## QUERY

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 M S V V V E K L E K S M A K L T I I E V A A D D F D K A I D K V F N K Q K S K I Q MAANWEKVENNQGVLTIEVDATQVDAALDQAFKKVVQKVQ
 MPSSV DRLS P T RVVKLTVEVVS DDLLKPSMDKAYREIAAKSVN MSVVVVENLEKNMAKITVVVSAEDFAQAVEQAYQKTKTRYN
 $M \mathrm{Q} V \mathrm{~S} \square \mathrm{D}$ I M K A T K E T L S P T R V K L T V







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

 $M Q V S V E V S E G L E R K M T V A V P A A E V D S A V K Q K D Q E T A K R A K$ $M Q V S\|Q T T S G L E R R L T I G V P A D R\| D S E V N T R L Q K A A G T V R$ | $M$ | $T$ | $A$ | $K$ | $W$ | $E$ | $K$ | $Q$ | $E$ | $G$ | $N$ | $Q$ | $G$ | $T$ | $L$ | $T$ | $V$ | $E$ | $V$ | $D$ | $E$ | $K$ | $F$ | $N$ |
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 M P S T V E K L S P T R V K L T V E I P F A D L K MDVSVENPGGLARRLKVQIPAERVSEAVDAKVKRVGQHAK
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 MS L Q V E KLL K K N A K L TVVEPAE QFEKAI KKAFNKNKNRFN
 $M$ K S T V

 MS VQVVEKLE HNMAKLI I EVVEASKFDAAMKNAYNKKK G SFN MT AKWEKTEANVGVLEVVVASERFAKALDEAFKRVVKRVN MSVTVVEKLDNNMAKLKITTASAEQLEKAIDEAYQKNKGKI Q $M K S T V E H L S P T R V R L N V E V P F D E L K P N F D R A Y K E L A K Q V R$






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 IP GFRRK G K V P A A V I D Q R DG R A V L S E A V Q E A L P E Q Y M A A V R $\begin{array}{cl}M P G F R K & G \\ V & \text { P G F R R G K V }\end{array}$

 $V P G F R P G K V P P P I \quad D R R I G R G V L D Q A L N D A I P Q F Y G Q A V D$ $V$ N GFR K G K V P L K V V R Q R F G A GV R Q EVV G E V M S R S F Y D A V Q V P GF R P GK A P A K LI E A R F G A A V L Q Q V V N E A L P S R Y T E A V T I P G F R K G K A P R H M I E R M Y G K E I I F E D A A N E L L I N Q E Y P K A V $M N G F R P G K V P F S V V K K R Y G S S V V R Q E V L G D V M Q R H Y E E A V Q Q$



V $V$ P GF R K G K I P A RVI D QR F GRA V L E E A I N D A L P K F Y T E A V N $V$ P G F R P G H A P A K L I E S R I G R G V L E Q V V I N E M I P S R Y Q A A L E




 $V$ P GF R K G K V








 $V$ PGFRKGKVPAPVI DQRFGRAVLQQAINDALPEAYNQAI Q

 I P G F R K G K V $V$ P R S L F E Q R F G E S L M Q D A L D I I LIP EA Y G S A I E V DGFRKGKVPMSLVAKRYGQSVRQDVLGEAMQRNF\|EAI V P GFRKGKVPRTI FEKRFGEALYQDALDDLLPDAYAKAVE


 $V$ P G F R P G K V P A R I I D A R V G R A V L E Q V I N E S L P G R Y S E A V S



 I P GF RK GKAP QAMI EKM Y GVVGVYEDAA DEAINNETYA DAMK L N G F R K G H V P M A V V H Q R Y G K D V R N E V V G E I M R Q H Y V T A V T


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 MS FSI ETGEGLKRRVTINVPADKI EAAYKEQLKGYAKNAR MKSSVEQQSATRVKLTVEVPFDELQPEDDQAYRSDAQQVT MS LIKVENLGKNMAELTVTVSAEEFDKALTESFQKNKSKFN MKSTVEQLSPTRVRINVEVPFEEDQPDFDRAFKALASQDR MTANWEKQEGNTGVLSVVEVSSERFDNADDEAFKKVVKQVN MSVKVEKTEKNRVRLEI EVVAAKFEEGLQK SYLKNIKKFN $M Q V S V E T T Q G D E R R V N I T V P A A T L D N E V K S R G R D V A K R Q R$


 MK SAVETLNPTRVRLTVVVVPSEELKPSLDAAYKKDGKQVT MSVKMEKIEKNTVELEVTVDSKEFSAAVTKQAKVLAKKVN MSVQVENLEKNMVKLTIEVAEDKVAEALKAAYNKQKNKIS MQVSVEKLSNDERRLTI IVPANQVEEAYAKHDDRFAKNAN $M Q V S V E V L S N L E R R M T V Q V P T D H V E A E V E K R L K K M L K T L Q$ $M Q V S V E T T E G L G R R V L I T V P A A D I D K E V T K Q L A E I A K K A R$ MKTDVEKDEETRAKLTVQVPYEDLKPEIDKVYKQLGKQVS MKSNVEKVSNLSRKLNI EVVAAAVQTAFQKIFNGI QKEVT

 MKTTVENLAKTKVKLTVEVPAEELKPAMDKAYKEUGQQVN
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 MKSALETLSPTRVKMTVEVPFEELKPSDDAAFKHIGEHIQQ KKEGNE GVLTFEVTPEEFEVALDKAFTKVVKTVQ $M Q V N E T L N E G L K R E F T D V V P A S E \square D A E L N G R L A E L A P Q M S$ MKVNDKKLK DLERKDTI SVVPVDDYQEKFSSKIRNIKSKAK MEVKKEVLEGNKVKLEI EI ESERVDEALEQAYRQVVKDVE $M Q V S V E K T S E L S R K M V V S V P E D V V Q Q K V A E R L K S L S K N V K$




 MTVKWEKLEGNQGVLTVDVEAEKVNEALDQAFKKVVKKVN MQVTETNAEGLKHDFKVVVPAADIAAKSEARDKELSTQVK MSVSFETKETNHGDLTFTIAQADIQPEDTKVFNKMKKDI A

 $M Q V T E T L S E G L K R G F T V Q V P A T D L E E R T R R D A E L A K T L K$

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 MQASI ESTGNLERRLTFTLPQERLDETHVGGRLDRELARTTR MKANAERDEKNTVLLEVEVDADQFSQAMDRAYRKLVKKVN $M Q V S V E N V G K L E R K L T V K P A E R F D T Q V N E R D A E M G R T V R$ MNTKVERIENNVVKI EVTVPVENFKEALKKSYEKNVSRFS MTAK WEKTGTNEGKLTFEVGTDMDKEGVDKAFQRTKKSLN $M Q V T E T L S E G L K R G F T V T I P A A D L K T K G D A R D K E V A A S L K$ MSVKWERDSDAKGTLTFDI DTETIQKGIDHAFTRTQKRIS $M Q V T E T V N E S L K R E Y K D V I P A A D I A E R S A R R L E E L K G Q M R$ MAVNVETLEKLERRTTLTLPASVINSEVEARLRKLARTVK KASVERLENNQVSLQI EIDEATFEQGLEKAYKKVVRQVA MSVEVQKLEKNMAKLTVTVEAKEFDKAI AESFKKNKNRFN MKAELDKKEGNQVTFKI TVDNDKFEGAVTKAYNKNKGKFN MNTKIERVENNVVKLEI TVEKEKFNEAIKKAYKKNVKRFN MKVTKETVEKS RVELCT EVVEAE EVVSKAYEKAYKKIVAKVV MKSSVEQLDPTRVKISVDVPYAELKPSDDEAYKTIGGQVT



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 NSTVEOLSPTRUKRHITVTPEELKPSISHAYEHDAEDDO AEWNKKDGNKGELTEKIDDOKTKEGLDKAENKNKSUK MANAVENDEKLERRLTTIPVTDTTEVEKRLKVRARTAK MKASLEDISQVKKKLSVEVDAKEVNKKLDDAYGK KKKQTK MQTVETLNEGLKRAYTVTITSKDIDARVEKEVKAMAPQVR $M K T Q V E S M S P V K K R M S V E V P A D E V A R E E E A A L R D V R R S V T$ MEAKMEKLENNVVKL EVBVEAEKENEALKKAYNKNKMHEN KSTVKERTDSEVRLEVTIESSTVNEKLDEDYNTVOEGD MSVVVENTENNEVKLSFVVAKKEDEAMKVVAKTAKPET MSVNVEETVPGRKELVIEVPADAVEAEARVVGEEGRKAS

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 M K A Q I Q V T E GLLAR K L N V E I P A E V V A SAA F


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 MS A K WE RLS GLERR V L







 MKMEMTELGPMKRALKI EVVADDEVN LRFVQAYSELNRQVR


 MK $\square$ S F ENP DKI NGLLTVVVEEEDYKNDVEKTLKDYRKKAN NPELTREIVVEAPA EDVTAAFAKVLKTYQKQAR $M Q V T E T L N D G L K R G Y A I T V T A A E L D A K V E E K L K E A A P T T D E$
 $M Q V T E T L S E G L K R E Y K I V L P A G D L A A R L N G Q L T E M K S K A R$
 $M Q V T E T V S D G L K R Q L K V V V P A A D L K V K V E S K L Q D L T S K V G$
 M QPVVETLS GLERRVDLAVSVAEVEKEVQAQLKRVGRTAK

 $\begin{array}{lllllllllll}K & A & L & E & R & A & Y & Q & K & Q & K \\ K & S & \square \\ K & E & D & D & T & A & Y & N & E & L & K\end{array}$
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 $N A V F T K G D G N N G T L T F D V P V D V Y E K G I D Q A F Q D V K K D V A$

 MTVKSEKLEKSRVALTI ETSAEEFEAAVNKAYLKMRGK $\square N$
 $M$ QV K I E D Q S S V K K K L S F E I P K E K V M QVSEILLNS GLKREIVVTVPAEDMEARLMARLEDAKNKVR




 S TVV D KlV S D T R V K L T V $M T A K W E K Q S G S G G V L T Y E A P A E A F D K A V D Q A F K K V V K T L N$
 MNIT RE QVDAL NATVVKVAITKEDYTEKVEKVLADYRKNAS
 $M K I T V E H L P Q S T V R L D I A A D P E E F D A A L E R A F R R D S Q Q V Q$ MKAELDKKEGNKVNFKITVDRKSFDLSVEKAYKKTRKNYN
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 $M D S Q L E Q \square T S V E C R D R V T V P W T D V G P R L D T K L R T D G R R A R$
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|  | EHELSPLGRPEV |
| UniRef90 UP | St GDRPAMQPSVKMTNWKEGDDVTVEVSYEKLPEVED |
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|  | DNK\| QML GEPPLQEPQDLEKPAPYTFQFDVAVAP |
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|  | ERGLRPALQPKV |
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|  | ENNIEAVSKPEVETKQIEKGKDLIFTAVVQTKPEVT |
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|  | K RVAGSP L T PKEGVADDTLAFTATFEVYPEVTV |
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|  | P LPKEDDWDFNDEFVFNYELG |
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|  | DNKLEVLGQPLPKVDQWDFEDTFEFSYEVGLAPDFK |
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|  | EEKLDVLGNPEDKEQEDWNKDNYTFEFEVGLAPEFEV |
|  | EQELNVVGYPEVELESCTKDGVVFKCTVAIAYPEVKL |
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|  | ENELTP |
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|  | LINLEVVDSPEVDFDKVEEGKDLLA HDSVDVKPEIEEL |
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 $M Q V T E T L A E G L K R E I M V V I P K R D M E A R D N V R L A D A K D K V R$ $M$ K V E V K K DV



 $M \mathrm{~K} V \mathrm{~T}$ Q E K

 M S $M$ Q PVI V


 NKVATNQYELEIAVEKDTGQEAVQKAYRKNVAKMN MSVTVVETLENLERKIVLSLPWAE DNE ETDKRGKQTQRRVK

 M QV T E T K A E G LK R E L







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 $M \mathrm{E}$ L
 $M Q V T E T L N E G L K R A Y T M V D T N A D L E A K V D E K L K E A Q P Q V E$ K A I E G A Y Q K N K K N V

 $M \mathrm{~N}$ M S A T V E S I E K N $\square$ A T L K I E I S P E D Y S K A V K K S Y D K N K K R F S
 M K V T Q E KL L P A S Q $\square$ GLLD I I I S P E DS K N A YE K VI N Q Y A R S A N
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 $M$ Q D L G E T V Q N L S H R R K I


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 FNGFR Q GKVP DKLVDRDYGKAI R QDVI DKAMQHYBILEAVI ID G F R K G K A P R K I I E S N Y G N D I Y D E A L



M

 VP GF R K G M V P A S L V K K M Y G K S A IA E EVVNK L L S E Q I K G G F R P G K K A P R K V P GF R P G H A P R K L V E K R F R K EVVAN QVKGS L L M D S M A Q A S D I K GFRKGKVPLNII RSYFRDQVQADTVRKIVEDTQQPGLD L P GFRKGKVPRSVLVQQLGVVI K A T A L E K L I D S A WR D A I K | $I$ | $P$ | $G$ | $F$ | $R$ | $K$ | $G$ | $K$ | $V$ | $P$ | $R$ | $P$ | $I$ | $L$ | $L$ | $Q$ | $R$ | $L$ | $G$ | $A$ | $R$ | $I$ | $K$ | $A$ | $A$ | $V$ | $L$ | $D$ | $E$ | $L$ | $I$ | $Q$ | $D$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $I$ | $F$ | $K$ | $K$ | $A$ | $I$ | $E$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $I$ | $D$ | $G$ | $F$ | $R$ | $V$ | $G$ | $K$ | $V$ | $P$ | $M$ | $N$ | $I$ | $V$ | $I$ | $Q$ | $R$ | $Y$ | $G$ | $S$ | $S$ | $V$ | $R$ | $R$ | $D$ | $I$ | $I$ | $N$ | $N$ | $M$ | $M$ | $Q$ | $Y$ |
| $H$ | $F$ | $L$ | $Q$ | $S$ | $I$ | $H$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

 $V$ K G F R K G K V P P S S I I E S S K F R K K QV Y G E A T T D L I N Y Q IM N E I M N
 $V$ V GFRKGKVPRAMI EKMYGAGVYEDAAN LMQQTYAGAVD I K GF RPGKAPRSIL QRYYGKEI E QEVSQELFHQSLDNEALQ

 VP GF R K GK L P K QL I EQRAGFDYI VEALNDALNDY YA QAL G | $L$ | $P$ | $G$ | $F$ | $R$ | $K$ | $G$ | $K$ | $V$ | $P$ | $R$ | $H$ | $L$ | $L$ | $Q$ | $R$ | $L$ | $G$ | $K$ | $R$ | $V$ | $K$ | $A$ | $E$ | $A$ | $L$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $I$ | $K$ | $L$ | $V$ | $Q$ | $D$ | $G$ | $L$ | $E$ | $N$ | $A$ | $L$ | $K$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $I$ | $P$ | $G$ | $F$ | $R$ | $K$ | $G$ | $H$ | $V$ | $S$ | $K$ | $E$ | $L$ | $F$ | $L$ | $A$ | $R$ | $F$ | $G$ | $E$ | $A$ | $L$ | $Y$ | $E$ | $D$ | $A$ |
| $L$ | $N$ | $A$ | $L$ | $L$ | $P$ | $D$ | $I$ | $Y$ | $D$ | $Q$ | $A$ | $V$ | $N$ |  |  |  |  |  |  |  |  |  |  |  |  |



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K E K M N P V





## S

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$K E K G M L G N P L P V V D G D E A D D F Q F Q F E G G A P T F E V$ KEKVGMLGNPLPLVKDIDEADDFQFQFEDGLAPTFEV <br> \section*{E} <br> \section*{E}
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 $M$ QV K E T V A D GLLK R E F E V
 $M Q V T E S L C A E M M R E F T I V I S A K E L E A E L T D Q L A K G A Q Q V T$
 $M K L T K E N L E K S A V K L T V T I A K A D V E Q S Y K S T L S K Y V K N A Q$ SKEGNKVEFKVSVPAAEVNRAYDQVWAGLARDVR TKTKENTYEVEVSVDAETFAKACNKAYKKQVKNIN QTEEVK E L G N HE Y Q V V H V T V P Q G E Y D R $\square$ $M N 1 T R N N V D A L N A D T \| E L A K E D Y Q G N V D N V L S N Y K K N A N$
 M K V K V M NVTLLQNTDAVSARLTVSVEENDYKEKVLDALKKIGRNNQ

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 M N T T $\quad$ I $\quad$ E K K MD $\square T L D K K D D L H A L L T V L T E A D Y A P T V E S K L K E Y S K K A B$ VKT T A C P G




SSTMKT DVNTTEELLIVEI DAAA FEKAVEAAYQRQKKNDTT
$N V E R L E N S K V R L S V T V A K E A A Q K E Y D G Q L D K Y S K K A C H$
$E \square K S K E K N T V S F D V V L K D K D \square K D A E T E V Y K K N K K S L Q Q$



 M N TQQVE TME K S E V K K L TV V V E G A K V T A A D D D K A Y E A M K K D F N

 ETTD G L S R T Y K VK VP A S D L K T R L D E R I E E DR P QMR
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I PGFRKGHAPLGLIKKQFGTSTKVDEVNRAVVNAGFGYVD
IKGFRKGKAPVAMVEKLYRPQVESDALNNFLQKELFEAVN
AGFRKGKAPRRIIENNYGKGVYEDA DVFPEVYPSALD



NGFRPGKVPLTHLRRLYGRAVMADVVQSAVNDANRQVVE
LKGFRKGRVPVAHLKKVYGKSUMADLVNEVVREKPTEILT
KGFRPGKAPVDLLKKQFAQALYGEVLEKILQDNTYQALN



VPGFRKGKVPRQMVEKMYGPEIYEDAANALDPDAYSKALD
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1
MKGFRPGKMPFGMAKKITGGAQAKMETHNKLLENKLIFSYVR
IKGFRPGKVPQNHVRKLYGKELMGEIVQETLNATTEQAMK
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IPGFRKGKAPVAVLAKKFGGALHKDTISALVQAHYGSALD
LPGFRKGHVPMKQVEAMYGMRAFDEALNELVGQAWSKAAQ
LKGFRKGKVPLPLLKKQFGQRVLGEAMQESVDDAMKAHFE
LKGFRPGKAPLSLVKKLYGDEVALELAERKI REALEQAVL
VPGFRKGKVPASVAVKHVDPNLAQQTLDDALSKAVAEAYL
LKGFRPGKAPDGHLKKLYGKSVMSDVLQEAVNDANRKIVE

LNGFRKGKAPRKMI EKVYGKEIYEDAANELYEEEYPKAVE
VPGFRKGHVPRKLIENMYGKDVLEDADNELLPEVYAKAVK

LKGFRQGKVPTSVVERMYGKSLKVDEVNQLLSESVGKYIK
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VQGFRKGKAPKALI EKMYGADVFYDABNELFPEAFEAAAK
VQGFRKGKAPKALI EKMYGADVFYDAINELFPEAFEAAAK
LKGFRPGKVPASHLRKVFGSSLMGDVVQETVNETSQKALQ
MKGFRPGKVPVSYGKKMYGKSVLEDVVNEVVRDKTSAVLS
LKGFRPGKVPASHVRKMFGKSLMGEVIEAAMKETSEKA $\mid$
IPGFRKGKIPRQVILQRMGQQVKAMALEALLEPSINQAIVE


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| OR9K8R8 ${ }^{\text {e S G }}$ |  |
| UniRefo A8F2Y? | EHNLNPI GRPKI EELQNESAK |
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| D7N804 |  |
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| UniRe990 R5AYC1 DCGFECVGAP |  |
| UniRef90-R7BZII |  |
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| UniRef90-Q2LTK6 |  |
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|  | ERGFRLATEPKITMPQDQKKSDLNYTVALEVVPTIEL |
| 4A1Z8 ENDLTPVDLPQI DIVQIGKGKDLILSADVTVKPEVTL |  |
| UniRef90-K7YGV5 EHKLRLAHO |  |
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| UniRef90-10x9V3 |  |
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| UniRef90-UP100036E28C0 | S SG |
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| UniRef90 K12YY3 REKLEA GRPEITPQKVAAGNEFVYKAKFA |  |
| UniRef90-R5B5L7 ${ }^{\text {d }}$ N K |  |
| UniRef90-U2KCZ0 | LNVVDTPKVEVTAVSKEDGVTMKVICVTKPE |
| UniRet90-X2NN78 |  |
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| UniRef90-TOSGJO |  |
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| UniRef90-UPIo00374262E A HKLNTLGEPDPHEADFDNQEDFTFKFDLAVEPKTEV |  |
| UniRef90-R6AM95 EGK |  |
| R7F1C6 |  |
| UniRef90 UP1000345C979 QES EALGQPNLLLGQYNPGDTIT F Sila |  |
| UniRef90-U11 |  |
| UniRef90-UP10002E97F2B | V ${ }^{\text {d }}$ |
| UniRet90-A6U8Q2 |  |
| UniRef90-UPIo00369CAC9 D N K K A S P Kl El K S G E K DL E T DS VEKTP |  |
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| UniRef90-14YZV7 |  |
| UniRef90-14YZV7 |  |
| iRet90-W1 A4 |  |
| UniRef90-S7TLM3 |  |
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| UniRet90-10AKA7 |  |
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| B7 |  |
| iReef90 ${ }^{-84}$ |  |
| UniRef90-U6B5E4 K R D 4 RAAMQPNIVINDGQEDVDLKLS |  |
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| UniRef90-B6BTR1 E N K <br> UniRet90-G5G985 E E K |  |
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| UniRef90_UPI000364F380 <br> UniRef90-R5KSH3 <br> UniRef90_R6NI91 <br> UniRef90-W3ASI1 <br> UniRef90-R7PLS1 <br> UniRef90-R4PUD4 <br> UniRef90_UPI0002D50E1C <br> UniRef90-C2CHE5 <br> UniRef90-B0VHX6 <br> UniRef90-R5RTL0 <br> UniRef90_K9YPJ9 <br> UniRef90-K2CEE6 <br> UniRef90_C7LTA1 <br> UniRef90-K9XU43 <br> UniRef90-UPI00036BABB6 <br> UniRef90-K9RXIO <br> UniRef90_D4CTP8 |  |
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Q T K L E N|LEHSRVKATFTVV|TADEFEKADD QAFTTVDKNVVK
 SSNKVDTNTYELEVTVDSETFKKACTQAYLKM K K N I KAIDTAYNKNKGRFN DAMKKAFNKSKNKFN $M K T T V K H D S D T R V L V T D S T G A P E D E A A Q Q V A D K H D A K T T K$ $M K V T Q E V L P D S Q V G L E D E P A D L S Q K T Y D Q V L S K M M R T V N$ MQVEFNQLN ENAVTKK

MK TT QEK\PASQDGLEDEDPAETSKKTYEKVITQDARTTN MAVTIDKQPKAQVQVQVTMPWADVEPKWNETLQKMSAEVE MEYKVEELSSPVKRKVAVEVSVEEVHAALAATVALYRKGAD MKVTQEKLPDSQIKLEI EISGETSRSTYEKVVQNLIARSSN $M N V T K N Q I D D L N A T I K I Q D K D D Y A T R V S D A L K E Y Q K K A V$
 $V$ E T L E K S A V E V K L







 $M N V T Q K N A E D L T L I V T L N V G K E D Y A P K D K K I L G D Y R K N A D$
 KVDIE NVGPCRKHVRVTVPRAD』DHFSEEAVKEIVDTAA
 MKYTVKK QTG KVVVTFKVTAEE WAAETEAAYQKNKNKYN

K A MKAAYNHNKTRFN
okTFkSTPKSOVEREVTVNKDDRTHYDGITTKYVKEDQ
 MES K FK QLLS D T E Q E L E I S S F S P D E F Q P E L L D K Q Y K L A A Q A K A H SEDKKLDNSEDEVNVTVSWGEWEKY DDQAATDFSKE K



 MEFKTKKNQNASVDLKLTFDKNDLEKAFEKTYKEK QKDLK

 VT QE KI G P LTHEKI SV TLD KA D Y L P GFEKSLLKEYSKKAN MNITVTTADKPVDEKLTVTVPAAEVDAA DKQAYKD IANKYS MK STWT LDNENSTGLLTVVEVEEKAWKKAQDKT LENAIIKNVE KYEDEKLQGSRIKVNVEVDAKEREQSLERAYKNLVKRYQ

 MNIT E EKIID NLDN S L V R V EVVPA E KVVEASSYQAMM K DLAAKRVR
 NIVKQPKS IVEVTVTVLWGDVQTMWDQTLSKMAGEVE E I T RLEHSSVVKTVTVGKDDVRTQYDELLSGYSKNLQ
 MKFFI EKNKDAGHRVTIINDPKIIVNNAIFRELDKISKKTN MEITLDKQSANQASVKIGLNEADYQPQVDAKVKDYARKAS MKVVSVETPEKSVCKMTFSATAEEVLEAASNAVYERTARATT
 $M N V T D E K N S A V Y G I I D V N V E A D Y A D K V V K E L R T D G A K R V$ S S N K V D T NVVY EI E V
 R RFKSLLAREVVK MQKN $\square$ KNVSETEQELE IILSAEEFGTEYNQELEEAKRNUQ A AVDAAFKKNAPKMN MNYTAEK LEKSQVVKFNYVVDKDAFNAADKQAYEKTKHKYA
 K E Y N K A C K R L A QRVN
 QANSYELVVTVDGETFEKALDNTVYK K EVVKK I N TVAADQKNQGTL EFEI SRAQVEEGLEKAFQRNKNEVS EKKK TSPVLVVDEI K GEEWQEAL DKTFEKKQKEVVK K F E H $\square$ N K N Q V K F T FT V T P H E F E H A L E H A F A H D $K V K T S P R P G S R L A D E V A V P G G R S Q A S Y E A A V V K L S R S V R$ 1 T L D K K S S T E A S I K V T L K E S D Y Q P NVVE E KVVK D Y A R K A N






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UniRef90
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UniRef90 B8D9Q1 UniRef90-B3ENK5 UniRef90 WoFo35 UniRef90-C8WAA6
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UniRef90 R6NOW2 UniRef90-D5T190 UniRef90 R7F1E5 UniRef90 UPIIOOO4723D39 UniRef90 A3YWM5 UniRef90_R5CY88 UniRef90-UPI0003B6A84C UniRef90-UPIO0047D604E UniRef90_LODBY8 UniRef90_UPI0002002266


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 AAHVRVAGMPRFTPHD


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UniRef90_x0x961 UniRef90-Q2NJE2 UniRef90-Q73M39 UniRef90-R5A4R6 UniRef90-D1AL24 UniRef90_UPI0003B61760 UniRef90 G8TJU1 UniRef90_UPI00016C35BF UniRef90-I4EDC4 UniRef90-W7BRU0 UniRef90_R5L5Z0 UniRef90-R7Q214 UniRef90-Q2JV31 UniRef90-UPIO003735602 UniRef90-R9LQF0 UniRef90_R5TQ45 UniRef90_UPI00037004BA UniRef90_V7PWT6 UniRef90-R5Z9E0 UniRef90-K2EOU7 UniRef90_G2LPW0 UniRef90-A1ZSL7 UniRef90-XOTSB7 UniRef90-UPI000466767F UniRef90 E8N5H2 UniRef90-XOTXQ3 UniRef90-E7MPY6 UniRef90_Q8DLI3 UniRef90-R5MXV1 UniRef90_UPI0002FED537 UniRef90- X1JXB2 UniRef90-UPIO0046753C4 UniRef90-H7FQD6 UniRef90_UPI0003B4B9D1 UniRef90 UPI0003C10B6F UniRef90 K9SHN8 UniRef90-A0A059BW65 UniRef90-B3CLB0 UniRef90_UPI00047B91FF UniRef90_R5FZD8 UniRef90_Q2RZ60 UniRef90-UPIO004737EA4 UniRef90_K0P6G3 UniRef90_K1ZZ15 UniRef90-A8EVH6 UniRef90-K1ZTY6 UniRef90_G1WGU0 UniRef90_Q3B671
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UniRef90 R7IF05 UniRef90-E7AA41 UniRef90-A6Q1C0 UniRef90-A5CCZ0 UniRef90-E7FZZ6 UniRef90-R7M1S3 UniRef90-U3NY03 UniRef90-X1G0S6 UniRef90- F8KYQ7 UniRef90-W8K0Z1 UniRef90-K4RKA9 UniRef90-C8PIC5 UniRef90-UPIO0046E5BF2 UniRef90-K2FCZ1 UniRef90_A0A037URF0 UniRef90_Q46108 UniRef90-F8L3H7
UniRef90 V9R877 UniRef90_S6G715 UniRef90_S3XJT5 UniRef90_L8N315

$\square S Q N N T A T N T T A D E F S F T A E E F E N A \square S A A Y N K R K K S \square T$ QVKTAPDPNSQVSI ETSVGKEECSAAWDSVVRDVTKKAT $M Q V T Q E K R P G S R V G L K V V E A D Q V K R S Y E K T L R Q L E R N D Q$ M K S VKE ITTSVDKELTLLTANREDLQDTFDK A YKKYKNQ:A KKNNKNEIVKVKI EGENWSNALDDKVFKKKNKDVIT MD DT LVEQKDNFARIDVTVEKSDYAEDYKKRLNNDSANAS MKVNIKKLEKSEVEI VGTI EAEEFMKYEEKALEKINERVE
 NYKKQKLPKNTTQLVVDVPKADVKKEGEEAFVRLQQKLT MKFVMEKNQDESHRVTI NI LKETINNSLQKEFIKLSKTKI MDIVLDKKDATNASIKIKVVEADYKQQFNSKLKEYGKKVQ MEFKVNRVDEANVETTATLSKELIEKKLDKNVAKAAAKTMN MKLE ILDRDDHQKQIVAEFDSETLEKFKRQAARKDSERTK
 TTEPRSNSQLLATIEVSGTHSQQVYNQVVNDLLRHTQ

 VKLMPGSKVQAVIKI SKEFVKNKYNEILKDYSSRLK $M D \square K R V A L D A V N E T I V M T V V A M D Y K G Q V A K R I N E K M P L A T$ MKIESKSTENHEATFEVSVTAEEXQPYKQQAARKMAAQAK MAVSVEKDSNDERRMTI KVPDAPDEGQDRQRDSQDSRTAK
 EVTEVQEPNSRVRLSVEVPPVVCEDCYRRVIKEFMKQAK YKELSVDKDKYEYE MNDS VEEKEGFVR LQVDVEKDNYQEAYKKELKKVAQGAN MDTTLSKASPVEYELDLHATADELEPKLKEAGNAQRKNMD
 $M Q F K V E K L P K S T V K I T V E L T E D D M K Q Y A Q K A A E R G S Q E V K$ MEFNANRVDEANAVITATLTKDSQENNDEKVAKQAAKTMN MNDKQTKI EKGTAYLEADVSQEEVDLEKNHVVEEMDKTVS
 QKNDKNISETEQELEEI IGTSDEFANDYEQE LDEEAKKTVQQ PNSAVELT LQQI PATATGAAYDKCDAEVAKKVS $M K V T V N K \square D E S N M L F S A T I L Q A D L D K E D N K L A S G A G K S U K$
都 V $\mathrm{K} \mathrm{V} N \mathrm{~K}$ DN ITNSANANAQATIA TEWEKCLDDAFKKKVKETK LQPGSSVKAQAVVAPDSELDKKIDQVTKAAGKNLK
 MDI RR $\square \mathrm{A} I \mathrm{SPVMEIIEITVMPTDYKGQVAKRINEKMPDAT}$ MEI NAKPI DSVNVEVSAKVKSDEDKASVEKDAKKAAKTMK
 MQI KVNRTNSANAAVEATISPALLQKKEEKLITSAASNMK KVIESQEPNSTLRLETVEVPPAVCDDCYKRVMNEFMKQAK
 MQS IVKRUNPYTVELTI KESSKEFERCKEKVI EEI SEQAS MEIKIKALLNSVNTLASTTISADADKSSVEKLAKKAAKTMK NVTETEQLNSTVKLHVEVPPLVCEDCYKRVIAEFMKQAK MDVEAKRLDSANASVCAKPSMQDFEEKSQKI AQKDAKSAK
 $M V L E T K K L D G A N A R V Y A K S S L E D F Q Q R A Q K I A K R D A Q K T K$
 MDLKTKRLDSANARVYAKPLVQDFEKKSQSIAQKI AKNTK EVNFKLEGKEWVELQDKAFEKLNKKAN S $\square$ D LK E QP GCLVTASVKVSPALFSTLHKQALKKVKKNVS

VLVSLSVPDGLVEDEDEKVLEQEAKHTE
$K \prod S L K K E D G C L V K L D V H V T P Q A T Q A A Y Q E A M K A S K E V S$
 MEVKAKMKDAANAVAASK MKFKEEKGEKGLGKWTVTLDGAEWTNTLKKAENRAKTELEMK
MKFKAEK DDKGDGKWYVI DDGTEWTDYDQKAEKKAAEQLE MEVKAK QLDSVNATASVKIPSGMIKSEVENLAKKASKSVK TMERKPDCVIEEYKVKVSPEIVQKARREADRSDAKEVVS VREVLNDKLKWEYEFVI DKKYFLDQVESRLLEBIARNVK MKFNEEKLDQGQGKWVVTIDGKEWEELLKKARNR】KSNLE


UniRef90_x0x961 UniRef90-Q2NJE2 UniRef90-Q73M39 UniRef90 R5A4R6 UniRef90-D1AL24 UniRef90-UPI0003B61760 UniRef90_G8TJU1 UniRef90-UPIO0016C35BF UniRef90-14EDC4 UniRef90-W7BRU0 UniRef90_R5L5Z0 UniRef90_R7Q214 UniRef90-Q2JV31 UniRef90-UPIO003735602 UniRef90-R9LQF0 UniRef90_R5TQ45 UniRef90_UPI00037004BA UniRef90_V7PWT6 UniRef90-R5Z9E0 UniRef90-K2E0U7 UniRef90_G2LPW0 UniRef90-A1ZSL7 UniRef90-XOTSB7 UniRef90-UPI000466767F UniRef90_E8N5H2 UniRef90-XOTXQ3 UniRef90-E7MPY6 UniRef90_Q8DLI3 UniRef90_R5MXV1 UniRef90_UPI0002FED537 UniRef90-X1JXB2 UniRet90_UPIO0046753C4 UniRef90-H7FQD6 UniRef90_UPIO003B4B9D1 UniRef90-UPI0003C10B6F UniRef90 K9SHN8 UniRef90-A0A059BW65 UniRef90-B3CLB0 UniRef90_UPI00047B91FF UniRef90-R5FZD8 UniRef90-Q2RZ60 UniRef90_UPIO004737EA4 UniRef90_K0P6G3 UniRef90_K1ZZ15 UniRef90_A8EVH6 UniRef90-G1WGUO UniRef90-Q3B671 UniRef90-R7HMFO UniRef90_B8CCH5 UniRef90-D9PHE5 UniRef90-R7HGD4 UniRef90_C5ZVT9 UniRef90_I1GYS7
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V|PGFRKGHAPDQLVQKRFGADVIRESLT TT\|LIGQSFFAATE I K GFRKGHVPRKI FENHFGKNLYSDALENVVQTKYQEQLQ
 VPGFRKGKAPRAFI EKYYGEEVFFEADDHLYRPMVMEAVE


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 VRGFR P GK A P R K M II E K R Y Y T T V A D E I K S Q V L M A S L E QL A D $M P G F R K G K V P R Q Q F N Q R F G E A A M Q D A D D D L L D E V Y T A Q A V E$ VPGFRKGKAPRKVIEAQYGESVYDDAVNSLYNQNIVAVI D
 VKGFRKGGIPD QMAKRY IGGDHI CAAAVDEVANEALQE GI K


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 V D GF RK GKV P A HVVVK K L H GE KL T Q DA E GEAIR NI L N E GSK V D GF R K G A CP K D I F F DVKRFGE S L Y M D A V D E A V A V G Y K K A L E I D GFRRKGKDPA AV I KS R Y GK QL E T DA QRE CVVQDLLLQE LL K $V$ V G F R P G K V P E N V L I N Y Y VG P QV R A A T V


 MPGFRKGRVPKAI AKRQLENEVGLEVVKQVAKDRMEEILT
 V DGFRKGKVPAHIVKARYGKQLKDDAQTEALRDLYTQALS
 SPGF R A G K MP Y D L V V A N Y K N E A L E Y V I N N T I D Y C S S D L M K

 $V$ P GFRPGKVP EDILIVSVGGRQVHKATDESILRRTISHAMT

 I PGFRKGKVPPAVI KKRYGDKLAQDAEAELVREALDQALE
 1 I PGFRKGKVPDDVIENRYPHPI RKECNELLVHTAYYSGST
 MPGFRKGKDPSAMILQNFHPHVEKEWRDVLLNRALREFMD
 I D GFR Q GKVVPTAVVLDKRYGK QLEGDA K QELL K N M I D E I L K I P GF R K GK A P E S EVV K K H L T Q A I Y K T A Y R I A I K P A F D F A WE
 MD GFR P G K V P PV S AVVLK RYER E L TVQ DA E Q N L F K S A V N S A L Q




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|  | TNELLEVLGDPGFNIJAADEESGDFSYRCEVEJIKPAFELL KKDFESMGMPQVNEKKRKDNQNFTFGLEFIVKPKVIL SLDEDPYSYPELNEKELKVEEDFSFTVHYDVFPKVEV |
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| UniRef90-Q73M39 |  |
| UniRef90-R5A4R6 | ELD TPVGEVSYKPVLVVEGSDYVVDATGPVRPVADL |
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| UniRef90 UPIO003735602 |  |
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| KLVPVARPKV |  |
| UniRef90 UPI00037 |  |
| UniRef90-R5z9E0 ELLDIVPTKSGDY |  |
| UniRef90-G2LPW0 |  |
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|  |  |
| UniRet90 - XoTSB7 <br> UniRet90 | KL GEPNSKFDKKEDGSVELETSVACM |
| UniRef90 E8N5H2 |  |
| UniRef90-E7MPY6 |  |
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| UniRef90-08DLI3UniRef90R5MXV1 |  |
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| UniRef90_UPI0002 |  |
| UniRef90-UP100044UniRef90 H7FQ6 |  |
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|  |  |
|  |  |  |
| A0A059BW65 SVSGQALKDSVR |  |
| Buctbo |  |
| UPI00047B91FF DEEFVIVSEPSKVDVDFSKTNPFEVSFVVAlKPEVKL |  |
| O2RZ |  |
|  |  |  |
|  |  |
| UniRe990-K1ZZ15 |  |
| iref90-A8EVH6 |  |
|  |  |  |
| G1W |  |
| UniRet90-R7HMFO |  |
|  |  |  |
| $\begin{array}{ll}\text { UniRef90 B8CCH5 } \\ \text { UniRefo-D9PHE5 } & \text { EY }\end{array}$ |  |
| UniRef90-R7HGD4 |  |
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| UniRet90-IIGYS7 |  |
| UniRef90-E4U8N5 |  |
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| UniRef90-A6H1C4 |  |
| UniRef90 A7GW44 |  |
| UniRefg <br> UniRef90 |  |
|  |  |  |
| UniRef90-B9SYY0 |  |
| Unirefoo-O4EA23 |  |
| UniRef90-K2FTF3 |  |
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| UniRef90-A6Q1C0 |  |
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| Unireme |  |
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|  |  |
| UniRef90-F8KYO7 |  |
| UniRef90-W8K0Z1 |  |
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| UniRef90-K2FCZ1 |  |
| UniRef90-A0AO37URFO |  |
| UniRef90-Q46108UniRet90-F8L3H7 |  |
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UniRef90-R6XM53
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1
$M K F S A K K \| E K G Q G V W D V$
$T V V I$
$V$

## S TNDEE QPGCSVTAEVRVSPSFVGKDQEQADKKDKKDVS

 I IETQEPNSRVKLSVNVPQAVCHDCYKRVMRELSKQAK $V T$ KKVVVSKDAYNKELLEKQIE Y YKPKVN QFETSKDEKDLTTLKASVSKEAYDKELQKQI EYYKPKVN
 ME LISAK
 VEEEVLPNSHIRLTVTVPVAFVRKAYLRAMKKLRVETD

 MNKSFER

VEAKK $\square$ D
MKFSAKKSQNVQGDWTVT DDGEEWKKAV
 NE IVK YY SKDVE KVEI RKTI ELKDEQWSKLHEKALQNLVKNL K TNEDQELKDRVEVSGAKTRAIFEDVFKKMVTAAQ ME DK E LGVDK NGVTKKFIFDSAEDQRAEKRTLNEGNRKYT TKDDKASQTVNVSVEGENWTKALAKSKATDAKTIK A QEKLVDQGQGKWTVTIDGEQWDEFLKKAKNRLKANLV NTKENKELKIRVEVSGAKTRAIFNVVFDRMVAEAQ EDTQSALDDGRVQLTVTVPATDTSADAKGAVDALAMQHK $M Q K E V L S T D K N V K R Y L V K F D K S D \emptyset T K A E D Q \square V R E L N Q R Y T$ MKVEQIK DNGEEVRLRVSASAAEMSKAFTDGLDAFVVQYQ NAEIVKKVVKVVSGDEWTSLVVEKAKKEVVSSKVIK

QL RVDLTGDETQRVFDQVLANLARTAP




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|  | UniRef90_S5LZ80 |
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|  | UniRef90_A0A017PK95 |
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|  | UniRef90-B5ZBF7 |
|  | UniRef90-A7HZE7 |
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[^0]:    lupas_21
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