRef90-Q2NEV6 |  | S DGSTTIDSDRRAQ |
| UniRef90-UPI0003B77B62 |  | V S D G VEI DFKTRKTA |
| UniRef90-UPI00035D28E3 | YVLR DQLDA Y V E LMKNY |  |
| UniRef90-Q5BDB6 | PDPTSVFDKYLTKCEDLGFD | S S GFL Sil P EDDWLRLV |
| UniRef90-UPI000476D2EC | A IVQDKWEEYLYKAKDLGFTA | V S D GTI DLT S NLR SI |
| UniRef90-D5XFA4 | A WLQ ${ }^{\text {a }}$ KVKDYLKYAWHLGGFS | S DGTVDMGYEVKR |
| UniRef90-UPI0003B4C4F2 | A Y SRRKVDEYFHMVRDWGLD |  |
| UniRef90-U5BS71 | FVIRRDQFDDYRKVVQEFNLS | $V$ D GSI TLSHEKKCDYı |
| UniRef90-K2RV28 | AGCGGVDKYLDKVRELGFDV | VSTGFLSLPEGDWLRLV |
| UniRef90_Q67 | ALLQGRLEAFLAATWDLGFRAV | SEGTIDLDHRDRERAI |
| UniRef90-G9WH39 | A L L K N L D AFFAESKALGFTAL | $V$ S G S TKI SAQTRAEII |
| UniRef90-UPI00024909F1 | AVANNQADAFFEEAELLGFQGI | $V$ S DGSTTVDKETRRHL |
| UniRef90-Q1ASZ8 | LQGPEAVDRY |  |
| UniRef90-H6REA3 | FIA R GRFDDYQKFVDKMGLD | $V$ D GSI I I P Q DEKCEYI |
| UniRef90-D9QQR5 | AVTQGMDD | S D G I DL |
| UniRef90-F4CET7 | FLTRNQFDAYRKVLDKYKMEY | S D GSI VLP HEEKCKYI |
| UniRef90-UPI0003614886 | AVLQGCWKDFMRTSKKLGFTA | V S D G V V I D Le LR RQLI |
| UniRef90-UPI0004087EB1 | VLTQGIFPAFLG | S D GTLSIPASIR TRAI |
| UniRef90_L8G3T0 | ADVHSVVDRYLEQCKDLGFDVV | L S S GFL S FP P D DWLRLV |
| UniRef90_UPI000375E693 | AVQQGVVSSFFDT 1 V V L GFTGV | V S D G I D 1 S |
| UniRef90-A5UJB3 | A YMNDKLEEFFQEA | V S D G T T I SHDKKLECI |
| UniRef90-UPI000469 | AFDQGKVSQYFEHVKRWG | S DGTITLSSEERNYYI |
| UniRef90-UPI000248D2CA | A IRQDAVEHYFDMAAYMGFN | $V$ S D G i EVPRSLRSELI |
| UniRef90-D7DV26 | AFKEDKFEEFLTYCKKLG | S D G M M I DF S |
| UniRef90-R7YJL5 | LDVS GTVDRYLQKCKDI GF DV | STGFLSSLPAPDWLRLV |
| UniRef90_14CCX4 | LFGRDAVDRYI K C CKDVGFD | S S GFi TVPPTDDLLRLV |
| UniRef90-C8W0B5 | AVLQDSWEEF | $V$ D GTI KI PDEDREKAI |
| UniRef90-L2GHI2 | LT A V D R Y L ETCKRLGFDVI | LS T GFLSLPPS DWLRLV |
| UniRef90-W2E3B3 | AVHQQMADSFLKTASELGFTGI | $V$ S DGTTTLS R SRRSELI |
| UniRef90-UPI0003B4A8C5 | F FLLRDQLDVYRRLMMDL GVQ S | SDGSVSMAHDEKLELI |
| UniRef90-UPI00037BDF9E | A I WQNRLLEFLKRAYQLGFNF | $V$ S D G I F LPAEVREKAI |
| UniRef90-E6SK17 | ALVQGRFRAFVEAARETGFTHL | $V$ S ${ }^{\text {G }}$ TV DMAPDVRRDLI |
| UniRef90-B114G7 | A I AQGRLLPFLRTARQLGFTA | $V$ S D G L F LDAEVRREAI |
| UniRef90-B3DV01 | A WGAAIVDRYIEECKAVGFDIV | VSAGFITLPFD DIL T R L V |
| UniRef90-K5AAK9 | AVAQGMVDAFFHMMRETGFTGV | VSDGTI TLSRKERNALI |
| UniRef90-UPI0002888201 | ALAKGSLDSFFSMVRNLGFN | S D G TI Di D |
| UniRef90-UPI00035CC068 | AI RQDAVDDYFHMISALGFNGL | S DGTI ELSRKVRSELI |
| UniRef90-D5BZ | VLTQGAVEKYDQECKAVGFD | SCGFI TIPTDDWLRLV |
| UniRef90-F2l | FHARGRFEDYLRLLDKYDLD | S DGSI IL NHDEKLELI |
| UniRef90-UPI0004702EF8 | F IY R NQFDDYI NTI HAYGINYV | VSDGSI DI SHEEKCGYı |
| UniRef90-UPI0002EC6594 | A AVQDSEKAYI ERVTELGFTAV | S D G S L P S LDQRYRA |
| UniRef90-C7PAC |  | $V$ S GS L |
| UniRef90-M9M6C5 | AVVKGMVEPFFHMMKETGFTGI | V S D G I ALPRQKRNELI |
| UniRef90-UPI0003634067 | AVMQDKVKEFLMMAKA $\square$ GYTA |  |
| UniRef90 F5L3K3 | FLLQGKLKDYFDFCRKHGCQY | SNGTVKLSNKDKASII |
| UniRef90-B6HF82 | PDPGTVFDRYDKKCKDLGLDDVI | LS S GFLS ${ }^{\text {S }}$ P E D DWLRRL |
| UniRef90-M1Z9X5 | A TY QQEIP HYLSLIT QI GFNAI | S E G T |
| UniRef90-X1G4L2 | AVAQGVYDKYLERCRQLGFSA | $V$ S GTI EMPLELRKEVI |
| UniRef90-UPI000467EA91 | MFGPDAID R Y I E EVKSLGFD | S A GFVSLPVDS |
| UniRef90-LOK8W1 | A I NQNKTSEYLNEAKE |  |
| UniRef90-J9HNK5 | A WLQ GSYTDYLQRCQSIGFTA |  |
| UniRef90-E9F126 |  | STGFL S LPQDDWL |
| UniRef90-D3F441 |  | S DGT T L PHSEKLAL I |
|  |  |  |

## QUERY

UniRef90_O27710 UniRef90_UPI00035F2F08 UniRef90_N6VP87 UniRef90_F0TCR8 UniRef90_U6ECS1
UniRef90_E3GW90 UniRef90- A6UTC3 UniRef90_F6D3M4 UniRef90_A6VIR4 UniRef90_D5VSW2 UniRef90_C6W2T3 UniRef90_A1ZKQ8
UniRef90_R9GRG3
UniRef90 Q64BB5 UniRef90_M7N2E4 UniRef90_R9SKE8 UniRef90_K8DXC9
UniRef90_I2EV39 UniRef90_I4AMX0
UniRef90 D0MK18
UniRef90_F2SJ07
UniRef90 E4RV77 UniRef90_UPI0004726DA3 UniRef90_B8D0I9
UniRef90_W0F2M5 UniRef90_UPI00040192F2 UniRef90_Q04GM2 UniRef90_F6CKS3 UniRef90_B6QM58 UniRef90_F7WBIO UniRef90-H8KLT3 UniRef90_H6BLX7 UniRef90_G2SHJ1 UniRef90_UPI00030DA77E UniRef90_A5D175 UniRef90_T0CFD9 UniRef90_Q2NEV6 UniRef90_UPI0003B77B62 UniRef90_UPI00035D28E3 UniRef90_Q5BDB6 UniRef90_UPIO00476D2EC UniRef90 D5XFA4 UniRef90_UPI0003B4C4F2 UniRef90_U5BS71 UniRef90_K2RV28 UniRef90_Q67L18 UniRef90_G9WH39 UniRef90_UPI00024909F1 UniRef90_H6REA3 UniRef90-D9QQR5 UniRef90_F4CET7 UniRef90_UPI0003614886 UniRef90_UPI0004087EB1 UniRef90_L8G3T0 UniRef90_UPI000375E693 UniRef90_A5UJB3 UniRef90_UPI0004699986 UniRef90_UPIO00248D2CA UniRef90_D7DV26 UniRef90_R7YJL5
UniRef90 I4CCX4 UniRef90_C8W0B5 UniRef90_L2GHI2
UniRef90_W2E3B3 UniRef90_UPI0003B4A8C5 UniRef90_UPIO0037BDF9E UniRef90_E6SK17 UniRef90-B114G7 UniRef90_B3DV01 UniRef90_K5AAK9
UniRef90_UPI0002888201 UniRef90_UPI00035CC068 UniRef90_D5BZ77
UniRef90_F2IER2
UniRef90-UPI0004702EF8 UniRef90_UPI0002EC6594 UniRef90_C7PAQ2 UniRef90-M9M6C5 UniRef90_UPI0003634067 UniRef90_F5L3K3 UniRef90_B6HF82 UniRef90_M1Z9X5 UniRef90_UPI000467EA91 UniRef90_LOK8W1 UniRef90_J9HNK5 UniRef90_E9F126 UniRef90_D3F441
UniRef90_UPI000405527D

KRAKDNGFM $\frac{130}{V}$
140
150
160
T EVGKKMP K DKQLTIDDRIKLINFDLDA EMAVDEGFMVLSEVGKKDPERDRLLEPDDRVRLVRADLRA


## S



ARAADLGLKVLT
DKVHSHKLI AKP
N K V
H K K D
K
DKVHSMGLKAKPEVGSKDDT VIIPPYKWI QLMQAEI DA
E VQKAGLKAKPELGQFGEAAGTSDPSKVVNLGKKFIEA

QLARAYGFLVLSEVGKKDV RDKVTGLALWQQVNYDLEA A A A CTAAEMGLKVLTEVGKKDP RDKTGIDFY GGQI QSDLRN ETAKRAFKLVISEVGKKD ODHTADVRTYAQQVVADLGA NKSKELGFYTLSEI GKKNPQKDSEYTTQQRDDLI NTDIEA
 K E L S S K F KKAKNLGFKVFTEI GKKD KEEEFKTHQMIKQLKRDIAD AMAKDMGFKVITEVGKKDLH DMPDLNKFIRQVKKELDS QQACQMGLQVITEIGGKMHGY HPTVDEFASKFADDRQA
 RAARNMGFTVITEVGKKDGSQ ELDPAAALSRIEADLAA




 $E K V Q K H G L K P K P E L G D Q F G E K T G T S D P A K L V E M G R K F L A A ~$
$E R G I D Q G L H V F S E G K K L T G Q S$ ESAKKDGFEVLSEVGKKDPGLDKELSGDERI EYMQNELEA


## \section*{\section*{)}}



 RALLAA EGF GVVV

 ERASQHEELKAYTEYGKK S S R RADNEGFAVVTT


 | $E$ | $K$ | $L$ | $A$ | $K$ | $L$ | $G$ | $T$ | $V$ | $L$ | $S$ |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $Q$ | $R$ | $A$ | $R$ | $E$ | $V$ | $G$ | $F$ | $F$ | $V$ | $C$ | $S$ |
| $S$ | $M$ | $A$ | $D$ | $K$ | $F$ | $K$ | $V$ |  |  |  |  | SMAADKGFKVLT ADFANE $F S \vee F S$ DKVHSYKLEPKPEVGYKDS

 R M K Q A K S L G F K V L T E I G K K D G A E G T R D V S W Lil A Q A E R A L D A
 E R L L G E G F T V L L S E V G G S K D D T R


## QUERY <br> UniRef90_O27710 UniRef90-UPIO0035F2F08

 UniRef90_N6VP87 UniRef90-U6ECS1 UniRef90-E3GW90 UniRef90_A6UTC3 UniRef90_F6D3M4UniRef90_A6VIR4 UniRef90-D5VSW2 UniRef90_C6W2T3 UniRef90-A1ZKQ8
UniRef90 R9GRG3 UniRef90_Q64BB5 UniRef90-M7N2E4 UniRef90-R9SKE8
UniRef90-I2EV39 UniRef90_I4AMX0
UniRef90-D0MK18
UniRef90_F2SJ07
UniRef90 E4RV77
UniRef90_UPIO004726DA3 UniRef90-B8D019
UniRef90-W0F2M5 UniRef90_UPI00040192F2 UniRef90_Q04GM2 UniRef90_F6CKS3 UniRet90-B6QM58 UniRef90-H8KLT3 UniRef90-H6BLX7 UniRef90_G2SHJ1
UniRef90-Q2RM82 UniRef90_UPI00030DA77E UniRef90_A5D175 UniRef90-TOCFD9
UniRef90 ${ }^{\text {Q2NEV6 }}$ UniRef90_UPI0003B77B62 UniRef90-UPIO0035D28E3 UniRef90-Q5BDB6 UniRef90_UPIO00476D2EC UniRef90 D5XFA4 UniRef90_UPI0003B4C4F2 UniRef90_U5BS71 UniRef90-K2RV28 UniRef90_Q67L18
UniRef90_G9WH39 UniRef90_UPIO0024909F1 UniRef90_Q1ASZ8 UniRef90-H6REA3 UniRef90-D9QQR5
UniRef90 F4CET7 UniRef90-UPI0003614886 UniRef90-UPIO004087EB1 UniRef90-L8G3T0 UniRef90_UPI000375E693 UniRef90-A5UJB3 UniRef90_UPIO004699986 UniRef90_UPI000248D2CA UniRef90_D7DV26 UniRef90-R7YJL5
UniRef90 14 CCX UniRef90-C8W0B5 UniRef90_L2GHI2
UniRef90_W2E3B3 UniRef90-UPI0003B4A8C5 UniRef90_UPI00037BDF9E UniRef90-E6SK17 UniRef90-B114G7 UniRef90-B3DV01 UniRef90_K5AAK9 UniRef90_UPIOOO2888201 UniRef90_UPI00035CC068 UniRef90_D5BZ77 UniRef90-F2IER2 UniRef90_UPIO004702EF8 UniRef90_C7PAQ2 UniRef90-M9M6C5 UniRef90-UPIO003634067 UniRef90_F5L3K3 UniRef90-B6HF82 UniRef90-M1Z9X5 UniRef90-UPI000467EA91 UniRef90_LOK8W1 UniRef90_J9HNK5 UniRef90_E9F126 UniRef90_D3F441
UniRef90_UPI000405527D
 GASMVLMEARESGQNDGI YDERGNI REDEFNHLTDRLPMD

 GVEMVTDEARESGRNVGVYDQNGNVKKSEVEYLISKDPVK GSDFVIMEGRESGKSIGLFDEKGNLKDKEFKKMLEY DTN
 GAKYVIIEGRESGKNIGLYDKNGNVKEDELNLIVKNVDDK

 GATKVIMEARESGK GSWKVI GEAREGG NVGLFRSTGEVRSGLVEEILTQIPSE GSNKVIVEAREGGKNIGGIFDEAGKAKDDEIDYIINNMDPD GACHVIVEGRESGKAVGLYDREGNLDMSELEELVYSVDAS GAWKVI GEAREGG NVGLFRSSGEVRQGLVDEIIHAIPAE
 GVERLMIE
GSWKVI GEARESG

GSSYVIAEAREAG GAWKVI GEAREGGNVGIYRGTGEVREGLVQEILTQIPSE
 GVERLMI E GVERIMI ESE GSWKVIAEARESG GVERMMIE GAYMDMVE GADYVIV EGRESGQG
 GAFRVII EGRESGKNAGFYDREGRFIDPGEAEKICLSSVDPR GSFKVIVEAREAGK
GAEKVI CEARESGT GAEKVIMCE GAAYVIMESRESGQNIGVYDQAGNADCDVYAEKLAERYKME GSWKVI GEAREGG NVGLFRDSGEVRQGLVEEI LTKIPEE GAERCMI E
 GSNYVIIEAREAGKNIGIYDENGQUAEDELDALAAN GDD GAYMVMIE SEGITESVREWRTDVPAEVINALGLE
 GA Y K V I V


 GS E L I TI E G R E S GM GVVGI Y N E Q G D CK E E E F E R L L H I P N M D
 GA A L V T I E G R E S G K G V G I Y D A Q G A C K D

 GVE R M I E G



 GAEWMTLEGRESGVGVGVFDCVGSCDTTLVQQUAASVMPN GA E E L V T

## 

 GA Y M I MI EGSWKVIAEGREAG GASHVIAEAREAGTNVGVFRPNGTAHTMLIVNKI I AKVKME





 GAFKVIVEAREASK

 GVERIMIE
GAWKVIAEARESGT

UniRef90_O27710 UniRef90-UPI00035F2F08 UniRef90-N6VP87 UniRef90_FOTCR8 UniRef90_U6ECS1
UniRef90-E3GW90 UniRef90-A6UTC3 UniRef90_F6D3M4 UniRef90-A6VIR4 UniRef90_D5VSW2 UniRef90-A1ZKQ8 UniRef90-R9GRG3 UniRef90-Q64BB5 UniRef90-M7N2E4
UniRef90 R9SKE8 UniRef90-K8DXC9 UniRef90-I2EV39 UniRef90-I4AMX0
UniRef90-D0MK18
UniRef90-F2SJ07 UniRef90-E4RV77 UniRef90_UPIO004726DA3 UniRef90-B8DO19 UniRef90-W0F2M5 UniRef90-UPI00040192F2 UniRef90-Q04GM2 UniRef90-F6CKS3 UniRef90-B6QM58 UniRef90_F7WBIO
UniRef90 H8KLT3 UniRef90-H8KLT3 UniRef90-G2SHJ1 UniRef90-Q2RM82 UniRef90_UPI00030DA77E UniRef90_A5D175 UniRef90-TOCFD9
UniRef90-Q2NEV6 UniRef90-UPI0003B77B62 UniRef90_UPIO0035D28E3 UniRef90-Q5BDB6 UniRef90_UPIO00476D2EC UniRef90 D5XFA4 UniRef90_UPI0003B4C4F2 UniRef90_U5BS71 UniRef90-K2RV28 UniRef90_Q67L18
UniRef90_G9WH39 UniRef90_UPIOOO24909F1 UniRef90-Q1ASZ8 UniRef90-H6REA3 UniRef90-D9QQR5
UniRef90 F4CET7 UniRef90-UPIO003614886 UniRef90-UPIO004087EB1 UniRef90-L8G3T0 UniRef90_UPIO00375E693 UniRef90_A5UJB3 UniRef90_UPI0004699986 UniRef90_UPI000248D2CA UniRef90_D7DV26 UniRef90_R7YJL5
UniRef90
I4CCX4 UniRef90-C8W0B5 UniRef90_L2GHI2
UniRef90_W2E3B3 UniRef90_UPI0003B4A8C5 UniRef90_UPIO0037BDF9E UniRef90-E6SK17 UniRef90-B14G77 UniRef90-B3DV01 UniRef90_K5AAK9 UniRef90_UPIO002888201 UniRef90_UPI00035CC068 UniRef90_D5BZ77
UniRef90-F2IER2
UniRef90-UPIO004702EF8 UniRef90_C7PAQ2 UniRef90_M9M6C5 UniRef90_UPIO003634067 UniRef90-F5L3K3 UniRef90-B6HF82
UniRef90-M1Z9X5 UniRef90-X1G4L2 UniRef90-UPI000467EA91 UniRef90-LOK8W1 UniRef90_J9HNK5 UniRef90-E9F126 UniRef90-D3F441
UniRef90_UPI000405527D

210
KVIFEAPQK ${ }^{210} Q Q \nabla$ AF R1 Whan


 | QL | WEAPQKNQQTYM |
| :--- | :--- |
| $K$ | I |
| I | WEAPHKSQQAYF |

 KI I FEA NI I WEAPQKNQQVY L KI MLE $N L I F E A P L K S Q Q V$ S F DM WEAPQK SQQVWF KI I WEAP KLI GSNVNLGNI ASNDII PLETLR



 KI I WEAPKKTQQVYFI KLLIGANVNLGNI APNELI PLETI R
 MFEAADPKVSWY N WEAPQRPQQVYF



 RVMFEAADPKVYNWYI REFGVDVNVF VDHSQIVQLECLR KVMFEAADPEVFNWYVREFGTDVNLF VDHSQIVQLSCLR T I DWEAPQKSQQVWFVKLIGANVNLGNI APAEVI PGETVV KVMFEAADPPVFNWYI REFGDDVNLF VDHSQIVQLTCLR KLMFEAADPRVFAWYI KNYGPEVNLF VVDSQIVQLECLR R I WEAPQKQQQQVLI RI LWEAPQKSQQQEL I KL WEAPLKKEQQQEL K VLWEAPKKVQQVEL ALLWEAPDK SQQQFL $\begin{array}{lll}K L I & F & E A P A K E Q Q V W F \\ R & M F E A A D P Q V Y T W\end{array}$ DI IWWEAPDKKQQVYF KI MWEAPLKKQQQEFI YVIWEAPQVKQQVQLI QLDGNS NLGNVADEVASLALR
 NVMFEAADPTVFNWYVREFGVDVNLFVDHSQIVQLSCLR AI ITWEAPLKAQQEELIARFGVNVNLGNVPPEEVI ALEALR
 QI MFEAPLKSQQTALILRFGNQINVGNVAHDEVTSLETLR KVMFEAAEPEVFEWYVKNYGPEVNLF VDHSQIVQLECLIR

 CII WEAPLKSQQEALI A QFGPNVNLGNLFPHDII TVESLR KVMWEAPKKSQQTALI QRFGNQVNLGNVAPSDVLSVECLR TVMFEAAEPKAFNWYVREFGVDVNLF VVHSQVVQLACLR WVLWEAPLKSQQLYLI QQLGPKVNLGNI PPQEVMSLEALR KI L WEAPNKDQQVFFI LKL GNDVNLGNVSTDDI TSLETLR SLI WETPKKNQQSSFITRALGPNVNLGNI PDDEIYSLEARLR $V L L W E A P Q K E Q Q V H L M Q M L G A G V H L G N V A P S D V I D L E A L R$ KLIFEAPLKNQQIEFIMRFGNSVNLGNIAFDEVISLETLR
 KPMFEAADPEVFGWYI KNYGPEVNLF VDHSQIVQQLECLR MLIWEAPDKQQQQELIMRFGPNVNI GNIAPHEVLALEALR KVMFEAADPADFNWYVREFGVDVNLG VDHSQVVQLSGLR
 RII WEAPQKGQQQALI NRLGCNVNLGNIPPEEII ALEALR $V L I F E A P Q V H Q Q Q D L I L R F G P A V N L G N V Q P A D V L A L E A L R$
 RLMWEAPQKDQQVEIRTDGDDANIGNVSPHDILAFEALR MLLWEAPQTSQQV HLLKKLGGDINLGNI APDEVLSLLEALR HLLWEAPHKEQQVHLMRMLGPDIHI GNVAAGDVISLEALR KI MFEAAEPEDFSWYIKNYGPEVNLF VDHSQIVQLECLR DI LTWEAPQKNQQVWFVKLFGANVNLGNIAPNEII PLECLIR KI I WEAPQKDQQLFFLKL LGCNANLGNIATEEVI ALEAMR

 KI I WEAPRKDQQLYFLDLMGCNANLGNI AYNEVI SLEAMR | $R L M W E S P R K D Q Q T A$ | $L$ |
| :--- | :--- |
| $L$ | $R T L G P Q A N L G N$ |
| $L$ | R | RLIFEAPNKWLQSYFI KRFGTNVNLANIPFGDVVALETLR RVMFEAADPKVFSWYVREFGDDVNLF VDHSQIVQLECLR RLIWEAPDKKQQVHFI QLFGTNVNLGNIAPGEVVALEALR DLI WEAALKNQQLFLIKKFGPNVNIGNVPDEDILALEALR KVMFEAADPPVFEWYVKNYGNEVNLFVDHSQIVQLEALR DII TWETPDKKQQVYFI RLLGNNVNLGNIDDPEI LAALESLR

 KLMFEAADPPVFNWYI REFGVDMNLF VDHSQIVQLSCLR




## UniRef90 G4HAH4

 UniRef90-UPIO0036CD6FC UniRef90-R4KSN8 UniRef90-UPI00036D5757 UniRef90-SOB1A5
## UniRef90-V5DY63

UniRef90-D5WQ74
UniRef90_C8WW57
UniRef90-W4QXU8 UniRef90-UPIO00478A81F UniRef90_T0C9M3 UniRef90-JOUSW8
UniRef90-J9HD70
UniRef90-F5LLP4
UniRef90-L5MZG1
UniRef90_M8DBT3 UniRee90-UPIO0041AE92B UniRef90-E3IZMO UniRef90-C8WSF4 UniRef90-D5H417
UniRef90-V6MCC4 UniRef90-C6CU10 UniRef90-R8BPF6
UniRef90 E7QPP4 UniRef90_GOS9G6 UniRef90-G2QVV5
UniRef90-U1XB73
UniRef90 ${ }^{-}$C9R8R9 UniRef90_UPI000477F99A UniRef90-F9ZZF2
UniRef90-UPI00044496CB UniRef90-F5SAZ5 UniRef90-UPIOOO407B714 UniRef90-D4YG33 UniRef90-E3DVD9 UniRef90-Q9AF21 UniRef90-MOMV98 UniRef90-UPI00036ED5CD UniRef90-K5X4S6 UniRef90-b0TA83 UniRef90O-UP10003671ABC
UniRefon-UPIooo477AC9B UniRef90- A9ZIJ6 UniRef90-UPIOOO2E3BCD5 UniRef90-J2ZY88 UniRef90-A0A015KLE3 UniRef90-E1Z1X8 UniRef90-K9H622 UniRef90-UPIO002625C64 UniRef90_Q65IS3 UniRef90 U4WUN5 UniRef90-UP100047CE966 UniRef90-UP100047D7FBC UniRef90-UP10003789CD6 UniRef90 STRAT8 UniRef90_UPIO003B68C28 UniRef90_UPIO0034AF415 UniRef90_E6TZS3
UniRef90-F9TK08
UniRef90-UP1000047A4D7A UniRef90_UPIOOO377CO83
UniRef90 UPIOOO37E0713 UniRef90-I4BS66 UniRef90-F4CWV3 UniRef90-Q8TYA8 UniRef90-006739 UniRef90 UPIO003707AEE UniRef90_U1P845
UniRef90 UPIO003
UniRef9O-UP100037A1D7A UniRef90_F4CQB5 UniRef90-14BTG3 UniRef90-UPIO0036E3FF4 UniRef90-F9G8G7 UniRef90-UPIOOO3771E9B UniRef90 UPIOOO28816B3 Refoo-Uniref90-W7SQ69
UniRef9O_MOLZP1 UniRef90-UPIOOO2FE77CC UniRef90-UP100047CBFEF UniRef90-A1SC88 UniRef90_UPIOOO479936C UniRef90 UPIO002627587 UniRef90-UPIOOO2E261EC UniRef90-NOAR23 UniRef90-K6CB79
UniRef90-B9HYU2
UniRef90_A0А022QGK7


## 



## 

CI K
60
GO 70
70
80

CVKFGFGTAPLYKMDMLLYKI GLAKQHGIMVMPGGTLDET LVKLGFGTSLLVP SGLEAKLNYREAGLNAYFGGTLFEA | V |
| :--- |
| F |
| H |
| Y |
| L |
| F |
| I |
| L |
| F |

## L Y

## 

$\begin{array}{lll}\mathrm{V} & \mathrm{A} & \mathrm{K} \\ \mathrm{I} & \mathrm{C} & \mathrm{K}\end{array}$ I C K L G W G GTAALYPTSQ GL K F A G G S F S L GYKF S G GS FALLMP EDVVE E L


## F L $\begin{aligned} & \mathrm{K} \\ & \mathrm{K} \\ & \mathrm{L} \\ & \mathrm{L} \\ & \mathrm{G} \\ & \mathrm{G}\end{aligned}$

 FVKG G F G T VK A F GTA M M Y T P| $T$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $G$ | $K$ | $L$ | $G$ | $W$ | $G$ | $T$ | $C$ | $A$ | $L$ | $Y$ | $P$ | $S$ | $D$ | $V$ | $L$ | $T$ | $K$ | $K$ | $I$ | $K$ |
| $K$ | $I$ | $Y$ | $R$ | $D$ | $A$ | $G$ | $I$ | $N$ | $V$ | $C$ | $P$ |  |  |  |  |  |  |  |  |  |


HWK F G W G T S L T K D , V E E K S C L K E N DVKY F F
 L
G
L
C
I
I

|  |  |
| :---: | :---: |
|  |  |
|  |  |

レー


## 

 <br> \section*{<br> \section*{}} <br> \section*{<br> \section*{}}F I K F G GWC T S S L I



## 


GI K F G W G T S L L TTK D $\quad$ L
A






UniRef90 G4HAH4 UniRef90-UPIOOO36CD6FC UniRef90-R4KSN8 UniRef90'UPI00036D5757 UniRef90-SOB1A5 UniRet90-V5DY63 UniRef90-D5WQ74 UniRef90_C8WW57 UniRef90-W4QXU8 UniRef90-UPI000478A81F UniRet90-TOC9M3 UniRet90_JouSW8 UniRef90-J9HD70 UniRef90-F5LLP4 UniRef90-L5MZG1
UniRef90-M8DBT3 UniRef90_UPIO0041AE92B UniRef90-E3IZMO UniRef90-C8WSF4 UniRef90-D5H417 UniRef90-V6MCC4 UniRef90-C6CU10 UniRef90-R8BPF6
UniRef90 E7QPP4 UniRef90_GOS9G6 UniRef90-G2QVV5 UniRef90-U1XB73 UniRef90 ${ }^{-}$C9R8R9 UniRef90_UPI000477F99A UniRef90-F9ZZF2
UniRef90_UPI00044496CB UniRef90-F5SAZ5 UniRef90-UPIIOOO407B714 UniRef90-D4YG33 UniRef90-E3DVD9 UniRef90_Q9AF21 UniRef90-MOMV98 UniRef90-UPI00036ED5CD UniRe990-K5X4S66 UniRef90_BOTA83 UniRef90-UP10003671ABC
UniRef90-UPIO00477AC9B UniRef90-A9ZIJ6 UniRef90-UP10002E3BCD5 UniRef90-J2ZY88 UniRef90-A0A015KLE3 UniRef90-E1Z1X8 UniRef90-K9H622 UniRef90_UPI0002625C64 UniRef90_Q65IS3 UniRef90-U4WUN5 UniRef90-UPIO0047CE966 UniRef90-UPI00047D7FBC UniRef90-UPI0003789CD6 UniRef90-S7RAT8 UniRef90_UPIOOO3B68C28 UniRef90-UPIOOO34AF415 UniRef90_E6TZS3
UniRef90-F9TK08 UniRef90-BOYA08 UniRef90 UPIO0047A4D7A UniRef90UPIOOO377CO83
UniRef90 UPIOOO37E0713 UniRef90-I4BS66 UniRef90-F4CWV3 UniRef90-Q8TYA8 UniRef90-006739 UniRef90 UPIO003707AEE UniRef90_U1P845
UniRef90 UPIO003
UniRef90-UPIIO0037A1D7A UniRef90_F4CQB5 UniRef90-14BTG3 UniRef90-UPIO0036E3FF4 UniRef90-F9G8G7 UniRef90-UP100037711E9B UniRef90 UPIOOO28816B3 UniRef90-A7IOH1 UniRef90 W7SQ69 UniRef90-MOLZP1 UniRef90-UPIO002FE77CC UniRef90-UP100047CBFEF UniRef90-UP1000479BAAA
UniRef90 A1 UniRef90-UPIOOO479936C UniRef90-UPIO002627587 UniRef90-UPIOO02E261EC
UniRefgo- NOAR23 UniRef90-NOAR23 UniRef90-K6CB79 UniRef90_B9HYU2
niref90_A0A022QGK7

## 

## 

AVVQQDTVIPAFFNSIICSTGFNA ${ }^{90}$
AVQQDIVAFFNS CSLGFNAVEVVDGTIIELSRKQRTALI FVARGLFDEFRRYLDRFGMEYVEVSDGT:SLCHEDKLKYZ1 FASQGKTDRYVQYCRRFECEYVEIS
 FILARNKMPEFHKIMKEFGIKMVEV ALYQDKADRLLEKARELGFTCLE AWTQGVFAEYLRRCRELGFQAME
FLSQNKVDEFYNYCKKNCKYME A K LDDVVPAFFRQAMAVGFHGIEV FYUQGKLDAYHAFCQSCACRYVEV
A QEKKLDGFKETSRGGFNAI EV FYVQNQ1 EAYEKFCDQHECRYVEI ALGHSTVKEYMQQIRSLGFSAVE

FLDQGRIDDYEAMCDHYGCRDVE
ALRSTPASQYMETISQLDVTAVE AVQQHLAGSFFDSICELGFNGIEE
LVRNDKVERYIEEAGNLGFDIVE

## 

## $\stackrel{A}{A}$

## $\frac{A}{A}$



## A

 AlRHNTI AVHLGVSESFFETVCRLG
A
F
F

IASMEAVI
FVSQGLFD
FLSQDKIDEWRRFVDDFEAGTVE
FLSQGKLDQFYRYCKHHKCTH

F LSQRKVEAFYDRCRNFNCNYVE
AVRQDVADSFLDRVCKCGYDTI EV
AEAQDRVDELAEWASDSGDAAVE
 YVSQKKVNEFHRYCTYFGCEYI E LYGDDAVDHYLKEAKEVGFDVIE LAANDSVEQYFAEAERVGFDIVE A WMQGRTEEFFEFAADVGFDSVE AWAQGAAEACDEWAGEVGFRYVEV CQAQGRVAELRNWASDIGMDAVEV LLQSDAVDQYLKKCKQLGFDVIE



## C

 SYFQNKIPEYLSYLRNLGUEWI E VLTRGAVDKYFEAVKNYEFDVVE ATQQGRFDAYLAY円RKLGIGTVEISNGGARMSSDDKRALV YLVRDRLDDYLAFVDDAGATHIEVSNGTDPLSQHDKAFYV


20

## UniRef90 G4HAH4

 UniRef90_UPIo0036CD6FC UniRef90-R4KSN8 UniRef90_UPI00036D5757 UniRef90-SOB1A5
## UniRef90-V5DY63

UniRef90_D5WQ74
UniRef90_C8WW57
UniRef90-W4QXU8
UniRef90-UPI000478A81F UniRef90-Тос9м3 UniRef90-JoUSW8
UniRef90-J9HD70
UniRef90-F5LLP4
UniRef90-L5MZG1
UniRef90_M8DBT3
UniRef90_UPIO0041AE92B
UniRef90-E3IZM0
UniRef90-C8WSF4
UniRef90-D5H417
UniRef90-V6MCC4
UniRef90-C6CU10
UniRef90-R8BPF6
UniRef90 E7QPP4
UniRef90_GOS9G6 UniRef90-G2QVV5
UniRef90-U1XB73
UniRef90 ${ }^{-}$C9R8R9
UniRef90-UPI000477F99A
UniRef90-F9ZZF2
UniRef90-UPI00044496CB
UniRef90-F5SAZ5 UniRef90-UPIOOO407B714 UniRef90-D4YG33 UniRef90-E3DVD9 UniRef90_Q9AF21
UniRef90-MOMV98
UniRef90-UPI00036ED5CD UniRef90-K5X4S6
UniRef90-b0TA83
UniRef90-UPIO003671ABC UniRef90-UPIO00477AC9B UniRef90-A9ZIJ6 UniRef90-UPIO002E3BCD5 UniRef90-J2ZY88 UniRef90 AOAO15KLE UniRef9-E1YX8 UniRef90_UPI0002625C64 UniRef90_Q65IS3 UniRef90-U4WUN5 UniRef90-UPIO0047CE966 UniRef90-UPI00047D7FBC UniRef90-UP10003789CD6 UniRef90-STRAT8 UniRef90-UPIO003B68C28 UniRef90-UPIOOO34AF415 UniRef90_E6TZS3
UniRef90-F9TK08

## UniRef90 BOYA08

 UniRef90 UP100047A4D7A UniRef90UPIOOO377CO83UniRef90 UPIOOO37E0713 UniRef90-I4BS66 UniRef90-F4CWV3 UniRef90-Q8TYA8 UniRef90-006739 UniRef90 UPIO003707AEE UniRef90_U1P845
UniRef90-UP100037A1D7A UniRef90_F4CQB5 UniRef90-14BTG3 UniRef90-UPIO0036E3FF4 UniRef90-F9G8G7 UniRef90-UP10003771E9B UniRef90 UPIOOOO28816B3 UniRef90 W7 SQ69 UniRef90-MOLZP1 UniRef90-UPIO002FE77CC UniRef90-UP100047CBFEF UniRee90-UP1000479BAAA
UniRef90- A1SC88 UniRef90_UPIOOO479936C UniRef90 UPIO0026227587 UniRef90-UPIOOO2E261EC UniRef90-NOAR23 UniRef90-K6CB79 UniRef90_B9HYU2

130 TEYGKK

140
SGSTI DA A M ${ }^{150}$
160 SGSLIDAAMLAKTMETDLLSA EDLAKE YIVVSEVGSKIA NKVIPNTEWITSMMKTELEA TLLAEKGFRVLTEVGKKNNGA EVPVVETLAKMALRDLQN AEFSKEFKVLSEVGSKDAAKSMADTPALWLESDSQDLEA
 AAAKRVFPLVITEVGKKLSDD RDGVSLGFKVYTEYGKKLLGSR NTCTKDWAEFIQEDLEA HTFAK DFYVLSEVGHKDAREADKFTPEOFWATAERDWAC F पAREKGFFVVSEVGKKNPLLDHKTSDETRVSQI HSDIAS AHFAER FKVLSEVGYKDVNQSLMLPPNRWI QFMQEDLAA ALGVDAGLIVYTEVGKKAAGYRAQ RQELLETLDFDLTA STAADAGLVVYSEFGKKSADFRAEQD ELLLRTLEADLDA REATRRGLRVFTEYGKKTSGSRIVLDPSDLRRTVEADLQC ERFARHFRVLSEVGYKDVKQSLLLPPHRWI QFIREDFAA ELFANCDFTVVSEVGSKDASSDVMAPYRWVEFMQAELAA KEGKQRGLLVLTEYGKKTAGSL DDPEQLAVTADYDLAA DKVHSAGLVAKPEDGDQFGESLGSSDPSKVVNLGKRFIDA
 ERVQAEGLTAKPElGUQFGAGGD REITARGFTVITECGKKAGGS MDGSVEDLQKTLYSDLDE KFARREGFTVLTEGKKNPLLYKPFDPAEKARQLAADLEA KKAVAKGFYTDSEVGKKDPEEDRKLTYRHRVEEDKQDIQS QMVAAHGLKPKPEVGDQWGAGGDASDPKWLI DRANTFLQA RAAADSSFRVIT EIGKK GKGGSITPVAELVETFHLDREN ARLA RDFTVFSEVGSKDDE ERVQDAGLLAKPEVGVQDGEAAGLMAPYRWVEEVEAELAA DCAREAGVVDTEVGKKDP QCQPEAAELAEQALDDLKW EMVSEDGVEPKPEINVQFGAEEGQQDPDMAIREGERHLDA
 RKADGDGFQVLTEVGKKDP S Q
K NYALDNDLVVYTEVGKKTAD RKGVALGGNVCTEYGKKL SGSVIDPYDLAVTAEEDWSA KDVRAAGLRPKPEVGDQFGAAEGTLDVSWAIRRARRCDEA KMF SREFTVFSEVGNKDTVMSNAQNSSEWVENTQEDLEA SDFSKE FHVFSEVGSKDSTLSSELESAEWI DYI LEDLEA SMAREMGFRVFSEYGQKDASTFRADQEMLLSTLVGDVNA REFSKDFF VFSEVGSKDAQVSMEQDAAQWVEYIQEDLEA ERVRRAGLKAKPELGTQFGSGGDSTDVGDLVNRGRQALDA ELTAQHGLKPKPEVGUQWGESAGTRDVGWVIERAHNFLNA ARVAD DYRVYSEVGYKESDRSETMRPELWVRYMRQDLDA KDF SAEFKVFSEVGRKNSDQADSCSSYEWI ASI QEDLAA SEFSEEFNVFSEVGQKDADKADETTSSDWI EFIVKEDFEA EDVQKAGMKAKPELGQQFGESEGUQDTGFAVEQAKRFRDA R
 RDGVKRGLVVYTEYGKK EQGFRTDLEALAATAEADDDW RTLSER FVVLAEAGAKD SQVPVVVADWVDEMAADLDA RRAA RDFTVLAEVGDKAPGE VLAARTWPGEAVADLEA ERACEQGFTVYAEEGKKRDEEYSVLSPSDVVGRMNKCVEA EKVTKAGKAKPELGDQDGSGGDKKDVGDLIDRGKAALEA EVVADYDLEPKPE NVQFGEDQGQQDPEQAIKEGKRHLEA LQLKN DFHVIAEVGSKDA NKHMSTSDWVEEGRCLLES RRGRELGFVVLAEVGSKDPERAMVSPEDWEVELEGDMAA RORA QEFTVLAETGAKDASASMPVVAEQWDSEMRADLDA DKVHSAGLIAKPECGDQFGASLGTSDPS RQL SQEFTVLAETGAK SADVPVVVSEWLAEGESDLES KQLKQHGNVIAEVGSKDQGKEMPLSAEWEHEINLLLAA RRMSAKRFPVLSEVGYKDADRSALLTMSDWVEALREDLDA SEVKD DFHVIAEVGSKDSFDDMPIS EWKAEMNALLEA SELKDE FHVIAEVGSKDADKEMPIS ERGAKAGLKVKAEDGDQFGASEGQGDP EWREETNLLLNA RELSGEFDVFAETGTKDG DAPGTAHLWVDEMEADLEA ERAA LTHQVLTEVGNKFAPIGSA EETARQVASDLAA
 NQLK GDFHLVGEVGSKDQTKD LGMSGHDWTLEMTELLDA NELK ADFSVLGEVGSKDQTQ ELSARSWVLEMNSLLEA NELK ADFSVLGEVGSKDQTQ

## UniRef90 G4HAH4

 UniRef90-UPIOO036CD6FC UniRef90-R4KSN8 UniRef90 UPI00036D5757 UniRef90-SOB1A5
## UniRef90-V5DY63

UniRef90_D5WQ74
UniRef90_C8WW57
UniRef90-W4QXU8 UniRef90-UPI000478A81F UniRef90_T0С9M3 UniRef90-JoUSW8 UniRef90-J9HD70
UniRef90-F5LLP4
UniRef90-L5MZG1
UniRef90_M8DBT3 UniRef90_UPI00041AE92B UniRef90-E3IZM0 UniRef90-C8WSF4 UniRef90-D5H417
UniRef90-V6MCC4 UniRef90-C6CU10 UniRef90-R8BPF6
UniRef90 E7QPP4 UniRef90-G0S9G6 UniRef90-G2QVV5 UniRef90-U1XB73 UniRef90 ${ }^{-}$C9R8R9 UniRef90_UPI000477F99A UniRef90-F9ZZF2
UniRef90_UPIO0044496CB UniRef90-F5SAZ5 UniRef90 UPIOOO407B714 UniRef90-D4YG33 UniRef90-E3DVD9 UniRef90_O9AF21 UniRef90-MOMV98 UniRef90-UP100036ED5CD UniRef90-K5X4S6 UniRef90-b0TA83 UniRef90O-UP10003671ABC
UniRefon-UPIooo477AC9B UniRef90- A9ZIJ6 UniRef90-UPIOOO2E3BCD5 UniRef90-J2ZY88 UniRef90-A0A015KLE3 UniRef90-E1ZIX8 UniRef90-K9H622 UniRef90_UPI0002625C64 UniRef90_Q65IS3 UniRef90 U4WUN5 UniRef90-UPIO0047CE966 UniRef90-UPI00047D7FBC UniRef90-UP10003789CD6 UniRef90-STRAT8 UniRef90-UPIO003B68C28 UniRef90-UPIO0034AF415 UniRef90_E6TZS3
UniRef90-F9TK08
UniRef90-UPIO0047A4D7A UniRef90-UPIOOO377C083 UniRef90_UPIOOO37E0713
UniRef90-14BS66 UniRef90-F4CWV3
UniRef90-Q8TYA8
UniRef90 UPIo003707AEE UniRef90-U1P845
UniRef90-UP100037A1D7A
UniRef90_15CX79
UniRef90-F4CQB5
UniRef90-14BTG3
UniRef90-UPIO0036E3FF4 UniRef90_-F9G8G7
UniRef90-UPIIOOO37711E9B UniRef90 UPIOOOO28816B3
 UniRef90-MoLZP1 UniRef90-UPIO002FET7CC UniRef90-UP100047CBFEF UniRef90-A1SC88 UniRef90_UPIO00479936C UniRef90 UPIO002627587 UniRef90-UPIO002E261EC UniRet90-NOAR23 UniRef90-K6CB79 UniRef90_B9HYU2
UniRef90_A0A022QGK7
 GAWKVIAEARESGTTGGYNKDGSANDQLIEDIRTHLDAD


##  <br> G $G$ $G$ $G$ $G$ $G$ $G$ <br> \section*{ <br> <br> }

GASYVITEARESGTS
$G A S Y$
$G S W$
$G A$
$G$
$\stackrel{G}{\mathrm{G}}$

$G \vee \underset{R}{ }$ R

GAHWV I E GRES GTN
GSRYVI AEAKESGK GVSKVIMEARESGT GAYMIMIE
GAEFI IVEGRESGQD
GAWKVI AEARESGT
GAYMLMDE
GSEKVITEARESGTG

$\begin{array}{ll}G A & E \\ G A & M \\ M & T \\ M & \text { A }\end{array}$

 GA WK I I L

 GA E M V M I E S E
GA Y M M M I E
G

GAAKVITEARESGTS $D V G L F D A S G G C D K H T F G Q V L P R L L P A N$ | $G$ | $A$ | $G$ | $T$ | $E$ | $D$ | $V$ | $A$ | $S$ | $W C$ | $T$ | $N$ | $V$ | $V$ | $S$ | $R$ | $L$ | $V$ | $D$ | $A$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $S$ | $V$ | $G$ | $L$ | $L$ | $E$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

 GA D Y V I V E ARES G NVVGIVNKQ GEDDDSEFVVRQVQQASTT
 GA G K $V$ I TEARETGS GA H M M I E
GADTVITEARESGQS GATKVITEAREGGSS GATKVITEARESGT
$G A Y \quad \mid$
GAAKVVMIE A RES G


$G A W W V V T E G R Q S G T$
$G A E Y V$
$G A$
S E
S E
S E
S E
NV
QV
E
S V
D $I$

G $\quad$ G $\operatorname{G} \left\lvert\, \begin{aligned} & T \\ & C \\ & C\end{aligned}\right.$

EGG $G$ D T GEEL R S | $V$ | $G$ | $F$ | $E$ |
| :---: | :---: | :---: | :---: |
| $E$ | $I$ | $T$ | $E$ | $\begin{array}{ll}G A E K V I T E A R E S G T \\ G A S \\ G & I\end{array}$ GA DL L M V E A

GCQYVITE GRDS GT S
GANWIV TE GRES GT

E EG

G V E R I MI E
GATWLVTEGRESGT
 GAAMV T FARESGRS GLADSDGHMRSDVLSAVLDADDPA GA WK I V A E GRAS G S T GCQYV I T E GRD S G T $G C K Y V I T$
$G A D L I M M E$
GARHVVMAE GRESGT GARYVI LE GRESGRGAGYHSDGTPRVGLAEADAARMPLG GADFV I TV T RES GR S G G L Y D R Q GE L D EAWFHSFVCTDDPA
 GCE Y V I TE GRRDS GT


0

UniRef90 G4HAH4 UniRef90_UPIO0036CD6FC
UniRef90_R4KSN8 UniRef90-R4KSN8 UniRef90_UPIO0036D5757 UniRef90-S0B1A5

## UniRef90_V5DY63

UniRef90-D5WQ74 UniRef90_C8WW57 UniRef90-W4QXU8 UniRef90-UPI000478A81F UniRef90-T0C9M3 UniRef90-JOUSW8 UniRef90-J9HD70
UniRef90-F5LLP4 UniRef90-L5MZG1
UniRef90-M8DBT3 UniRef90_UPI00041AE92B UniRef90-E3IZM0 UniRef90-C8WSF4 UniRef90-D5H4I7 UniRef90-V6MCC4 UniRef90_C6CU10 UniRef90-R8BPF6
UniRef90 E7QPP4 UniRef90-E7QPP4
UniRef90-G0S9G6 UniRef90-G2QVV5 UniRef90_U1XB73 UniRef90-C9R8R9 UniRef90_UPI000477F99A UniRef90-F9ZZF2
UniRef90_UPIO0044496CB UniRef90_F5SAZ5 UniRef90-UPIO00407B714 UniRef90-D4YG33 UniRef90-E3DVD9 UniRef90_Q9AF21
UniRef90-MOMV98
UniRef90_UPI00036ED5CD UniRef90_K5X4S6 UniRef90_B0TA83
UniRef90_UPI0003671ABC UniRef90_UPI000477AC9B UniRef90-A9ZIJ6 UniRef90_UPIO002E3BCD5 UniRef90-J2ZY88 UniRef90_A0A015KLE3 UniRef90_E1ZIX8 UniRef90_K9H622 UniRef90_UPI0002625C64 UniRef90_Q65IS3 UniRef90-U4WUN5 UniRef90-UPI00047CE966 UniRef90_UPI00047D7FBC UniRef90_UPI0003789CD6 UniRef90-S7RAT8 UniRef90_UPIO003B68C28 UniRef90_UPIO0034AF415 UniRef90_E6TZS3
UniRef90-F9TK08

## UniRef90-B0YA08

UniRef90_UPI00047A4D7A UniRef90_UPIO00377C083
UniRef90_UPI00037E0713 UniRef90_I4BS66 UniRef90-F4CWV3 UniRef90-Q8TYA8 UniRef90_O06739 UniRef90_UPI0003707AEE UniRef90_U1P845
UniRef90_UPI00037A1D7A
UniRef90-15CX79
UniRef90-F4CQB5
UniRef90-14BTG3 UniRef90-UPIO0036E3FF4 UniRef90-F9G8G7 UniRef90_UPI0003771E9B UniRef90-UPIO0028816B3 UniRef90-W7SQ69 UniRef90-M0LZP1 UniRef90-UPI0002FE77CC UniRef90_UPI00047CBFEF UniRef90_UPIO00479BAAA
UniRef90_A1SC88 UniRef90_UPIO00479936C UniRef90_UPI0002627587 UniRef90_UPIO002E261EC UniRef90-NOAR23 UniRef90-K6CB79 UniRef90_B9HYU2




 RVI WEAPKKSQQVELI R RFGPGVNLGNVPPADAIALECLR



 RLI WEAPQKDQQVGLI QALGSDVNLGNI ACTDVLSVETLR
 QLLFEAPTKELQTYFVRRVGTDVNLGNIAPTEVIALETMR
 DII FEAPNKKQQAWLI KHQGANVNLGNI HPEEVVPLETLR KLIWEAPKKEQQVHLI QADGSNVHLGNI AYSDVLSVETLR CLMWEAPGKQQQAYLLQQBGPNVHLGNIPPSDALALEAMR
 NVMFEAAEPKVFNWYVREFGADVNLF VVHSQIVQLSALR KVMFEAAEPRVFNWYVREFGADVNLF VDHSQIVQLSCLR RLDWEAPQKNQQDELLYFWGRNVNMGNI QFEDAYNLECLR R L
 KI MFEAADPEVFAYHIQQQGAHANLF VOHSQIVQLACDR

 KLIFEAPNKTLQTGFIQKAGPNVNMANI SFQDVI SLE TLLR QLI WEAPQKEQQAALVARFGANVSLGNVAVNEVLALEALR NCIVFEAPGPEMFEWYIKNFGPNVNLFNVDNSQUVELECMR


 SLLFEAPHKHQQAWLI


 HL QFEAADPPVFSWY

 | $K$ | $L$ |
| :--- | :--- |
| D EAAP TKKMQTAF |  |
| D | FEAPTKQLQQTCF | QI I FEAPSKEMQTCF DVIFEAPNKKLQTCF



 DVIFEAPNKTMQSLF NLMFEAADPKVFEWY RVMFEAADPKVFNWY | $R L$ | $F E A P N K S L Q T F F$ |
| :--- | :--- | :--- |
| $A L I$ | $W E A P L K S Q Q A F F$ | RFLWEAPQKDQQLTLL $R 1 V F E A P K A S Q Q A W F V$ RVMFEAPEKEQQFELI NVMFEAADGPVFEWY

 RI I YEAPQRAQQSVLL | $R$ | $V$ | $F$ | $E A P R A A Q Q A W F V$ |
| :--- | :--- | :--- | :--- |
| $R$ | $V$ | $F$ | $E A P R K A Q Q V E L I$ | DLLFEAPTRAQQVDLL KVMFEAADPKVFNWYLR RVIFEAPRKAQQAWLVGRLGAGVNVGNDASDEVLPLETDR KVIFEAPTPKQQMFFI NQFGTNVNLGNVKDQDVVVLETQR RLI WEAPQKDQQAALVRRFGANVSLGNVAAREALALEALR FVMFEAPTKDLQVELI RTVGPHVNLGNI ATHDVVGVETLR EIVVFETPQRSQQVWFI EQLGPSANLGNI ELDDAI GGLETLR KVI FEAPTPKHQMFFI NCI GTNVNLGNVKI SDVLILETQR KI I FEAPSSKHQMYF


 SLI WEAPDKSQQLWLLNHFGSVVNLGNI PPEEALADVAALR RLLEEAPTKD LQVELIQALGPSVNLGNI ATTDVLGVETLR K I FEAPTHKQQMFFINTFGPNVNLGNVKVQDVLLLEAER
 KTMFEASNTKTADWF

KTMFEASNPKTSEWF NAFGPNVNLGNVKMQDALLLEAER | $K$ | $R$ | $Y$ | $G$ | $P$ | $K$ | $V$ | $N$ | $L$ | $F$ | $V$ | $D$ | $H$ | $S$ | $Q$ | $V$ | $I$ | $G$ | $L$ | $E$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $K$ | $Q$ | $Y$ | $G$ | $P$ | $R$ | $V$ | $L$ | $L$ | $R$ | $V$ | $D$ | $H$ | $S$ | $Q$ | $V$ | $M$ | $D$ | $L$ | $E$ |
| $C$ | $C$ | $L$ | $R$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

UniRef90_G4HAH4 UniRef90_UPI00036CD6FC UniRef90-R4KSN8 UniRef90-UPIO0036D5757 UniRef90-SOB1A5 UniRef90_V5DY63 UniRef90_D5WQ74 UniRef90_C8WW57 UniRef90-W4QXU8 UniRef90_UPI000478A81F UniRef90-T0C9M3 UniRef90-JoUSW8 UniRef90_J9HD70 UniRef90-L5MZG1 UniRef90_M8DBT3 UniRef90-UPI00041AE92B UniRef90 E3IZM0 UniRef90_C8WSF4
UniRef90-D5H417 UniRef90-V6MCC4 UniRef90-C6CU10 UniRef90-R8BPF6
UniRef90 E7QPP4 UniRef90-E7QPP4 UniRef90-G2QVV5
UniRef90_U1XB73
UniRef90_C9R8R9
UniRef90_UP1000477F99A
UniRef90_F9ZZF2
UniRef90_UPIO0044496CB UniRef90 F5SAZ5
UniRef90_UPI000407B714
UniRef90_D4YG33
UniRef90_E3DVD9
UniRef90_Q9AF21
UniRef90-MOMV98
UniRef90-UPI00036ED5CD
UniRef90-K5X4S6
UniRef90-B0TA83
UniRef90_UPI0003671ABC
UniRef90_UPI000477AC9B
UniRef90 A9ZIJ6
UniRef90_UPIO002E3BCD5
UniRef90-J2ZY88
UniRef90-E1ZIX8
UniRef90_K9H622
UniRef90-UPI0002625C64
UniRef90_Q65IS3
UniRef90-U4WUN5
UniRef90_UPI00047CE966
UniRef90_UP100047D7FBC
UniRef90 UPI0003789CD6
UniRef90-S7RAT8
UniRef90_UPI0003B68C28
UniRef90 UPI00034AF415
UniRef90-E6TZS3
UniRef90-F9TK08
UniRef90_B0YA08
UniRef90 UPI00047A4D7A
UniRef90-UPI000377C083
UniRef90-UPI00037E0713
UniRef90_14BS66
UniRef90-F4CWV3
UniRef90_Q8TYA8
UniRef90_O06739
UniRef90 UPI0003707AEE
UniRef90_U1P845
UniRef90_UPI00037A1D7A
UniRef90-15CX79
UniRef90-F4CQB5
UniRef90-14BTG3
UniRef90_UPI00036E3FF4
UniRef90 F9G8G7
UniRef90-UPI0003771E9B
UniRef90-UPIO0028816B3
UniRef90_A7IQH1
UniRef90_W7SQ69
UniRef90-MOLZP1
UniRef90_UPI0002FE77CC
UniRef90 UPI00047CBFEF
UniRef90_UPIO00479BAAA
UniRef90-A1SC88
UniRet90_UPI000479936C
UniRef90_UPI0002627587
UniRef90_UPI0002E261EC
UniRef90-N0AR23
UniRef90_K6CB79
UniRef90_B9HYU2
UniRef90_A0A022QGK7


LG R R A D T
LGLRSETF
S GLLHYY E THLS Q


| Q G | $R G G D T$ |
| :--- | :--- |
| $R G L$ | $R S E T$ |

LGLLRSETF
AG I WG S T WGRV
LGLRADT


CGLR R E T F


UniRef90 VaU8U1 UniRef90-G8RJC0 UniRef90-LOEG29 UniRef90-UPI000474FC12 UniRef90 M5WGY9 UniRef90_UPI0002C30C83 UniRef90-B6WW16 UniRef90 M4FCF9 UniRef90-UPI00032A6F96 UniRef90-W2RSN4 UniRef90-Q4VQ13 UniRef90-T1BXA8 UniRef90-M5G6D7 UniRef90-MORTE2 UniRef90-UPI0004407B87 UniRef90-W1NQ69 UniRef90-I1KLA4 UniRef90_C4JII8 UniRef90 A9RX02 UniRef90-J3MGY4 UniRef90-M1BYS1 UniRef90_UPI0003813B7E UniRef90 Q3AKF7 UniRef90_D4AQJ4 UniRef90_S0AT14 UniRef90_UPIO00475929D UniRef90-UPI0002E8DE7D UniRef90-V7CLY7 UniRef90_UPI00047D5A47 UniRef90_W4LTP9 UniRef90-XOZE27 UniRef90-S8DKY0 UniRef90_C5FX02 UniRef90-A9NRE7 UniRef90_F612G5 UniRef90_F8IH85 UniRef90_M8BHI8 UniRef90_K0IK14 UniRef90-A9B4P5 UniRef90-Q01WZ1 UniRef90-F5L8M6 UniRef90-X1VA55 UniRef90 K2B9E8 UniRef90-KOIIQ2 UniRef90-FOIZY1 UniRef90 UPI00036CC706 UniRef90-T1BUH9 UniRef90_B6J3M6 UniRef90-D8SYU6 UniRef90 UPI0003655D4B UniRef90-G2WXT1 UniRef90-KOMKS5 UniRef90_W4MDN0 UniRef90 L1KBK0 UniRef90-W5HP96 UniRef90-TOYAI2 UniRet90_J2Z8B2 UniRef90 A3JUW7 UniRef90_UPIO004682C90 UniRef90_C6TDJ0 UniRef90 UPI00040A7299 UniRef90_UPI0003821DDA UniRef90_UPIOO04418736 UniRef90_UPI0003754A5D UniRef90 ${ }^{-}$WOBCP3 UniRef90-UPI0003610A67 UniRef90_B9K3P3 UniRef90 W5I2K6 UniRef90_TOZCC0 UniRef90-D4D0G7 UniRef90 X1QBR6 UniRef90-R5SZK3 UniRef90-D5HGV7 UniRef90_U2CVR2 UniRef90 R5J1L1 UniRef90-F7K6K2 UniRef90_C6LGK8 UniRef90-S0JKM5 UniRef90 R7IX85 UniRef90_R7CLB7 UniRef90_UPI00041D8AE6 UniRef90 R7PGK5 UniRef90-D4J2Z1 UniRef90_A4XHX4 UniRef90_UPI00047E7077 UniRef90 D4LRY6 UniRef90_C4Z584 UniRef90_R6XN27 UniRef90-R9MLR4 UniRef90-R9J7N3
UniRef90 R5QLF5

| K P R R N N GR |  |  |  |
| :---: | :---: | :---: | :---: |
|  |  |  |  |


 DRPSKPRRYGVTEMRSPHYTLNVLQNIFDSMGEYVD

 D R P E K P R R F G V T E $\quad$ R G P LA G R R H L E D


R P A K P R M L G TT E VR GP A T GF E P LQ N LFESMGEY IDD RPEKPRRYGVTEMRSPLYAFRALQEI LDS LSSPFVD

K AFDF



 $\qquad$ R E | $R$ |
| :--- |
| $F$ |

K A F D F VKKPRRLG IVE IVRGPYYTPGYLKDLLDDWSEFGD
D R LDD K P R R F GVV E DPVP NFSRS L LQ D DFESRGDY VD PQRAEKPRSSGITIMTDKGLSVREAENFTEGNAPYTD LRAFDRMPKPRTQGLTFVLDKGMSFLYLQDFDEDTAPYDD

RTNKPRKN GL TMVIDDKNMGLLDRLK DLI S TA S D Y I D D R P E K P R R Y G V $\operatorname{P}$ T

 DRPEKPRRYGVTEMRSPCYSFRLFQELLDNDGPFVD K K P R K E GL T CTVV K L Q G D D K E NF S T L AP F I D
 LT S P F D P G Y D P A T LLES H L E Q S S H L M A $\begin{array}{lllllll}I & L & A & T & Q & A & S \\ F & Y & D \\ D & L & M & A & D & Y & D \\ D\end{array}$
RKEKPREF GLTVI DE TK L G LK L LQ K DFL D LMA DY I D RSFNFVDKPRTCGITEI RGPYYTVRQFESGL QTWGYY I D



F E L LP P K P R H T G QVEEDR G P Y Y T VQQQF E A L L E T WG Y Y I D D


PRAPKPRTTSVTEIRGPYMGTNYLRDLLDTMGHHID


$M \square E R E A K P R D R G V N Y V R A P K V L G Q Y F T D Y L T C Y G A L T D$ DK K P R Q T G L T L V DD K GIVGLDDS C CD L L Q L H A G Y I D D RPAKPRHFGGVTEI QSPHCTVNLLQDLDESMGDYVD ERVE K P R $\square$ A GLTTLVIDD GMTSSRMRECLQDTAE WI D

K S RES G $\square T E$ E $\quad$ R GPYY AP TY LD E L L G D WGE Y V D LK K P R K L R Q T WL K DVGMGVLELEDFLDVTANRID
$P K P R S K N Q \square W W K D V G M G L I E L E D F W D V A G E K D D$ P T F E L K P R G L H Q T WL K DV GM GL I E L E D F L S V A G E R L D DRPEKPRRYGVTEMRSPCYS FRALLQE LLDNIGP FV D
 K P R E K G IT M M DD WGLGLLS QE D L Q AA S S Y DD
 RTAAVTE RDKGMSPASNLEVLKTAAVDAAD DVLK T A V I Y A D
 E $\vee \mathcal{L}$ K

EVFKTAVDYA D

TELLVPASSL DVLKTAVVYAD $E \vee L K V A V I \quad Y A D$ $\square L |$| $K$ | $V$ | $A$ | $V$ | $V$ | $Y$ | $A$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $V$ | $D$ |  |  |  |  |  |
| $V$ | $T$ | $A$ | $V$ | $I$ | $F$ | $A$ |

TELL DPASS L EVLK $\square$ A V IF A D

## UniRef90_V4U8U1 UniRef90_G8RJC0 UniRef90_LOEG29 UniRef90_UPI000474FC12 UniRef90_M5WGY9 UniRef90-UPIO002C30C83 UniRef90-B6WW16 UniRef90_M4FCF9 UniRef90-UPI00032A6F96 UniRef90-W2RSN4 UniRef90_Q4VQ13 UniRef90_MBXA8 UniRef90_M5G6D7 UniRef90-M0RTE2 UniRef90_UPI0004407B87 UniRef90_W1NQ69 UniRef90-11KLA4 UniRef90_A9RX02 UniRef90-J3MGY4 UniRef90-M1BYS1 UniRef90_UPI0003813B7E UniRef90_Q3AKF7

 UniRef90-D4AQJ4UniRef90
S0AT14 UniRef90_UPI000475929D UniRef90_UPI0002E8DE7D UniRef90_V7CLY7
UniRef90_UPI00047D5A47
UniRef90_W4LTP9
UniRef90_X0ZE27
UniRef90 S8DKY0
UniRef90_C5FX02
UniRef90-A9NRE7
UniRef90-F6I2G5
UniRef90-F8IH85
UniRef90_M8BHI8
UniRef90-KOIK14
UniRef90-A9B4P5
UniRef90-T0MU70
UniRef90_Q01WZ1
UniRef90_F5L8M6
UniRef90-X1VA55
UniRef90_K2B9E8
UniRef90-KOIIQ2
UniRef90-F0IZY1
UniRef90_UPIO0036CC706 UniRef90_B6J3M6 UniRef90_D8SYU6 UniRef90_UPIO003655D4B UniRef90_G2WXT1
UniRef90_K0MKS5
UniRef90-W4MDN0 UniRef90_L1KBK0 UniRef90-W5HP96 UniRef90-TOYAI2 UniRef90_J2Z8B2
UniRef90_A3JUW7 UniRef90_UPI0004682C90 UniRef90_C6TDJ0 UniRef90_UPI00040A7299 UniRef90_UPIO003821DDA
UniRef90 UPI0004418736 UniRef90_UPI0003754A5D UniRef90_W0BCP3 UniRef90_UPIO003610A67 UniRef90-W5I2K6 UniRef90-T0ZCC0
UniRef90-D4D0G7
UniRef90_X1QBR6
UniRef90_R5SZK3
UniRef90_D5HGV7
UniRef90- U2CVR2
UniRef90_R5J1L1
UniRef90-F7K6K2
UniRef90 C6LGK8
UniRef90_S0JKM5
UniRef90_R7IX85
UniRef90_R7CLB7
UniRef90_UPIO0041D8AE6 UniRef90_R7PGK5 UniRef90_D4J2Z1
UniRef90 A4XHX4 UniRef90_UPI00047E7077 UniRef90_D4LRY6 UniRef90_C4Z584
UniRef90 R6XN27 UniRef90_R9MLR4 UniRef90_R9J7N3
UniRef90_R5QLF5


 GLKFS G GSHSMMPKATIVQDIDMAHQHDVYVST GDWAEH

 YVK F T T P QVLYS P K E WLD K K I K L Y K K Y N $\quad$ S P YLD H T Y F K F
 Y V K V A T R QVI E H P E A WV R R KV E L Y QR F GVVE Y L D H S Y F H Y GLKFS GGSHSLMMKELI REDTNLAHKHDMYVSTGDWAE H
 GLLKFS GVVKQHLL $\quad$ NWI K Q

 $\left.\begin{array}{l|l|llllllllllllllll|l|lll:llll}A & V & Y & G & G & Q & A & F & G & L & F & S & \square & E & E & M & K & Q & G & V & E & Y & A & H & A & H \\ N & A & K & V & Y & V & T & A & N & : & F & A & H \\ A & V & Y & I & G & G & E & A & F & G & L & F & S & K & E & D & M & Q & E & G & I & R & F & A & H & E\end{array}\right)$
 A V $V$ Y I G G E A F G L F S
 A V $V$ Y $\quad$ G G E A A F G L


## 

E7077



UniRef90_V4U8U1 UniRef90_G8RJC0
UniRef90_LOEG29 UniRef90-L0EG29
UniRef90 UPI000474FC12 UniRef90 M5WGY9 UniRef90_UPIOOO2C30C83 UniRef90_B6WW16 UniRef90 ${ }^{-}$M4FCF9 UniRef90-UPI00032A6F96 UniRef90-W2RSN4 UniRef90-Q4VQ13 UniRef90_T1BXA8 UniRef90-M5G6D7
UniRef90 M0RTE2 UniRef90-UPI0004407B87 UniRef90 W1NQ69 UniRef90-I1KLA4 UniRef90_C4JII8 UniRef90 A9RX02 UniRef90_J3MGY4 UniRef90-M1BYS1 UniRef90_UPI0003813B7E UniRef90 Q3AKF7 UniRef90-D4AQJ4 UniRef90_SOAT14 UniRef90 UPIO00475929D UniRef90-UPI0002E8DE7D UniRef90_V7CLY7 UniRef90_UPIO0047D5A47 UniRef90-W4LTP9 UniRef90-XOZE27 UniRef90_S8DKYO UniRef90_C5FX02 UniRef90-A9NRE7 UniRef90-F6I2G5 UniRef90_F8IH85 UniRef90 M8BHI8 UniRef90-K0IK14 UniRef90-A9B4P5 UniRef90-Q01WZ1 UniRef90-F5L8M6 UniRef90_X1VA55 UniRef90 K2B9E8 UniRef90-KOIIQ2 UniRef90-F0IZY1 UniRet90_UPI00036CC706 UniRef90-T1BUH9 UniRef90_B6J3M6 UniRef90_D8SYU6 UniRet90 UPI0003655D4B UniRef90-G2WXT1 UniRef90-KOMKS5 UniRet90_W4MDN UniRef90-W5HP96 UniRef90-T0YAI2 UniRef90_J2Z8B2 UniRef90_A3JUW7
UniRef90_UPI0004682C90 UniRef90_C6TDJO UniRef90 UPI00040A7299 UniRef90_UPI0003821DDA UniRef90-UPI0004418736 UniRef90 UPI0003754A5D UniRef90 ${ }^{-}$WOBCP3 UniRef90-UPI0003610A67 UniRef90_B9K3P3
UniRef90 W5I2K6 UniRef90_TOZCC0 UniRef90-D4D0G7 UniRef90 X1QBR6 UniRef90 R5SZK3 UniRef90-D5HGV7 UniRef90_U2CVR2
UniRef90 R5J1L1 UniRef90-F7K6K2 UniRef90-C6LGK8 UniRef90_SOJKM UniRef90 R7IX85 UniRef90-R7CLB7 UniRef90_UPI00041D8AE6 UniRef90 R7PGK5 UniRef90-D4J2Z1 UniRef90_A4XHX4 UniRef90 UPI00047E7077 UniRef90 D4LRY6 UniRef90-C4Z584 UniRef90_R6XN27 UniRef90 R9MLR4 UniRef90-R9J7N3 UniRef90_R5QLF5


G $V$ H HT $\square$ E QSESASNPA $\square \mathrm{L} K$ D $\square$ A A R D WF R N


GADYLLLPGREA GSWK L L L

## E WMVEE K QRLLVEIDME SEGLTENKENFRWN IDDK I SP LQLS

GAEFIVLDHEE
FELQKDNAKKVFDEIINTVGLN GASRVI TEARESGAS G DCRSNGELRYGLIEEII HGIDLN


R PRKVIVE
GVERLMIES

## G

UniRef90 V4U8U1 UniRef90_G8RJC0 UniRef90-LOEG229 UniRef90_UPI000474FC12 UniRef90_M5WGY9 UniRef90-UPIO002C30C83 UniRef90_B6WW16 UniRef90 ${ }^{-}$M4FCF9 UniRef90-UPI00032A6F96 UniRef90-W2RSN4 UniRef90_Q4VQ13 UniRef90-T1BXA8 UniRef90-M5G6D7 UniRef90-MORTE2 UniRef90-UPI0004407B87 UniRef90 ${ }^{-}$W1NQ69 UniRef90-I1KLA4 UniRef90_C4JII8 UniRef90 A9RX02 UniRef90_J3MGY4 UniRef90-M1BYS1 UniRef90-UPI0003813B7E UniRef90 Q3AKF7 UniRef90_D4AQJ4 UniRef90_SOAT14 UniRef90 UPIO00475929D UniRef90 UPI0002E8DE7D UniRef90_V7CLY7 UniRef90-UPI00047D5A47 UniRef90 W4LTP9 UniRef90-XOZE27 UniRef90_S8DKY0 UniRef90-C5FX02 UniRef90-A9NRE7 UniRef90-F612G5 UniRef90_F81H85 UniRef90_M8BHI8 UniRef90_K0IK14 UniRef90-A9B4P5 UniRef90-Q01WZ1 UniRef90-F5L8M6 UniRef90-X1VA55 UniRef90 K2B9E8 UniRef90_K0IIQ2 UniRef90-F0IZY1 UniRef90_UPI00036CC706 UniRef90-T1BUH9 UniRef90-B6J3M6 UniRef90-D8SYU6 UniRef90 UPI0003655D4B UniRef90 G2WXT1 UniRef90-KOMKS5 UniRef90 W4MDNC UniRef90_L1KBK0 UniRef90 W5HP96 UniRef90-T0YAI2 UniRef90 J2Z8B2 UniRef90-A3JUW7 UniRef90-UPIO004682C90 UniRef90_C6TDJ0 UniRef90 UPIO0040A7299 UniRef90_UPI0003821DDA UniRef90_UPI0004418736 UniRef90_UPI0003754A5D UniRef90- W0BCP3 UniRef90-UPI0003610A67 UniRef90_B9K3P3 UniRef90 W5I2K6 UniRef90-TOZCC0 UniRef90-D4D0G7 UniRef90 X1QBR6 UniRef90-R5SZK3 UniRef90-D5HGV7 UniRef90_U2CVR2 UniRef90 R5J1L1 UniRef90-F7K6K2 UniRef90_C6LGK8 UniRet90 SOJKM UniRef90_R7IX85 UniRef90_R7CLB7 UniRef90_UPI00041D8AE6 UniRef90 R7PGK5 UniRef90-D4J2Z1 UniRef90_A4XHX4 UniRef90_UPI00047E7077 UniRef90_D4LRY6 UniRef90_C4Z584 UniRef90_R6XN27 UniRef90 R9MLR4 UniRef90-R9J7N3
UniRef90 R RQLF5

 DIDFEAPNKDMQVHFIKELGANVNLANISFNDIISGETMR KTMFEASNPRTSEWFVKQYGPKVNLFVDHSQVMDLECLR
 KTMFEASDAKLAEWFDKRYGPNVNLY VDHSQIMDLECDR KTMFEASNQSTSEWFI KQYGPNVNLF I DHSHLVDVEC
 ELIDFEAPGEAQQVALL RELGADVNLGNVALGSVAPLASER $K$ K MFAAADPEVFAYHIQNQGAHANLG VDHSQIVQLACLR
 KTMFEASTPETSEWFI KRYGPKVNLF VDHSQVMKLECLR R
 RVMFEAADPSVFNWYVREFGVDVNLF VDNSQIVQLSCLR RIMFEASDPKVSEWLI EKYGSKVNLY KTMFEASNANTSEWFVRRYGPRVNLF V
 KWMF EAAEPQVFKWYLKNVSKKVNLFIDHSQIVEFNAWR RFLFEAPDKSVQTYLI KRYGPHVNI GNISGGDLVAVESLR





RAMFEASDPKTSEWLIKQYGTRVNLADDHSGVMDLECLR K V MF E
KTMFEAASPETFEWFVRRYGSRVNLF VDHSHVGKLECFR KTMFEASSAQTSEWF IGKHGPKVNLF VDHSQVMDLECLR RVIWEAP
RTMFETSGANTSEWFVKRYGPRVNLF VDHSEVMNDERDR TFIFEAPLESQQSALIAEFGQRVNLAEVHPDAIASVESQR
 TVTFEAPNKPSQFALLDHFGPQVRLCNIRLEELLRVEDYR I F EAPNKQLQTYFI RKFGTNV NIIFELPGHSLQVWLI ENLGSDVNDANVDPFEVLGLEVER KLMFEVSPEKTFKWYLKEIHPDVNLMMMNAKNIVEFNAWR TF $\square F E A P \square E H Q Q S A L I A E F G Q R V N L A E D H D D A V S S T E S Q R$ $T D P Y R F P Q$ QHAEMLNLYGPEINLANVTPGQVLRLEGLR RLIYELPKHKDTAWLVRELGTDVNLANI EWDELYLTELVR RLI WEAPQKSQQEELI RRFGSDVNLGNVPPQEI LALEALLR KLMFEVSPEDTFK WYLKEVSRDINLM MNSKNIVEFNAWR

$\square F \square E A D P Y P K G H A T L L E K F G D G V N \square A N \square T A D Q V L R \square Q G F R$
$D \square L D E A D P P A Q H A D L I R R F G A N V S D A D A P G Q A D R \square E G \square R$ RTMFETSGANTSEWFVKRYGPRVNLFA DHSEVMNLERLR PLMFEAPHEDQQTEMILRLGPRVNLGNVAMSSVAALETQR


RLIEKTRNPLLOCRLVEEQGGKINLADNPETVTLLEADR EFMUEADDODULCKYLELYGPNUNMMDHTLLKKMEDAR

K TCFESPREDTNQWY DK LFGSECNVCNDMPSQ\LQVEP\R SLIFEAPNKDLQTYFIKHIGHEVNLANIAFDDVIALETLR R AF ESPKEAEMTWYFQLFGTDCNI TNNIMXSQVMLI DPR R


| UniRef90_V4U8U1 | $\text { G R NLLIG K }{ }^{250}$ |
| :---: | :---: |
| UniRef90_G8RJC0 | $\square G L R A D T$ |
| UniRef90_L0EG29 | R GLRND T F |
| UniRef90_UPI000474FC12 | LGLR A D T L N |
| UniRef90_M5WGY9 | G R S L G K |
| UniRef90_UPI0002C30C83 | $G R N L G R$ |
| UniRef90_B6WW16 |  |
| UniRef90_M4FCF9 |  |
| UniRef90_UPI00032A6F96 | 1 R G R N L G R |
| UniRef90_W2RSN4 | S G I WG D T F G K I |
| UniRef90-Q4VQ13 | S GLP G |
| UniRef90_T1BXA8 | M G L R G R |
| UniRef90-M5G6D7 | K G $\square$ WG S T F S R |
| UniRef90-M0RTE2 |  |
| UniRef90-UPI0004407B87 | K G $\square \mathrm{WG} \mathrm{D}$ L F G R V |
| UniRef90-W1NQ69 |  |
| UniRef90-I1KLA4 | G R N L |
| UniRef90_C4JII8 | R G $\square$ WG D T W G K V |
| UniRef90_A9RX02 | S G S H G S |
| UniRef90-J3MGY4 | F N M R G S S |
| UniRef90-M1BYS1 | $\square \mathrm{GRNLGQ}$ |
| UniRef90_UPI0003813B7E | L G L W G D |
| UniRef90-Q3AKF7 | R G L R S D T L L A V |
| UniRef90_D4AQJ4 | RGIIWGD T WG K I |
| UniRef90-S0AT14 | L G L R G D T F G |
| UniRef90_UPI000475929D | L G L W G D |
| UniRef90_UPI0002E8DE7D | L G L R S N F N L |
| UniRef90 V7CLY7 |  |
| UniRef90_UPI00047D5A47 | $\square \mathrm{G}$ L S S T L L K L |
| UniRef90_W4LTP9 |  |
| UniRef90_X0ZE27 |  |
| UniRef90_S8DKY0 | C G |
| UniRef90 C5FX02 |  |
| UniRef90-A9NRE7 | S G |
| UniRef90_F6I2G5 | $\mathrm{GRN} \square \mathrm{L} \mathrm{K}$ |
| UniRef90-F8IH85 |  |
| UniRef90_M8BHI8 |  |
| UniRef90-K0IK14 | R G L S K S A F G |
| UniRef90-A9B4P5 | R GL H A D T F |
| UniRef90_T0MU70 | L S L R G D T F S |
| UniRef90_Q01WZ1 | R GL H S D A F C K |
| UniRef90-F5L8M6 |  |
| UniRef90-X1VA55 | M N L |
| UniRef90_K2B9E8 | LR L W G D S |
| UniRef90_K0IIQ2 | R G F |
| UniRef90 F0IZY1 | Q G 1 |
| UniRef90-UPI00036CC706 | LGFAGD T |
| UniRef90-T1BUH9 | R G L R A D T L |
| UniRef90-B6J3M6 | L K L C G D |
| UniRef90_D8SYU6 | A G |
| UniRef90_UPI0003655D4B | $\square \mathrm{G}$ Y G P S Q F G K V |
| UniRef90-G2WXT1 |  |
| UniRef90-K0MKS5 | Y G |
| UniRef90_W4MDN0 |  |
| UniRef90_L1KBK0 | R G $\square$ |
| UniRef90-W5HP96 |  |
| UniRef90-TOYAI2 | Q G FR G D T F G |
| UniRef90-J2Z8B2 | S G LWW S S WGR |
| UniRef90-A3JUW7 | R G Y G P C T L |
| UniRef90_UPI0004682C90 | R |
| UniRef90_C6TDJ0 |  |
| UniRef90_UPI00040A7299 | R G M N P D |
| UniRef90_UPI0003821DDA | $\square G F G P S Q F G K V$ |
| UniRef90_UPI0004418736 |  |
| UniRef90_UPI0003754A5D |  |
| UniRef90_W0BCP3 | LG L R S D T L |
| UniRef90_UPI0003610A67 | SGERP |
| UniRef90-B9K3P3 | L N |
| UniRef90 W5I2K6 |  |
| UniRef90 ${ }^{-10 Z C C 0}$ |  |
| UniRef90-D4D0G7 |  |
| UniRef90-X1QBR6 |  |
| UniRef90_R5SZK3 |  |
| UniRef90- D5HGV7 |  |
| UniRef90-U2CVR2 |  |
| UniRef90_R5J1L1 |  |
| UniRef90_F7K6K2 |  |
| UniRef90_C6LGK8 |  |
| UniRef90-S0JKM5 |  |
| UniRef90-R7IX85 |  |
| UniRef90_R7CLB7 |  |
| UniRef90_UPI00041D8AE6 |  |
| UniRef90-R7PGK5 |  |
| UniRef90-D4J2Z1 |  |
| UniRef90-A4XHX4 |  |
| UniRef90_UPI00047E7077 |  |
| UniRef90-D4LRY6 |  |
| UniRef90_C4Z584 |  |
| UniRef90_R6XN27 |  |
| UniRef90_R9MLR4 |  |
| UniRef90-R9J7N3 |  |
| UniRef90_R5QLF5 |  |








 GVDALAD A $\square$ GNAHGNYKATPK LRFD $\square L A Q V A E D$

```
UniRef90 R5KZF3 UniRef90-UPIO00361CA5A
UniRef90-R6QG30
UniRef90 R5RQP2
UniRef90 UPI0003B4BE30
UniRef90-C2L1J4
UniRef90-R5RM78 UniRef90 R7JXW1 UniRef90-J4K949
UniRef90_R7N3X6
UniRef90-R5YR25 UniRef90 R6SGV5 UniRef90-R6BZ61
UniRef90_R6MIZ
UniRef90 R6ZC23
UniRef90-H1HSZ7
UniRef90-R7R7B8
UniRef90-R5A3F8
UniRef90 KONLM8 UniRef90_G8LZV6
UniRef90-R6ILF0
UniRef90_W3ANJ8
\begin{tabular}{|c|c|}
\hline \multicolumn{2}{|l|}{lupas_21} \\
\hline lupas_14 & \\
\hline lupas_28 & \\
\hline jnet & - \\
\hline conf & 23672238899 \\
\hline sol25 & B B B B B B \\
\hline sol5 & \(B \quad B\) \\
\hline sol0 & \\
\hline jhmm & 5 \\
\hline jpssm & \\
\hline
\end{tabular}
```

