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KMLNQDQQMQKKLMQAQEDLGKTLVEGSAGGGVIE MNPMDLFKNMQNLQSGMKDMQEQLKD\|VVIGTAGGGMVV NMNAMIRQAQKMQEDMKTRQEEIEQMSFKTTSGGGMVE MGQLMEQAKKLQGNVQQAHEKIAADEVVGESGGGMVK MNPFDIMKNAKEIQAKIANTKSDLDQEVVEGVSGGGLVK DMARMMKAAQEMQGKVAEMQASLDTETVEGQAGGGLVK NFGDMMKQDQQAGEKMQDVQKQLEKLVTSGEAGGGMVK DMAGMMKKAKEMQDQMGQLQEDLASMTVVGESGGGLVK NLGNLMKQAKEMQTKMAEMQASLESHEDTGVAGAGMVK
 NLSDMGKMLESMQESAKKLQSELESKVFNVKSGGGLVE DLMGMMKQAKAMQEKMGNLQAEVASATATGQAGGGVVS
$M N P E I L K N A Q K I Q E Q M A A M Q Q R G G T V T G S A G G G M A Q$ $\square G S M M K K A Q E V Q E N M Q K M Q A D L V N K T V T G Q S G A A A V E$ DFNDLITAASKMSEKMKETQEVLKKDEVEGDSGGNSVK NDGDMMKQMQKVKAKMTEVDEKLADLIVEGTSGGGVVK GESGAGLVK GQSGAGLVK DMAKMMKAAQEMQDRLAAAQAGLDADTVEGQAGAGLVK MDFSKMGELLNQVQEKAKNDELELANREFSAKSGAGLVK NLADMMRNAGKLRETVEKATESLGQLQVEGTAGGGVVT DLMGMMKKAQEFQQRAQEMQAEAAAHTVEGTAGAGMVT MAGLLAQAQEMQTRLLIAAQQETAATTVTGTAGNGLVQ FDMFNMMNK■KEVQGKMKEAQDSLQFDTVTAESGAGLVK MNDLMRQAQVMQKKTLESQKALDQKRVEATSGGGMVT DMMGLLKQAQAMQAKVQDMQAALEQ\|TVEGHAGGGLVK MVSMUQKAKKMQEDMKVAQDEIKSTSCQGESGSGAVK
N TNPFEDMKNAKDLQAHFGKMQEEAAALVQGVSGGGLVK LSNTLVEGVGGNLVT
GGMMKK DQEMQENMTR DQQEVEATEFSSSVGGGAVE NDQQDAKQAQKMQEEMDAASTVLEEKEYSATSGGGAVD FQEALKRVKQTQEGSAKLQDELAALSDEGVAGGGLVK MNPFDILKNAGQIKQQGEKLQQELAQITAEGSSGGRMVT DMNPFELLKNMKGUQENMKRMQDLLPTUTATGSAGAGMVE N■AGपMKQATQMQAKMEAMQATLEAMNIEGAAGAGMVK GMMAQLQKVQDEMIEAQGALADERLTVTAGGGAVT FASDMKQAQGMQGK\|AESKERIANEKCEGSAGGGMVA DMAKMMKQAQELQGKMAEVQEGLATMTVQGESGAGLVK KQAQKMQKQMLETQEALNQKTLEMTSGGGAVK NMGNMMKQAQKMQQKMLE पQDELSKRTVEGSSGGGMVK ПNYGNMMKQAKTMQQKLLETQQEDKKMEFEASAGGGAVK MNPFDLDKNAKEリQEKISSLKEDMEHESVE GVS
GESGAGLVK LDFSQFGGLLSS $D Q E Q \square Q E M E N K S K E T \square F E A K S G G G L V K$ GQSGGGLVS GESGGGLVK GQSGAGAVK
MTNTLKQAQM $\square Q A K M S K \square Q E N A A M K T A E$ LGNKTVE NMOOMMRKMOKMOKDMDEAOELKDOTVVGAGGGVVS FDMMGMMGKVKEMQARMKEVKDGLVHDTAD GSGGMVT G D M M G M L G K VKE F Q A K M K E A Q E S LGHLLTES NMGNMMKQMRQTQKKMGEEQETLEESSYTATSGGGAVE DMMGLMGKMKDLQSRMKDAQDSLVTLTQVAESGGGMVK GIAGAGLVK
QAQMMQANMQKVQAELATTEVEGDASNGMVK SDVLSNTTEDQKRTNSAQKEISATTFEGKAANGLVK FGDLFGKLQEAQSKMKESKERLSHDTVDGEAGDGAVK LINLGEVFGKVMELQQRLAETQQALGNRTVTVETGGGMVR $M N P F D V L K Q L Q D L P E R M Q R \square Q E T$ LTELDRVGSAGGGMVEV


## QUERY

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## 

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 VTMTCRNEVRRVSI DPSLLDDKDMLEDLVAAAFNDAVRKA VVANGRQELISLRI DPEVVEDVDLLQDLVLAAVNDALNRS I DMNGRME L GVVRI DPEAADDMEMLQDDVAAAFTSAAEKM V TANGRQEVLSVKI EPEVVDDVEMLEDLILAABVNEAKRKS VTMSCKNDVKRVVI DPSLLDD DKMLEDLVAAAFNDAVRKA VKMNGKKELLKLTVDPAAVPDVEMLEDLI TAADNEAGRRAA
 I TMNGEFTVLKVE I SPAVI DEPELI QDLVLAAATDAQHKA VTLD GKFELKKIKI DK SLVVDDVEVLEDLIVAAFNDAKVKA
 $V E A N G Q Q K V L G V K I D Q T L L D D R E M L E D L I T A A T N Q A L D K A$
 I E M N G Q M Q I I G V R I





 ITINGSGEVTDI TI DNSLLGGDKESLEDLLI GAIVNDANKMV



 !T DNGAHNCRRIDIDPSLMDDKEMLEDLI AAAFNDAVRRA

 A K A N G R L E L L A V R I


 ATATAKGELTAALD
 VVIS GKKEI QSIKI DPEVVDDVEMLEDLI LSAVNEADRQA $V V A N G Q Q D I L E I K I D P E V V D D I E L L E D L I V A A V A N A R E$


 VKFNGAGELLDIFI NDGLLEDKEALQUYLMSALNEAYKQV


 VTANGHKKVLNITIKPEAVDDVEMLQDLVLTAVNDALSKA

 $V$ K V N G L K Q V I
 ATVNGQKALIGLDI DKDLI DDKEMLQDLIVAAVNKALDNI VVMSCNHEVRRVSI DPSVLDDKEMLEDLVAAAFNDALRKA
 VTMTCSNDVKRVQUDDAAMDDKETLEDLI LIAAGKDARTKA $V Q T D G N G Q V K R V T F D E G L K E D L E T L A D L V V V A M N D A N T Q K$

 V E V G G D F S V V T M N G R H V V K R L SI D P S L L D D P D MI E DLI A A AI N D A V R Q A


QUERY
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UniRef90_Q3SLE4
UniRef90_Q21L31

E E N R K NLAF N MLLG S D MAQEEMKDSMG
EAANADEMRKVVTG EATSSQEKMSGMT
R E MVA D E M A K L T G



 | $E$ | $A$ | $V$ | $M$ | $Q$ | $E$ | $E$ | $M$ | $E$ | $K$ | $I$ | $T$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | K EVV I R R E Q M S S S L T G


 DETAQKRK E E LDS N A K M G P LT G
 E S Y E T A A EVMARA GMM $K E L L Q N K L G P L$

 | S E K S A T E M G K |
| :--- | :--- | :--- |
| D Q A A K A K |




E QNRQNSALGMFG \begin{tabular}{lllllllll|lll}
$D$ \& $A$ \& $L$ \& $I$ \& $Q$ \& $E$ \& $K$ \& $T$ \& $Q$ \& $A$ \& $L$ \& $T$ <br>
$K$ \& $E$ \& $T$ \& $L$ \& $Q$ \& $S$ \& $E$ \& $F$ \& $G$ \& $A$ \& $L$ \& $T$ <br>
\hline

 

$K$ \& $E$ \& $T$ \& $L$ \& $S$ \& $E$ \& $F$ \& $G$ <br>
$A$ \& $L$ \& $T$ <br>
$Q$ \& $E$ \& $T$ <br>
$L$ \& $Q$ \& $R$ \& $E$ \& $M$ \& $S$ \& $A$ \& $T$ <br>
$T$
\end{tabular}

 AERAQEEMGKL
E E LQKRK
SEATQEKMGRVT
A Q N R S SMANDVLG
REAAAQS L S SLAG
E EFMQQKMSEMT
D A LT S EKM GP LDAG
SEKAKDEMKRQT
E E LTS Q E K M S K $L_{\text {L }} \mathrm{T}^{T}$

| $K$ | $A$ | $M$ | $E$ | $E$ | $E$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $E$ | $M$ | $A$ | $K$ | $L$ | $T$ |
| $M$ | $G$ |  |  |  |  |

S E I S K A K L L K N V T G | $E$ | $E$ | $V$ | $S$ | $Q$ | $E$ | $K$ | $M$ | $G$ | $N$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $K$ | $L$ | $L$ | $L$ |  |  |  |  |  |  |

EETSQEKKMSAVTG NEAMES GMERAKG A D D K S E T M E K QEQIKERTSS Q QKI Q S E
A K L K Q E K M A G L T G KEMAAARMGA L T LE QQA A E M S S I T G
QD K H N E M M K QDKHNE EMQKMT
DEMYTNEMGK ${ }^{\text {D }}$ T

| $E$ | $E$ | $N$ | $N$ | $K$ | $E$ | $Q$ | $M$ | $A$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $K$ | $K$ |  |  |  |  |  |  |  |
| $T$ | $G$ |  |  |  |  |  |  |  |
| $T$ | $G$ |  |  |  |  |  |  |  |

$\begin{array}{llllllllll}K & D & E & A & K & N & R & M & A & G \\ L & L \\ K & E & L & 1 & Q & S & K & F & G & P \\ L & T\end{array}$
A E T S Q E K M G S V $T$ T
ERTTMEKMS GL T
E DARKNAAA GMLLG
E ETTRERMASSMT

| E E T T R E RMASSMT |
| :--- |
| E EKT K D Q M S G L |

E EQNKAKMAE
EATTAEKMGGFT

 | $D$ | $E$ | $A$ | $N$ | $A$ | $D$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $T$ | $M$ | $K$ | $F$ |  |  |
| $L$ | $K$ | $E$ | $T$ | $T$ |  | E EKKAQA E FKKKK






EATSSAKMGSVM

| E A F AK S K L A GMTG |
| :--- |
| E N A WE S EMK G |

ARMAREEMQKAAG
RTELVGKLQS
D E L H E T E M A S A T

| $E$ | $T$ | $V$ | E K M A G |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| E E A T | K Q K M S | T |  |

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1
10
20
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LEQREFTGEAGAGLVK
LANRTVVSTAGGGAVV

LA N $\square \mathrm{E} \square$ I GEAGAGLVK

GE A GAGMVK

 $L G N R T V E T T A G G G V V K$ $F D A K G L Q D L L G N M Q K S V G D L Q E K A K S N V F T A K S G G G L V V$ Q G D MK KIQ K ElA K E KVT GS S G G GMV E I E A REFSATAGGGAVV E A Q E A L G E K TVEA SA G G G MV K
NFSELLSNMGAFREKMEDVKKRIAADRVMGDAGAGMVT $L A N K Q V C G E S G A G M V K$ $G Q S G A G L V$ A S A G G G AVVK LD HVEVD GVA G G G LVV $T \vee V E$ $N \square G K M M Q Q A K K M Q D D M K S M Q A E M A T L E V Y$ GEAGGGMV G $\quad$ K MGN $\square$ MK QA QAMQEKMQKVQAE $\operatorname{VANMEVTGESGAGLV}$ LNARQFEGTAGGGMVK F D P K E L A K T LG D LQE K F Q N A QEA NK EVVVLS A K S G G G LVV S A S A G G GAVE

MKEMMGQAK LMQEQMEK
$K \backslash \operatorname{LV} T V E$ GES GGGMVK LGTKTLE

NQTVE GES GA GMVK MNQAAMMKQAQKMQQEMLRMQAEQEAKTFT A A S G G G M $V{ }^{-1}$ GQA GA GMVK LMKEAKKMQADMEKTQTQLTQMEFTATAGGGAVTT LA K K TMEASAGGGMVT L A EREVS GTA G G GM MLK QA QEMQQKMMEAKDGLKNVIAE

LD A R E Y D
M D L M G M M G K LK E T Q Q K $\square E D T K K R L D T V L I D$ GES GA GLV K G A V S G Q S G G GLLV K N M Q G M MK K VQQMQK DMEKEQKA $\square$ QSE $\square$ EE $\stackrel{G}{V}$ GS S T N DLVI
 MEEMMAAAQKIQS QMGDAQAKLDS DEVEGTAGGGLVT MAKMMQTAKEMQGKVA QLQDDLKTMTVTGESGAGLVVK $D L S K M K D M M G Q A K Q M Q D E M E H K L S A T V V E A S T G G G M V M T$

LK T K TAT GTA G G GMVT
LA Q TEVVAEAGGGVVK $N L G Q \square L E Q A Q R M Q S A L F T A Q Q E L A B A R V E$ GSAGGEEVV

LH N R T E A SAGGGAVT
D $\square$ M G M M G K L LKE T Q Q K DED T K K R L N HV V VDE TA TA G S I K NMQGMMKQVQKMQKEMVKEQEALNSKEFIGESTNGYVK MA GLMA QVQQMQTQMETAHAEISATSVVGSAGNGLVT E $\square$ Q A K MK A A Q D S L N $\square$ S A TGESGAGLV R

LAT S E FT
MQKEMAKAQAELA $D R T F$
\A VT E VT
 $M N M \quad N M \square R Q A Q K M Q A D L E K M Q A D L E S K T Y S G K A G G G M V E$ T A G G G A V LA A Q T VE GTA GES G G GMV K M N M Q G M L K Q M Q K L Q K N M K A D Q D K L N E T VFEGHSAND V V LA E R T VT S S VG G G M V Q NMQGMMQK $\square$ QKMQKEMTKEQAA $\square E A T \square F$ A

## UniRef90 bos8Y9

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IVTATADGTLTNLININPTMFDDKKMLEDLI ISATNEVQRKA VKFTGDRKMTDLTIKPEAVDDVEMLQDLLVAA
 VAMNGKGVLTMVKI NPDAVDDVEALEDLIMAAVNSAVKKK VTMTCHYGVKRLNI DPS LLDDKEMLEDLIAAAVNDAVRKA VTVNGKRNVLKKD: KPEVVDDVETLQDLVMAAFNQAVANLI VQMNGHGKVTSLKI KPEAVDDVEALEDLILAALNDAAEKA ITMLGNHNVKRVSI DPSLMDDQEMLEDLI AAATNDAVRRV I FMTGRHDVQRVEI DNTLMEDKEMLEDLVAASVNDAVRKV

 VTMTGDQHCKEVII DPELIKDAEMLQDLILSAVNLALDDS VVASGKQEIISIT KPEAVDDVEMLQDLLITAVNDALRQS VLMTCSHNVRRVTIDPSVMDDKEMLEDLIAAALNDGMRRA VTINGKLEVVDIKI EKKLMEDKEMLEDLVLAAVNKALLKA

 VTATGEGQITNVFIN VTMNGRHDVKKVD VTMTCKYGVKRVNI D
VTVTGSQELVSI VVINGKKEI KSI QI L
 VKMNGQKQVLKVT VMMTGDQMVRRVDI ITMTGSHNVRRVE
 VTVTGKKEVTR ITLNGKYEVRRR VRMNGKKEVLR VTMTGNHSVERVV
VTVTGNQEVTGI VTVTGNQEVTGGAD

$V$ V T G K Q E $1, R S$


## V

$V$ K I N GK K E I L S

| I | $T$ | $V$ | $T$ | $A$ | $N$ | $R$ | $K$ | $V$ | $K$ | $S$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $I$ | $I$ | $S$ | $I$ |  |  |  |  |  |  |  |
| $I$ | $T$ | $I$ | $N$ | $A$ | $R$ | $H$ | $E$ | $V$ | $R$ | $R$ |
| $V$ | $E$ | $I$ |  |  |  |  |  |  |  |  |

V T I N G A H N CR R V E
$V K M N G N R Q \operatorname{IV}$ S L E L VVMTGRHDVKRVT


##  <br> 

 DKLNGSRYCNYVK ARMNGKKEILSHA VTMTCRHVVKREE
 VTGDGAGTVSAVE: AVVTGKKELTKLT: KPDVVDDAEMLQD ATMTGNGDVVATI
 VTLNGKGEMRGVKI
$V$ VMTCNHVVKS
 AVVNGKQQLVRSQ
 VTMTGRHEVKRVEI

 $\checkmark K V N G K K E$ VVATGRKDKE K | $V$ | $T$ | $V$ | $N$ | $G$ | $A$ | $M$ | $D$ | $L$ | $L$ | $S$ | $V$ | $K$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $V$ | $I$ |  |  |  |  |  |  |  |  |  |  |  |
| $V$ | $I$ | $N$ | $G$ | $A$ | $H$ | $N$ | $C$ | $R$ | $R$ | $V$ | $E$ | $V$ |

## APAAVDDVETLQ <br> K P E E V



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| UniRef90-R6TAV0 | DEVSDTE |
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| UniRef90-Q9RXV7 | EGLQREATAG |
| UniRef90-Q5QWR0 | ETSKERM |
| UniRef90-A7C0L4 | EK\S QEK L S GLA G |
| UniRef90-F7S113 | EEASKEKMGSIA G |
| UniRef90-G9RY69 | DEASEKEMGALTG |
| UniRef90-UPI00041788E7 | T NVNEAELAA |
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| UniRef90-A4JOJ0 | QEMVAKEM |
| UniRef90-A0A011PT14 | E L |
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| UniRef90_UPI0001C37DC9 | ETTTEAEM |
| UniRef90-H5SPC2 | QKMAAEE |
| UniRef90-G9YSQ6 | ESDSASTM |
| UniRef90-V6HRM7 | REATAYEFQSASG |
| UniRef90-F3LEM2 | ELENKNMMGDLT G |
| UniRef90-D5X277 | EATSQEKMGA |
| UniRef90-D7CIH7 | REMAKSEMAK ${ }^{\text {a }}$ T G |
| UniRef90-B9MRE0 | D K M VEE E M Q K V T G |
| UniRef90-UPI000375664E | D AlS SQEMSK |
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| UniRef90_Q899U2 | EHETANEMKKLT G |
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| UniRef90-E0IDD2 | EEMANEDMGKYT G |
| UniRef90-N9TZW0 | EEQNKTKMAELT G |
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| UniRef90-M3V3N3 | EMSKLT G |
| UniRef90-U2J919 | DEMANTEMGKLT G |
| UniRef90_UPI0003B3995C | E |
| UniRef90-R6TE57 | EDVNTQE |
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| UniRef90-J0MDJ6 | EKMA G |
| UniRef90-K1LG76 | EAETESRLDGKYT |
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| UniRef90-A3K5T4 | Q |
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| UniRef90-A8KYB2 | RLAAEKM |
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| UniRef90-UPI0002D31 | DAESKNRM |
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| UniRef90-C8ZZJ8 | EKETERTMG |
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| UniRef90-R6D033 | D DAMNSSMS |
| UniRef90-14ERK0 | E La A A T M GPVT |
| UniRef90-W7D2F7 | E DTTASTMGQF |
| UniRef90-A4BTT0 | EKVTQERMSG |
| UniRef90-UPI000422C611 | D A QVAERMQAVT G |
| UniRef90-K9HQG3 | AMQEEMQKV |
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| UniRef90-UPI00047A0915 | AEAMQMEDQKVT G |
| UniRef90-Q3A8S1 | K D M Va E EMNKI |
| UniRef90_UPI0003B2EFC3 | EEDASSGI |
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| UniRef90-LOGXQ2 | A DKAQENM |
| UniRef90-UPI0004695BAF | NEETQRTM |
| UniRef90-J0JC67 | EATSQEKMAGV |
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| UniRef90 A3DHB8 | DEMVT A Eil S K |
| UniRef90-D8PA00 | MMAEEMKAV |
| UniRef90-Q8K982 | QKKKMSA |
| UniRef90_Q1H0Z6 |  |

- 30
$\square G G \square M K Q A Q K M Q E D M Q K V Q A E \square A N M E \square D$ GESGAGLVK $G Q A G G G L V$
$A S S G G G A V$
$T$
LATHTVEATVGGGMVT NFDLSKVGAMLEEAQKQAQKMHEDASSKQFTAKSGGGMVS GTAGGGMVS
MK M $\square$ QQMQNR $\square$ MK $\square$ QEE $L$ GET $\square \mathrm{VE}$

 GESGAGLVS GEAGGGLVVK | $E Y V V S S G G G M$ | $E$ |
| :--- | :--- | :--- | :--- |
| $T V E A T A G G G M V$ |  | $A K E T V E A T A G G G M V K$

LERTVEGTAGGGAVK ASAGGGMVT
LADDRVEGNSGGGMVT
LKTRTLEATAGGGAI K
LAETPVEGSAGGGLVK GASGGGLVK MADKSFEASSGGGMVK GASGGGLVT $\square$ AATEVAGEAGGGLVK GQA GS GMVK GQSGAGLVK DAVTEVHGTAGGGAVK $D \square M G M M G K L Q E T Q A K \square E E T K K R L D T V L V D D Q S N D G L L Q$ LGDKTVQ GOS GGGAV ASSGGGLVVT
$\square$ ENETFT位 A S S G G GVV T ATAGGGAV T GQS G G GLVVK
LA DKK T GTS G G GAVT
L GERTVDASAGGGMVS
L ENKEFSATAGGEAI T KQAKEMQKKMMAEHEELAKQQFVGQAPDGMVT SAGGGMIE ATAGGGMVK GESGAGLVK
L L S T T VE GSAGGGLVT GEAGA GMVK GEAGGGLVK
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L E ATTFEGTASNGLVK
LK ERVIEATSGGGMIT VQESLKEKEVEASVGGGAVV

LAKEVVEGESAGLK
LAKEVVE GES G G GVVVK
LETKEYTATSGGNAVE
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E ETVEGTAGGGMV T
LLEMTFEASSGGGMVK AKAGGGAVE
GQS GGGLVV GQS G G GLVV GSAGGGMVK
EFTATAGGGAVE
EMGKAQEELAVMEFTGSAPDGLVK A S S G G GVVV
GQS G G GLLV
S
MRELQKMQQRLVKMQEDLEKNQFTGTAGGGAVT A S A G G G AV T $A T A G G G A V$
$G E S G A G L V$
$K$ GVVGGGMVTT GQAGGGMV
ETSADGKI
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D $\square$ MGMMGKVKEMQAKMEKMQEE
1 A A L LevN KAMDVSGIGGGLVS LGSKTVTEESGGGMVK AESGGGMVK GQS G G GMV T $K Q \ln \mathrm{~V}$ GQAGAGLVT
$D M G M M K Q A K E M Q A K M A S M Q E E D S A$
$D L G A E G Q A G G G L V$
$D$


|  |  |
| :---: | :---: |
| UniRef90-UPIOO0477E955 | ESTTQEKMASVTG |
| UniRef90_LoDU33 | EAAAQER |
| UniRef90-K0AW | EDMMAKE |
| UniRef90-UPI000381687E | QELMTQEM |
| UniRef90-W6E188 | EENKK |
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| UniRef90-UP10003F7C2 | EQETASQMGKVTG |
| UniRef90-14EI | , |
| UniRef90-UPI00037053AF | DELSKDKMS |
| UniRef90-A4A88 | EQSNRK |
| UniRef90-D3RN93 | A EKTKE |
| UniRef90-R5XLM5 | DEEEERELSS |
| UniRef90-E4TJT5 | QNLLSERMSK |
| UniRef90-TODPB3 |  |
| UniRef90-Q1K473 |  |
| UniRef90-D2Z3X6 | QELAQKKMGQ |
| UniRet90-18SH18 | DDMMAQEMGKL |
| UniRef90-UPI00036E942A | QQLQQERLLGPL |
| UniRet90-UPIO003B61A6A | DQAGSAEMGKL |
| UniRef90-A1V9U6 | RATMEREMNAL |
| UniRef90-A7IHB8 | ERVMQEKMKSL |
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| UniRet90_A3YHQ7 | ETTQKSKMDAAT |
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| UniRef90-13TP | ETYVNDEMQKMTG |
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| UniRef90_G4CIH4 | EGATQAHMA |
| UniRef90_85JX17 | QEKTQERMGSVT |
| UniRef90_H3 | ND |
| UniRet90-Q30UQ3 | KEMVEKEMGA |
| UniRe90-A5N38 | EDQAASEMKKLT |
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| UniRef90-Dok | EHNQQEMMS |
| UniRef90_COXU45 | GRLJA EDKIIG |
| UniRee90-UPIOOO35D0EC3 | NNQKM |
| UniRef90-T2G8D2 | REMMEQEMSA |
| UniRef90-UP1000289360C | EKETSSKM |
| UniRet90_Q1Q3B0 | QELYQSEMGKFTG |
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| UniR | E K |
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| UniRee90-UPI00046A2209 | DDLVAKDMGKFTG |
| UniRef90 W3AGF | DEHANSTM |
| UniRef90-R7JX84 | EDEAAKAM |
| UniRet90-A8TUE3 | DARSAEEMQSLTG |
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| UniRef90 R7A1V2 | EEDSSQMMSQ |
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| UniRet90_N9MSX8 | EAISEQKLQQ |
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|  | D |
| UniRef90-17A7U9 |  |
| Ret90_JYY |  |
| UniRef90_K2JS63 | AHMAEQM |
| UniRet90_B8KYG3 | QAASQEKMAEAA |
| J3HTF1 |  |
|  |  | NFSDMMKQAAGLQKKMEEDQTQMAGLEASGSAGAGGLV GAS GGGLVQ $G Q A G G G L \vee R$ GTA G G G M $V$ T

$L G D L R V T G E S G A G M I V$
LETRQVEASAGGGMVT
L A QK TVVEASAGGGMVN
LANSEVHGQAGGGLVK $N L T G L M K Q A Q E \square Q A R M G E M Q E R V A A D E V E G T S G A G L V T$
 $D L G K M K D M L A Q A G A M Q E Q M E Q K L S E T V V E A E S G G G V V K$ $G N A G G G M V S$ A S A G G GVI V ATS G G GMV ${ }^{\top}$ G Q A G G G MV S

LK DEVVE $G E S G A G L V K$ | $A$ | $A$ |
| :--- | :--- |
| $A$ | $G$ |
| $T$ | $G$ |
| $G$ | $G$ |
| $M$ | $A$ |

 LGSKTVEAAS G G GMI K $D L M G M M G K \square K E T Q K K \boxtimes E E T K Q R L H T V L I D E K S S D S V L N$ | $T S$ G G GVVV |
| :---: |
| GEAGGGLVV |

LA QK TVT F G DMLSK LQQEA Q QK MQE GKQKLGSVII D

LKTQTVD GEAGNGQVK GSAGGGQVK $L G N R T V M S A G G G M V K$ LGNRTVATA G G GAV K EFTATAGGGAVE $\square \mathrm{V}$ V GEA E G GLI K
M F D K $\square$ F Q A Q Q K A QE $\square$ K QR LD N $\square S$
 F T A T A GGGAVV $A S S G G G M V Q$ $M M G M \square K N L P K L Q S A M S E M Q E K M A K \square V V D G N A G G G M V V$ LA K K TVVA S S G G GMVVK
 $S V G G G A V T$ A STVEGTA GNGVVT $D \square M G M M K Q V G Q M Q A R L K E M Q D E L Q R A E \square E G Q A G G G L V$ G $\quad$ G L E VQEFTGTAGGGMVT
 EAQTFSASVGGGVVE DF LGMMKQAA QLQSKMKEMQEQL DQVVVVEGTAGGMVV MDFNSLLETAKKMGETASNQQKEMEKNKSFSNFSVGGNAV $D \square M G M M G K V K E M Q A K M E K T Q A E I A A D E D E G K S G G G L V T$ $N L G D M I N K F Q D M A K E Q E E K N A S T L F T A K A G G G M V E$ GTA G G G L V S $N \square A S M M K Q A Q E \square Q G K M G E M Q E S L K S D H V E G E A G A G M V K$ A SVGGGAVK
$L A T S S V T$ G Q A G G G L V A A S G G GMVT GEAGAGLV$K$ GQA G G GL $V$ V GQAGAGMVK LG GK QVT
 $G Q A A G G L V K$ $D \square Q G M L K G M Q K K M S D \square K Q K K D N A R Y T G E A A G G M V K$ $D L M G M M G K L K E T Q E K V E A T K Q R L N N V L L D E Q S S D R L E L K$ FSKKKKEARLIDQQQMSLVQNELQNLLVVGVAGSGGV $D L L G M M G K A R E M Q A K F Q Q M Q E E L A N V E A S G Q S A G G L V Q$ GEAGAGMIK A S VG G G AVV
LMAMMFE A G G G M V
 G A G
 $D \square M G M M G K \square K E T Q Q K V E E T K K R \square D F V L I D E K S A D G L L E$

LGEKTVEASA G G G M V $V$
EELKTKEVNSSVGGGGAVT GQS G A G M V K
DF L N M MKKA QEMQAKMQQMQAELGNLVVEGQSGGGGVM

为

| UniRef90_T0Z9A2 | $\text { A E }\|\mathrm{L}\| \mathrm{SQQR} \mathrm{R}\|\mathrm{~L}\| \mathrm{G} \mathrm{G} \mid \mathrm{L}$ |
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| UniRef90_UPI000475B550 | Q Q M A S |
| UniRef90-H0UJ60 | K ELDMQS R M G R L T G |
| UniRef90_UPI0002558343 | E E AVQKVQKEQM G |
| UniRef90_Q3A7K9 | Q D MAQQEMS K V'T G |
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| UniRef90_E8X0L9 | D EAMKS |
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| UniRef90_UPI0003B74BF9 | Q Q VA SEKLG |
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| UniRef90-UPI0002E055E4 | REEMAKAS |
| UniRef90-K0N661 | QEMVVSSEMGK |
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| UniRef90_UPI000427F976 | ETASAEA |
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| UniRef90_E3CZJ7 | $7 \mathrm{NQLLT} \mathrm{G}$ |
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|  | AKAE |
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| UniRef90_UPI00025561F9 |  |
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|  | Q K M EAAEM |
| UniRef90-R71AUO | E |
| UniRef90 ${ }^{-} \times 5 \mathrm{H} 4 \mathrm{~B} 2$ |  |
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| UniRef90-M1W | KEVMEKELSS ${ }^{\text {L }}$ T G |
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| UniRef90 C8N | NAMTQEEMAN |
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| UniRe990-K41X71 | S DVNDTEVS |
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D A A S NEEMGKMT
RKLTE K TMGP L
GK MA E E E LLA K V
DEA I Q Q QA L K

| $E$ | $Q$ | $H$ | $V$ | $A$ | $E$ | $T$ | $Q$ | $K$ | $L$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $A$ | $N$ | $V$ | $A$ | $E$ | $E$ | $K$ | $M$ | $G$ | $P$ |
| $L$ |  |  |  |  |  |  |  |  |  |


E DLTNETMGQFT
 E M A
E K A HE E K T E K A HE S S M S K Y T
D D Y G A A E M E K

T G | $E$ | $E$ | $N K$ | $K$ | $S$ | $M$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $H$ | $L$ | $G$ | $M$ | $G$ |  |
| $H$ | $L$ | $A$ | $E$ | $E$ | $E$ | H A L A E E E MTRQL K EVAARAMGPL

 QTD K S Q T M DKll VA LA Q S TMM P Q M
ESESAAVMSK ESESAAVMS K $\qquad$
E NVISQTEMMAAAT Q E V I K E K A G P L L G T NVVEA E L S A V
 $E K \square S Q A E T A A M$
$D S A T E Q Q M G K$ D S ATE Q Q M GK
D A I M EAE TKS AM G S DTAADKMKGVTG E A A S S E A M R DVTT G QK LT E QK
D A SMSSGLSSVT G DEESARLMKEAAG DQATEEKMGRFT $K K M V R E Q L S K L T G$ QENS
D K E $\square$ S $\square$ MQA G M QEVAA A E K L A G P L QELQQEKMG
E D L M M N T E M G K L T T K K K T S E E $\square$ S K V T G D E
DE LT G S E M GK LT T
 D E LLT E A E M GKV T EDKTNDTMGQF D DKIQAA
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$T K M A Q E Q L G S L^{T}$ $\begin{array}{lllllllllll}R & D & T & A & Q & Q & M & A & K & L & T \\ A & S & L & A & E & Q & K & M & G & P & L \\ & \end{array}$ DATASEEMKKVTG

A E EK N A T LE K $!$ S G
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 SHEAQGDMMGM
$A \quad I \quad L A Q T H L G B P A G$ EAMMAEKTQALTT Q K L T E E K L G
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D E A ME EAMKAAT
D A A S K A K L A A VT
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Q ELS E S K LLGGLTTG
D T NRKNMAMGMLLG K SLL S EKM GPL
Q A MA Q E K M G P ${ }^{L} L_{T}$

| Q A M A Q E K M G P | L |
| :--- | :--- |
| D D M V | T |

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TATMREKMEDLT G DEDSQNSLSG
Q D MVS K A M S K VT G
 LD DQK DK L
K K T T D S T M G


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 $A D \square V E G R S G G G M V / R$ A SAGGGMVK GVASS GLVV, K
LAS QEFVGTAPDDMVS QTQDELNSTEFVGKVANDAVVV

A T A G G GMVT
A T A G G G MVV
$G E S G G G M V K$ S V G G G A I A
GQSGAGLVR E V G G G M V $V$
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 L G R M I V I L N S K Q FI

G G
G T
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 $L D Q \| V V T G E A G G G M V$
$T Y E V S V G G E M V K$ $\begin{array}{r}\square A \\ L \\ \hline\end{array}$ A S A G G G V $V$ T

A S S G G G MV E
MK MLLGQLQE S Q QK $\square$ QN A KEAMKNEFLDEKS SD N L L E

 GK S G G GLVVT | $G L S A S G M V$ |
| :---: |
| $G S A G N G L V$ | $\square K K K F S D F Q E H Q K S Q M F E G S S Q G G K V Q$ LHETEFT $\begin{array}{lll}G Q A G G G & L V & Q \\ G T S G G G & L & \\ T\end{array}$ $G T A G G G L V R_{R}$ M D F S K MLLE Q A QE M Q K K M A D A K E S L K N $\square$ S VE

LA GKTMEVV
 MQKKDE S MQEELA QKELEDS S S DGLI E
$G Q A G G G M \vee V$
A EA GA GMVK
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M N $\square$ NE MLLK NA KR $\square$ Q S E ME K DE QVVA K Q S FVVVEK Q G M I K $\square$ D F S K M G S LVEEMQK K VK E $\square E A E N D N K E F S V K S G G G M V E$ TQEFTGKAADDMVV Q Q F LE MEASLEKKHYEGQAGNGLVVS
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GSAGGG LV
GS A G GKLVN
GTEPS GMVN
A T A G G GMVK LADKEFEATSGGGVVK
$F D M Q Q \square L A Q A Q Q M Q E M M V A A Q A E L A A A E V E G Q A G N G G V$
A K A G G G M



| UniRef90_G6A1J4 | D T K K A E A L K Q L |
| :---: | :---: |
| UniRef90-G3BMN6 | K EMVNEEI MKLT |
| UniRef90_C7N1L0 | A A K G T A R L N SVT G |
| UniRef90-E0WTV6 | A A I Q K E K L G |
| UniRef90-Q0G7Q3 | EAAILQEKTQAMT |
| UniRef90-A1ZPH7 | DVVAKE EMQKAT |
| UniRef90-A4AUN3 | S SVNETEL |
| UniRef90_UPI0003B34B43 |  |
| UniRef90-B1VIS5 | Q DL ${ }^{\text {A Q E K M G P L }}$ |
| UniRef90-R6MP56 | EADS A S S M S K |
| UniRef90-F7UZR7 | S ELSS S Q R L N A A T G |
| UniRef90-UPI0003A72FB4 | K D TSAKRLK S V ${ }^{\text {S G }}$ |
| UniRef90-S0EWA3 | Q NEQEARAQEIT G |
| UniRef90-K9SMB6 | TATMKERMEELTTG |
| UniRef90-V7EH74 | QQKMADEMRRMT |
| UniRef90-E6YG68 | DVI I E EK T K S VT |
| UniRef90_B8EP16 | ERLSMEEKMQGVT |
| UniRef90_UPI0004098CF0 | DEAQAKTMKDAMG |
| UniRef90_B0UP44 | ERAA QERMQELT |
| UniRef90_C7MLT4 | A DLS NTRLLNAVTG |
| UniRef90_UPI00035F7EFE | EATSNARMS GMM |
| UniRef90-B8G7M3 | Q Q L A E ERMQPLT |
| UniRef90_C7XWB2 | D A ATQQKLGKYT |
| UniRef90_Q38YT9 | DKQTQAKMGKFT |
| UniRef90-D3LTS6 | DEMMS EEMSK ${ }^{\text {DT }}$ |
| UniRef90-D3FQX4 | DELVVEQDMGKFT |
| UniRef90_UPI0002FB5 | D DTTNEKMGQFT |
| UniRef90_UPI00036E1AF9 | EEKSKEEQQKLM |
| UniRef90-R6AG25 | D EMVQ K G M S EVT |
| UniRef90_E3F434 | A ERSAQETRR |
| UniRef90-C0QUF7 | K EVMGEKMT Q A A G |
| UniRef90_R5Q763 | D D A A A S L K K |
| UniRef90_B6BTP4 | ES T T S Q K M S GL |
| UniRef90_UPI00035E0425 | GEDS K D K M K NVT |
| UniRef90-Q2JUS2 | A ETMRKRMEELT G |
| UniRef90-X8K1Q1 | DEASETEMSKVT G |
| UniRef90-D5ANY2 | QDKAGEEQRKL M |
| UniRef90-C9A4W3 | EKES EQT M G K Y T |
| UniRef90_UPI0004791B34 | QELAEKRM |
| UniRef90_UPI00037003A4 | D ALA Q Q K M |
| UniRef90-Q5HCH1 | SEHNKNFV |
| UniRef90-B1HS62 | E EKTNSTMGK |
| UniRef90-A8PNF8 | EKAS R Q K L N D L T |
| UniRef90_UPI0002625772 | QQRMQTALT Q Q F G |
| UniRef90_E4U902 | A ELS EK E |
| UniRef90-U9VNE6 | T ETMRERMEE |
| UniRef90-R6VX24 | D E ENTQMMQ |
| UniRef90-E7NS49 | KEAMKEK L G |
| UniRef90_UPI0003B78A63 | D A VSQQEEMGKMT |
| UniRef90-K4KQE3 | Q A MVVENGMAKAT |
| UniRef90_13ZX68 | Q NQYDAELLER |
| UniRef90_UPI00047CBB30 | DELVEERM |
| UniRef90-A4J0N3 | KEKAKEEVTKAT G |
| UniRef90_UPI000377DE0E | DEASQAAMKDAMG |
| UniRef90_UPI00036483EB | A ATTEQRMGG |
| UniRef90-C4LG87 | QS Y A Q EKMG |
| UniRef90-V9R9U2 | SDHNKNLVGSLL |
| UniRef90_V71093 | D D A T K TMGK |
| UniRef90-A4T623 |  |
| UniRef90_L1QN71 | DE |
| N N A L M R D A |  |
| UniRef90_Q6ABA0 | R A MQQSLMPQM |
| UniRef90-F213X4 | ESKT QEEMSK LTT |
| UniRef90_R7KLT1 | EK $\square$ T K EKMAA AT |
| UniRef90_UPI00017455DB | K EMAA GEMGKLT |
| UniRef90-A3XLM1 | K A TYDQE LAA V |
| UniRef90_B5JP10 | K A F NEEEMAKAT |
| UniRef90_D5RKM4 | EAMMAEEMQKAT |
| UniRef90_A0R5R1 | T $\square$ M A Q S R |
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| UniRef90_UPI000476EF54 | EVKK S E E L K K S T |
| UniRef90-N9V3A6 | E A Y D E |
| UniRef90_UPI00036E2E90 | E EKA QLELK Q K T |
| UniRef90_S3XXE1 | ENEKKNLASSKM |
| UniRef90_Q048W5 | D Q A TQQSLLGKY T |
| UniRef90_Q5L6F1 | DKELLSVMRASM |
| UniRef90-E4LAQ3 | D E M A Q G M S K VT |
| UniRef90_UPI0003F85C3C | DEAMKKQMGGM |
| UniRef90_UPI000471BF83 | K T T TEEK $\square$ GRY T |
| UniRef90-L0EIN7 | E EMANRDMSKFTG |
| UniRef90_A5CWX2 | A NASS AKMKT $\square$ T G |
| UniRef90-F5XH45 | QAVT A A K L G |
| UniRef90-A0A031HRS4 | D AVS GQEMSKM |
| UniRef90-D4IXH8 | DEVSAASMSKFAG |
| UniRef90_UPI000367DD8D | EVEVS K V M S Q |
| UniRef90-D4YEX7 | D TETANVMGKYT |
| UniRef90-D3R2B3 | A EKTASIMPKL |
| UniRef90-H2J349 | K QFKEEET EKIT |
| UniRef90-H6R8R8 | Q ELAAS E K |
| UniRef90_UPI000378E4F0 | E D NKKS Q A M G M L |
| UniRef90-U2ZQF3 | D QVANDEMGKM |
| UniRef90-W5SMP8 | K E EIIK S K T M G |
| UniRef90 ${ }^{\text {K }}$ [77V1 |  |





UniRef90 C0BEW2 UniRef90-A0A010ZPNO UniRef90-A0A059CRW6 UniRef90 H3NCD2 UniRef90 D4M193 UniRef90-Q3KFA7 UniRef90-I7KHRO UniRef90 C5R928 UniRef90-W4CCE7 UniRef90-BgDVQ2 UniRe990-B7ICU2 UniRef90 P67267 UniRef90-LOF 188 UniRef90-UPIOOO4719950 UniRef90 H3NHRO UniRef90 U2W399 UniRef90-W9E3B4 UniRef90-Aз UniRef90 C7ND68 UniRef90_EELBDD UniRef90-B9KAU2 UniRef90-UPI0003B351E3 UniRef90- UPI000479B338 UniRef90-F6INH9 UniRet90-B9RNV1 UniRef90 W6TSM0 UniRef90 CoEFC2 UniRef90-UPIo0036D8A17 UniRef90_B1C8Q1 UniRef90 E1ZSD4 UniRef90-Bos9V6 UniRef90-V6Q4M5 UniRef90 R5HKA6 UniRef90-Q5N376 UniRef90-_33JBR9 UniRef90-R1FFN9 UniRef90_UPIo0036E55D0 UniRef90-H1Y084 UniRef90 G5KC97 UniRef90 ${ }^{-}$W2BYC6 UniRef90-UPIOOO249222A UniRef90-M5U3H2 UniRef90 R7HW03 UniRef90-UPIO003664056 UniRef90-U5FAW1 UniRef90 T0Y5H8 UniRef90-UPIO00374789F UniRef90-W1TR45 UniRef90-B4WDX9 UniRef90 W7CE30 UniRef90 ${ }^{-}$V5XIP7 UniRef90-EOE2K5 UniRef90_D8TLU9 UniRef90 V5S104 UniRef90-UPIOOO3457665 UniRef90-UPI0002B49FC2 UniRef90 G8TVQ2 UniRef90 UPI0003F4BC95 UniRef90-A8LVA4 UniRef90-UPI00036C4C42 UniRef90 R4L672 UniRef90-15BW75
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UniRef90 UPIOO0249135B
UniRef90-UP1009 UniRef90_A2U2U8 UniRef90 ${ }^{-}$NoC8F6 UniRef90-A7HPP6 UniRef90-R6VA32 UniRef90-D8QSN0 UniRef90-A5KSV2 UniRef90-R5WOU6 UniRef90_UPIO0016B219E UniRef90 $\times 5 \mathrm{Jg} 90$ UniRef90-U5VPA9 UniRef90-H8YZE8 UniRef90-K9VZ17 UniRef90_Q4A6Z6 UniRef90-U4KM12 UniRet90 A5AE12 UniRef90 C4XFW2 UniRet90-G8R8R0 UniRefono- 5 V9S3 UniRet90_W6TKEO UniRef90 UPI00037F78AF UniRef90-RTNGR1 UniRef90-V6ZPE7 UniRef90 Q47TY1 UniRef90-R7IGY1 UniRef90_R9JBB6
 $N M N L Y$ D TVVK K A QMVQQVEAVRVQKELAAAEFA GYCE GELI K GSANNDLVQ
GKAGGDLV ${ }^{\top}$ IEATTFYGTSAQELVK $\square$ A K T D Y $\square$ G H A P S DVVL
$L A A M T F V G K S A Q D L V T$
S NVEVEVSVGGGAIK $\square A A M Q F V G K S A Q D L V Q$



A SVG G GAVR
 A G L M G N M Q NLYE TVKK A QKELA VA EF D GYCQDELI K A Q S A G G A V K

A T S G G GA M V NMGNLMENLKKA QAMVQKVQEELANTDFDGYSADE TVR NKFDMLLK QMKKMRS QVKTMEKELAVLNFVGDSKNKLLS $N M Q G M M K Q V Q K M Q K E M V A A Q E A L E K K E F E G R A A N D L V V$ GEAAGGAVK G QA Q G GLVK GAASDDTVV LG D $\square \mathrm{EV}$ S S S T G G GMV K
 $D \square M G M M G K D N S F K D K F S D L K S E L D G E I F T T T S N D G K V K$ $M F D K L F E A Q Q K A G E V K S R L D S D T V T G S A G G G V V V$ $L A A Q E F V G K S A Q D L V V$ ATA G G GVV T
 GEAANGAVK LASQRFEVEGAGGKLR $L N K Q T Y D S T M G G G V V K$

$G E S G A G Q$ FTGKSAQE L $V{ }^{T}$ | $L$ | $V$ | $T$ |
| :---: | :---: | :---: |
| $L$ | $V$ | $T$ |
|  | $V$ | $K$ | $L$ V Q

FDMKNLMESVKK A QQETARVQSELDNTEFEGYDEEETVR DF LGMMKQAA QLQSKMKAMQTEGE Q $\square E V E G L S G G G L V K$ $F G N M Q K L A Q K V Q V E A V R D Q K E L A A A E F D G Y C E G E L I L K$
$D \square S$ GMMSKLKE T Q Q K VE E T K Q R L N NVLID E T S S D G N $\square K$
QF LDDHARAFEQQMRDAQT DLEKAVVTGRSHDRTVTT LADEI L EVVSGGGGAVS MQEF LD HAKAFEQQMRDAQGDLEKAVVTGRSADGSVT $D$ LM G LIM GKAKEMQAKFQAMQEEMAEMEIE GQAGGGTVV $N M Q N L V K K A Q M V Q V E A V R V Q K E D S E A E Y D G Y C E G E L I$ K $M$ GMF G QMK DMYK I QK QA KE I K K E L S R L H DEAE LE G GKAAGDLVT GESEGGLVL $D \square T$ GMMGKLKEA Q Q K VEETK K R LD TVLVDENSADNKI K LA A T E FVGGKS S Q D LVV MF D $\square M K$ QA Q Q LQ S RMQDMQAELSAAEVEGRAGGGLVV NMQELLYQTVRKAQQVVQKVQKELAATEFDGYAGEGGAVV MFNQAKMVM KLKKAQKELAKEVVEVAAGDGAVT $K M \square N E L R K A Q K E L K K Q Q \square I D A A A G E$ E T G A
DFQGFLDNARAFEQQMDDAQSDLERAVVTGRSGDGTV
 GQA GNG

NMQNLYETVKKVQVEAVKVQKELAEAEFDGYCEGELI QAMLRKMQKLQQEVQEKTEQFMEETFKLEKHG

ESNNGKIK
SAGGGIV
MFDK $\square$ MAA QQKADE $\square K K R L D T \square S V F G E V E G G A I R$


LE T K E F S A K A G G GA V

## UniRef90_COBEW2

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UniRef90_UPIOOO36E55D0 UniRef90-H1 Y084 UniRef90_G5KC97 UniRef90-W2BYC6 UniRef90-UPIO00249222A UniRef90-M5U3H2 UniRef90-R7HW03 UniRef90-UPIOOO3664056 UniRet90-U5FAW1 UniRef90-T0Y5H8 UniRef90-UPIIO00374789F UniRef90-W1TR45 UniRef90-B4WDX9 UniRef90 W7CE30 UniRef90-V5XIP7
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UniRef90-A7HPP6
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UniRef90-U5VPA9
UniRef90-HBYZE8
UniRet90-K9VZ17
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UniRef90_U4KM12
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UniRef90_C4XFW2
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UniRef90-W6TKEO
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UniRef90-Q47TY1
UniRef90-R7IGY1
UniRef90 R9JBB6
,

URef90_R9JBB6
 VTLTGDKKVVKVDIKEEAVDDKEMIEDLVQLAMNDABDQV VTVSGKREVTKVKLAEEVVDDVEMLEDLIVAATNEALRQV
 ATFNGDRELKDL
 KNELLEL

 1
$V$
1
1
$A$
$A$
$\square$ KKELKS VKMGEYEVKEVV


## A <br> -杜

 $A V V S$ GE KL V Q S
VICDGQGRFKSVK
VWVSGNQEPLRAE VTFNGEKKMQDAEAPEALNEAEVLSELVAAAMKDAYOKS
 VVISGAQVPMDVKVSEDLCSKAEAVSDAISLAMREAHKNS
 AVVNGKKELKSHTVDPDVVDPDETLADVVMAAVNEGLRQU VKFTGDKKMQDIAIKAEAIDDPDMLQDLIDMAVNDAMDQU VICDGQGRFKSIKLSAEAIDTVEMLEDII SSATKQASDKA AVASGGGQLDDLWIARELVADAQMLAELIDASVREALDRA



| $V$ | $A$ | $L$ | $K$ | $G$ | $A$ | $G$ | $E$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $V$ | $T$ | $A$ |  |  |  |  |  |
| $V$ | $T$ | $V$ | $A$ | $G$ | $N$ | $K$ | $M$ |
| $V$ | $Q$ | $S$ |  |  |  |  |  |

$V$ T M K G S G E V I $G$ K $\operatorname{V}$ V
V
VTMNGNQEPRSVE
 VLTSGLGQLKAVQVDPRVFDDARQLQD
ATVNGKLGIVDLKI AEQIRNDPTTDYDLL
$V V V S G N Q E P R S V Q I S N D A L N Q A E A L S A L V T Q A M K D A Y E K S$



 V T A T A N K A V



| UniRef90_C0BEW2 | $\text { DEANTSAMS } \stackrel{90}{\mathrm{~K} \square \mathrm{~L}} \mathrm{G}$ |
| :---: | :---: |
| UniRef90_A0A010ZPN0 |  |
| UniRef90_A0A059CRW6 | VLA M K ERMS |
| UniRef90-H3NCD2 | D A E D ERVMGKY |
| UniRef90-D4M193 | EQETNA AVSKMT |
| UniRef90_Q3KFA7 | EANSQAKMGSMT |
| UniRef90-17KHR0 | DKT TEQK L G K F T |
| UniRef90-C5R928 | EQDQQKRLGGQ |
| UniRef90-W4CCE7 | DEDANKDMGKFT G |
| UniRef90_B9DVQ2 | DEATKKTMGAFAG |
| UniRef90-B7ICU2 | EK $\square$ R E E EMAK VT |
| UniRef90-P67267 | DETTKKKLGAFAG |
| UniRef90_L0F188 | E EMTS S EMGK LT |
| UniRef90_UPI0004719950 | ENEKKNLA L K M M |
| UniRef90-H3NHR0 | E DKTQASMGQFT |
| UniRef90-U2W399 | E E S Q K K |
| UniRef90-W9E3B4 | K S K T TEEDS KA T G |
| UniRef90_A3UBH7 | TE $\square$ N E A E $\square$ GAVV |
| UniRef90_C7ND68 | E EMAEKEMEVVT G |
| UniRef90_E8LBD0 | DELLTEKEMAKVT G |
| UniRef90_B9KAU2 | EK RREEEMSK IT |
| UniRef90_UPI0003B351E3 | K K T N D D T M G K F T |
| UniRef90_UPI000479B338 | T S VNEAELLA A V |
| UniRef90-F6INH9 | DSVA N E ELLA K |
| UniRef90-B9RNV1 | VK A M K ERMSNL |
| UniRef90_W6TSM0 | QK K R E S M K E |
| UniRef90_C0EFC2 | E ERS DE DITQRIT G |
| UniRef90_UPI00036D8A17 | DELLS S E RLLGQHT |
| UniRef90-B1C8Q1 | SS DANSKM |
| UniRef90-E1ZSD4 | VD GMKARMR Q L |
| UniRef90-B0S9V6 | QA GAAKQMQAMGG |
| UniRef90-V6Q4M5 | A T ETEKTMGKY |
| UniRef90_R5HKA6 | SKEMEAKMKQAT G |
| UniRef90-Q5N376 | T A A MKEKMEALDT |
| UniRef90_J3JBR9 | DQETEQKMGKYT |
| UniRef90_U2U4Q0 |  |
| UniRef90_R1FFN9 | M E Y S K Q K L G A |
| UniRef90-UPI00036E55D0 | K NEA $\mathrm{K}^{\text {d }}$ R AKK |
| UniRef90-H1Y084 | E N $\square$ S Q T E M A A M T |
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| UniRef90-W2BYC6 | EEMTNDEYGKLLT G |
| UniRef90_UPI000249222A | DKKTQSTLGK |
| UniRef90-M5U3H2 | K Q L |
| UniRef90_R7HW03 | GK TMEEKMKAVTT G |
| UniRef90_UPI0003664056 | RRASEAEMQKL |
| UniRef90-U5FAW1 | VK D K E Q M M AL T G |
| UniRef90_T0Y5H8 |  |
| UniRef90_UPI000374789F | D E L A T T K M |
| UniRef90-W1TR45 | D EAT |
| UniRef90-B4WDX9 | DEVNNALMREAA G |
| UniRef90 W7CE30 | ETQTAETMGKY T |
| UniRef90-V5XIP7 | T I LA Q |
| UniRef90_E0E2K5 | DELQ K S Q M G K L T G |
| UniRef90_D8TLU9 | VA GMKEKMRE |
| UniRef90_V5SI04 | EATLLQEKMSEMTG |
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| UniRef90_UPI0002B49FC2 | VLA M K Q R M S D L |
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| UniRef90_UPI0003F4BC95 | GDINEHEMG |
| UniRef90-A8LVA4 | SKLA EQKMGS |
| UniRef90_UPI00036C4C42 | KKKNDEAMS GLTT G |
| UniRef90 R4L672 | G K L A T Q K M G |
| UniRef90-15BW75 |  |
| UniRef90 W9S3C2 |  |
| UniRef90-K2AQB4 | Q S $\square$ A A D K M K G VM |
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| UniRef90_L8LS97 | KENME LTRMEELT |
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| UniRef90_A7HPP6 |  |
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| UniRef90-R5W0U6 | D Q A M K A M G Q |
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| UniRef90_X5J910 | D HK】QA |
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| UniRef90 H8YZE8 |  |
| UniRef90_K9VZ17 | TATMRERMEDL |
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| UniRef90-C4XFW2 | DEEQEK L M P A MPG |
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| UniRef90-W6TKE0 | DQVSATEMQA A T |
| UniRef90_UPI00037F78AF | AKIHEHETAA |
| UniRef90-R7NGR1 | D K EVVENMGA |
| UniRef90_V6ZPE7 | QELAAS Q R L G PL |
| UniRef90_Q47TY1 | E E I Q Q Q K M G PL |
| UniRef90-R7IGY1 UniRef90 R9JBB6 | DKETESKLGS |



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UniRef90 Q6KIL6 UniRef90_R5MWA6 UniRef90_A0A024FL43 UniRef90_R5TC68 UniRef90 R6UHJ3 UniRef90_B1ZW43 UniRef90_K9YV25 UniRef90_F4L746 UniRef90 Q83VB3 UniRef90_K2FYQ4 UniRef90_A0A023HW07 UniRef90 W2BQL5 UniRef90_C5J6H9 UniRef90_M5SA12 UniRef90_UPI00036E57B6 UniRef90-K1YWM2 UniRef90_D1J7N3 UniRef90_F0XV96 UniRef90 R5Y840 UniRef90_A1HPF0 UniRef90_A2TVT8 UniRef90_UPI00036A1F24 UniRef90 D7CK18 UniRef90_KOUC96 UniRef90_UPI00037D7A70 UniRef90_UPI0003D01E48 UniRef90_W7SM69 UniRef90_G2KR13 UniRef90 X5L7L6 UniRef90 UPI0002F2B67C UniRef90_F6CQ69 UniRef90_B9Y575 UniRef90 UPI000365FC58 UniRef90_D2PYN7 UniRef90_A9B9L9 UniRef90-M2ZRI9 UniRef90 UPI000262615F UniRef90_K9Z1W7 UniRef90_R6M1S0 UniRef90_K1Z2T3 UniRef90_A4F5X0 UniRef90-H5X0A1 UniRef90_UPI000467008E UniRef90 G6ENS9 UniRef90-M7N7F2 UniRef90_UPI000363B8E8 UniRef90 R6HQJ7 UniRef90-UPI000362AD84 UniRef90_LORYG2 UniRef90_Q7NXL5 UniRef90 Q7NAN6 UniRef90_W7TA98 UniRef90_H6MY63 UniRef90_M3TC41 UniRef90 M4CVM5 UniRef90_D5X7P1 UniRef90_UPI000474F532 UniRef90_UPI00037DA3A2 UniRef90_UPI0003B7B196 UniRef90_UPI000378C4C4 UniRef90_A4X266 UniRef90 D9TC02 UniRef90_UPI0003746C59 UniRef90_F7NNE7 UniRef90 R5SSX8 UniRef90_UPI00034AA81A UniRef90_S9W3C8 UniRef90_D2BAV8 UniRef90 K0K4I7 UniRef90_A4X1E9 UniRef90_K2CZD8 UniRef90_G8SGN4 UniRef90_K8LU99 UniRef90-K1X440 UniRef90_UPI00037BE43D UniRef90 W7TS67 UniRef90_B2KE89 UniRef90_D3EQA5 UniRef90_B0CCD4 UniRef90 B1AI74 UniRef90_R5A8H6 UniRef90_UPI0003701FDD UniRef90_UPI000360F075

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| UniRef90_Q6 |  |
| UniRef90-R5MWA6 | D A A M S S |
| UniRef90-A0A024FL43 | TN\NETEDAAD |
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| UniRef90-B1ZW43 | K ${ }^{\text {P N D A EMQK }}$ |
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| UniRef90_B9Y575 | VK DK E ERMNK $\square$ T |
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| UniRef90_A9B9L9 | T S T MKERMQELT G |
| UniRef90-M2ZRI9 | A DRTLEDMAGLTG |
| UniRef90-UPI000262 | A |
| UniRef90-K9Z1W7 | T T T M |
| UniRef90-R6M1S0 |  |
| UniRef90-K1Z2T3 | QRT $\square$ A M K |
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| UniRef90-H5X0A1 | S E QL |
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| UniRef90-G6ENS9 | DEATKKSMGAFAG |
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| UniRef90-LORYG2 | Q E A Q |
| UniRef90-Q7NXL5 | EATTQERMSGFT |
| UniRef90-Q7NAN6 |  |
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| UniRef90-M4CVM5 |  |
| UniRef90-D5X7P1 | K |
| UniRef90-UPI000474F532 | D |
| UniRef90-UPI00037DA3A2 | A GR $\square \mathrm{EEL}$ ¢ |
| UniRef90_UPI0003B7B196 | DEEQEALN |
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| UniRef90-F7NNE7 | REMRQKAMDQLAG |
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| UniRef90-S9W3C8 | HALMAEAEKNI |
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