UniRef90_M4FQF6 UniRef90-G7DV88 UniRef90-Q6P8D7 UniRef90_M3ZT91 UniRef90-K7G29
UniRef90- $13 J V T 2$ UniRef90-W5NIM7 UniRef90-H2MMF4 UniRef90-C1BIY7
UniRef90-L8Y5 88 UniRef90 H9JL46 UniRef90-C7YLSO UniRef90-C6NWK4 UniRef90-B5XBK1 UniRef90_GOS198 UniRef90-G5EHV3 UniRef90-li3S1N6 UniRef90-G308S1 UniRef90-H3CTR1 UniRef90-F4P315 UniRef90-F6SIE4 UniRef90-H3AAY2 UniRef90-I1GDR7 UniRef90-S7MU51
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UniRef90 B3TLU2 UniRef90-A0A034VVJ5 UniRef90-EOW2X4 UniRef90-E2BNW7
UniRef90
G3JJAO3 UniRef90-V4KCSO UniRef90-V51909
UniRef90 V4AAl2 UniRef90-V4AA12 UniRef90 UP10001CBB092 UniRef90-A8Q4U7 UniRet90_E9GOD3 UniRef90 Q4SKG3 UniRef90-R7Z3N6
UniRef90
W1P9 UniRet90-U9UH80 UniRef90-VGGOK3 UniRef90_O60FR7 UniRef90_U4LK13 UniRef90-F4RYM8 UniRef90-F6HMT9 UniRef90-T5A6AG
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UniRef90_C3Y2H6

EMSVLEEVKRRLETMSEDEYFESVKALLKEADKELNEK EMLDSVFDQAQKKLAEGAADKYRDVLKNLLLEGFYALHEP DHISELGNEARQRLSRVVKDRYQMLLDGLILQGLFQLLEP DMVTDLLNEARKRIADIVKDRYAKLLEGLVLQGFYQLLEP DLIADLLHEAKQRLAKVVKDRYQALLDGLILQGFYQLLEP
 DMI TDDLENEARKRLSELAKDTYSKLLDGLI LQGLYQLLER D DHVRNVLDEARKRLAEVPKDTYSELLVTLIVGALFQLMEP
$E L L D S I E E D A Q K K A E G V K D K Y K V L K G L V L E G L Y A L N E P ~$ DMI ADLGNDARQRLANVARDRYAALMDGLVLQGFYQLLEP ELLDSIFEDAQKKLVDGAKDKYQKILKGLLLEGFYALNEP ELLDEIFNAAEQRLGEPTKDRYEGULKGLILEGFYAMDEP ELLDDIFDAAQKRLAEGTKDKYQELLKNLLLEGFYALHEP DMISEMLSEARQRLGNIAKDRYPGLLDGLILQGLYQLLES DMI TDLLNEARRRLARMAQDQYSQLLEGLVLQGFYQLLEP VLNEMFSEAKSALSKISEDKYQELIKNLLLQGMFQLMEA DLI SDLIKEAKERLASVVKDKYQVLLDGLVLQDLYQLLES DHI KRILEEARQKIGEITRDRYQQLLKDLITQGLYQLLEK DLVSELLSEAKDRLDRIVQEFYQKMLYKLVLQGLFRLLEP QVLSEVYSQAMTQLSAVSRDKYQKLLEDLIVQGLDRLLES QHLSELFTNARNQLLELSKDEYEDLLKSIIVQGLLSLLEP DHIRNVLDEGRANLSKISADRYPAILKGLI MQGLLQLLEK DHVRNVLDEARKRLGEVTRDRYREVLKLLIVQGLCQLTEN DHVRNVLDEARKRLSQFSKDKSELEKLIVQGLYOVMP DHVGSVLDDARKRLGEVTQSEYKTVLEKLTVQGLYQVMEP D VNSMKEAAGKDLLRVSDDNYKKLLKDLIVLSLMRLKEP HIETLLSEARDRLAQLSRDRYQSCLTGLITQSLFQLDEP DVVNAMKEAAGKDLDNVSGDHYKELLKDLIVQSLLRLKEP DLITRDLENEAQQRLSKVVKDRYQMLLDGLVLQSLYQLLEP EAMETVLEDARRRLGEVSGDRYKDLLRALIVQGAKKLGDK ELLNDLFQQAREKISTVASKKYQNVLKGLILEGLYALNED QVLDDLFEEANKGI HDVSKDEYSTLIENLILQGAYSLMEP ELLDDIFEQATKKLADTAKDKYAAVLKGLVLEGFYAMNEP DLI QDLLADAKKRLVTDARDRYRSLIEGLLMQGLEQLLEP EHI RRVLEEARRHLGDDTQDEYRELLTKLILQSLGQMLEP DHVRSVLDEARRRLGEVTKNEYRQILQKLIVQALYQTMEK DVVNSMKEAASKELDNVSKDKYAKLLKDLIIQNLDRLKEP ELLDNDFEDARKKLSSATKDKYQATLKNLIIEGLYALAEP DLVASELEDARRRLGEVTKNEYKVVLEKLILQALFQTMEP QYLNGLFEAAREELLTLSQDEYCQLLEGTITQSLLQQMEP EHLQDLFQTARDQL LQLSSDRYVQFLEGVVVGFLQ LEP EHLQDLFNTARQEITNVSSGQYEQYLEGMILQGFLILMES DLVNSMKEAASKELDRVSNDAYKKLLKGLMVQSLLRLKEP DHVRNVLDEARRRLGEVTKSEYKEVLQKLILQALYQAMEP DHVRNVLDDARRHLGEITKDRYGKLLESLIVQALDQLMEP DHVRNVLDEARRRLGEVIHDRYKEILQLLIIQGLYQLTEP ELLDSIYETTRKQLADGTKDKYQKLLAALVLEGLYTMNES DIVNAMKEEAAKQLDKVSQHQYKHLLKHLIVQCLDRLKEP DHVRSVLDEARKRLGEVTRDKYAQILESLILQGLYQLFEK DHVRDVLEEARRRLGQVTKDKYRGILEGLIVAGLFQLMEQ DHVSAILEEGRQRLGTVTQEQYRKLLEGLTTQGLFQMLEN
 QHIQNLLAEARTRLGKSSSDRYTRVVCDLIIQALFQIMEP DMI TDLLNEARRRLARMAQDQYSQLLEGLVLQAFYQLLEP ELLNELFEKTRGRLGEFTEEQYQRILKGLILEGLYALSEG DLVNSMKDSAAKELLCTSDDHYKKLLEDLIVQGLDRLKEP QMLEEVFNETVSQLNKVSQDEYRDLLKNLILQGLYQLMDD ELLDDLFERARQKVTEVSESKYQEILKGLVLEGLYYLNEE DHVRSVLEDARKRLGEVTRDRYAQIAESLILQALYQLFEN DHVGHVLDETRRRLAEVPNDQYSDLVVKLIVQALFQLVEP ELLENVFEHARTKLFNVQNDRYNGVLKGLILEGLFMMGEE EHLNSLFEEVKNKVDKLSEDDYADILRRLIVQSMLKLMEG ELLQNVFEDAKKGLSDVTKDKYSEILEKLVLQALFSLMSK DLVNSMKEATGKELDRVSDDTYKMLLKGLIVQSLDRLKEP EMLDGTFETAEKQLADGTKDKYQKILKGLILEGCYALSDQ DHI KNL LDEARRRLGEVTKDRYAEVLRTLVVQGLFQLMEP EHI QDLFSTARASI DTLAKDEYVQFLEGVIVQGFLSLLEP DLI QLDERSRLDAVRQYALSGLDGLLQLVEP DLI TDDLENEAKQRLSKVVKDRYQVLLDGLVLQGLYQLLEP QVVTEVYAQSQKQLAAI CSDRYKELLVDLIVQGLGRLLES DLVTNMMESARKELLYI SRDHYKKLLKILIVQSLLRLKEP LI LELLKDAKTRLSTVVPDDYQELLDKLVLQAFLRLLEP DHVRNVLEESRRRLGEVTKDRYAQVLEALITQGLFQI MEP EYITKVIEEAKRRLAEMPEDEYFETIKTLLKDAISELGEK DHVRNVLEEARRRLGEVTRSKYTE ELNSGIVQGLDQLLET

UniRef90_M4FQF6 UniRef90-G7DV88 UniRef90-Q6P8D7 UniRef90_M3ZT91 UniRef90-K7G29
UniRef90- $13 J V T 2$ UniRef90-W5NIM7 UniRef90-H2MMF4 UniRef90-C1BIY7 UniRef90-H9JL46 UniRef90_C7YLSO UniRet90-O6NWK4 UniRef90-B5XBK1 UniRef90_GOS198 UniRef90-G5EHV3 UniRef90-13S1N6 UniRef90-G3Q8S1 UniRef90-H3CTR1 UniRef90-F4P315 UniRef90-F6SIE4 UniRef90-H3AAY2 UniRef90_l1GDR7 UniRef90-S7MU51
UniRef90 S8EVC9 UniRef90-K4FUA5 UniRet90-L8WWA4 UniRef90-H3FSG3 UniRef90-H9K724 UniRef90-O1W2A8 UniRef90-B4LZU3
UniRef90-M5VZW9 UniRef90-B6HOII UniRef90_G7YUE5 UniRef90-W5RRH1
UniRef90 F71996 UniRef90-F71996
UniRef90-A7SAS6 UniRef90-0011W9 UniReffo-BOYDN9 UniRef90-11CVQ2 UniRef90_S4RXE4 UniRef90-A0A023GGK7 UniRef90-How ${ }^{\text {Na }}$ UniRef90-UP10002C2E699 UniRef90-E3Q792 UniRef90-T1PDIO UniRef90-L5KU27 UniRef90-G4TP21
UniRef90 V2WZ49 UniRef90-D8Q3D4 UniRef90_C9SBE3
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UniRef90
G3JJAO3 UniRef90-V4KCs0 UniRef90-V51909 UniRef90-V4AAI2 UniRef90-UPIO001CBB092 UniRef90-13S5S1 UniReffo-A8Q4U7 UniRef90-Q4SKG3 UniRef90-R7Z3N6 UniReffo-W1P912 UniRef90-V5GOK3 UniReffo-J3JV58 UniRef90-Q60FR7 UniRef90_I4Y910 UniRef90 F4RYM8 UniRef90-F6HMT9 UniRef90-T5A6A UniRef90-UPIO00462213C UniRef90-U61J73 UniRet90-D2HVQ1 UniRef90-UPIOOO3F122F2 UniRet90_U6G9U1 UniRef90_K3XLK8 UniRef90-UPIO0038BB49A UniRef90-U5EVT3 UniRef90-l3RCH2 UniRef90_R4VVIO
UniRef90_C3Y2H

KVRVMSNEKT\GLTASRTE ETKSELGDVSTELGETVDTMG ALQVRARKADYDVVKSAIDDAAKEYKDIKASIDEPEGSAG EVKVAVRKEDRELADKVVGQATGTFKEVEATEDEPEDSCAG RVLIRCRKQDFPLISASVQKSTPTYKGVEVTIDQPPEDAG

 KVTHRCRQQDVETVQASVRKNIPDYQEDDRDLEDPADVCG KVTIRCRQQDVSMVQAAVDKD:PVYKEVVVRIDESSD:SG
 ELQVRARKKDYDVVKKAI DEASKEFKDVTVKLQEDDGTAG KVTI RCRKQDVGIVQAAVQKNTSTYKNLEVRIDQSPEISG KVIIRCRQQDIAMVQAAVQKNIPIYKDIEVCDQSPDISG KMLVQARKKDSDVVNKAI EEAVKEYKNVEAKIDEPAGSAG QMQVRARKADYDVVKSAGDAAAKEYKEDKVTVDESNPDAG SVLLRCRKEDLNLVEDVLDSAAKEYAEKEVVVDKDVHCSG KVT RCRKQDFQMVQAS QRSMPVYKNVEVRDDQENFDSG
 KVTVNCRTIDVSLVKSAIESAKTEYTKVEITI DEPESSHG QMIVHCKKDDLPLVTAAVQKADPLYKDLNVQVDQPTEDSG TVFI RCRKQDMSLVKTSLQKKSSTKKDIEVHVDQEPEIAG EVLI RCRKQDYNLIKATYESAVLAYKDCTVTLDLPPDCSG EVIIRCRPQDHHLVEDAVKKAITQYKTVDLEVHLPMNAAG EVIVRCREMDKALVEAVLPNAVKRYKTVTATLDKSMSCCG LVIIRCRKQDHSLVKAAVNKVIPVYKEIDVRVDQPEDVAG SATVSARPKDVGLVEKAVQAAQAEYKEVKVEDTLPENSAG EVHLRCRQKDQSLVEQLLPECKQWGNKSNVVIDKTEESAG HVTIRVRQVDLPLVESLLDSVQNAYKDVTIVVDQPSDSCG NVVLRVREADIGLCESIMPNITDDYNEVNIKLDQPVECCG KVTLRCRQVDVPLVRAVIPSADEQYKDVEFYIDESANTCG AVLLRCREVDKKVVESVLEEAKKAYADKKVTIDHEPFCSG NVAIRSRKKDFDIKKAIEEATKEYKDVTVTLDEPEGSAG EVTVKCRKVDRDLTQSILPACLQNYAKCTVTISLPDTCAG SVLLRCRKDDLLHLVESILDSAKQEYAEKEITVDHGPYCSG RMTVRRRKQDFRLVKAVVQAllATKNDVDVQDLPEDIVG KVLI RCRKQDVSLVKAVFGPATEEYKEIELTVDEQPDCAG NVIVRCRESDAAVVRESTVAAAAELVGVSVTLDESPACSG KVSVRARKTDFSVVKNAIEEALKEFKEATAELDEPEGSAG EIVIRCREQDVDIVNSALDVVSDKYEEVVSEEYLPESSAG ELQURARKDYDLVKKAIEEAAKEYKDVSATDDESEGSAG QVVIRCRQQDVTLVKEAMEKGKAEYKDVHRRDDEPPDVAG EVTVHCRPKDKMLVD DDTVARKYKEVTVEPNLSEASCG VMVVRCRPQDLLLVEAAVERAVSEYKQVEI HDDQPMNSAG NVTLRTRRVDENLIREMIPDAAELYKNUN:DTDHPPNTCG AVLLRCRKDDVHLVESLLEAAAQEYAEKEILVDHTVYCSG EVVIRARKADFDVVKKAIEDAVKEYKDTSAKIDEPKNSAG TVILRCRQVDVGLVNEVLPAAVEEYKDVDTDNYLPADTCG VVIIRCRPQDHLLVERVVQKADPEYKRVEVRVDQEVHLDG NVTVYSRPGDVQIVEQAVSSAKTTYKDVQVEGSLPKDCAG SVTVHTRKKDVDLVKQASEAASKSYKDI EVEGNLSDDGAG SVTLHGRKKDHDVITKAAESAQKNYKEI EVQGTLPDDTAG EVQLRARKADNDVVKKADDEAAKEYKDVTATGDQPEGSKG SVTHRCRQADDGLINEVLPATVEEYKDVNVHIDDSADTCG AVTVKVRQQDEALVSSLLPNCVSQYKDVTLKKDLPADTCG HVTLRVRQADVHVVQSLLESVQQQYKDVTLKIDPPSESCG DVQVRARGKDADVVKKALDDAAKTYKDVKVTLDEPDASAG SVLLRCREEDDHMVESMLDDASEEYCEKEIIVDKDDFCAG EVVTRVRPQDRDLVKSVLPVVVTKYKDATAESHRSQETTGG
$N V V V R C R E Q D V D V R E A P G A V Q K Y K E V D N E F S P N S S G$ NVVVRCREQDVDLVREVAPGAVQKYKEVDNENFLSPNSSG NVULRCRQQDVDLVKSVLPSVLDTYKKIDTKSFLPADISG AVEVEARSGDVQTI QGLLDDABKQYKDVHVSDGLSKDCAG KVTVRCRQQDVDLVQAAIDKNLPDYRDLVVRIDQPHNSAG KVAVRGREKDKEILGKAIIEDAKSEGKDVQITIDEPDESAG SILLRCRETDLGLIESVLNDAKEEYSDKRVYLPPPPSCAG QVKAIVRKCDKELANNAIQAAAKDYKEDNVELDDPDDCAG KVSVRARQKDFDAVKKAII EQASEEFKEKDEEEPLAEGSAG NVFIRTRPQDRDLVKSVLPTVATKYRDVTVTGDLSQDTGG TVTLRVREADKPLI DSLLERAQAQYKEVDTEHYLPVGTCG SI QURARPKDKDAVTAAIQQAKTEYADAEVTDDESDDCAG QVIIQARPKDEKVIESILDDAKNEFKEATIQTSEEDASAG EITVSDRSQDKQLAEKAISQAVKSYKSDTUKEDVPKDSRG AVLLRCRETDLGPVESVLGEAKQEYADKKVTDDHSDFCSG HLQLRARNKDYDVVKKAADEAAKEYKETEAKIDEPEGSAG NVLLKARQVDHNVVQSVLPRAVEEYKDVVITLDLPADACG DVTVHAREKDVQLVQQAVDSASKQFNDITVEGSLSNDTAG NVNLKCRADDVDLVQSLLPQCTEEFKNCNVTGNLPKDCCG RMIVRCRKQDFPLVKAAVQKAIPMYKDVDVQIDQPEEIDAG WVLVRCRPQDVLLIESAVQKALPDYKNVEVEVYLPDNSTG EVII RCREMDRPVVESTLPAAAAKYKTVKLSIDKVPSCCG AVLLRCRKEDLDLVDSVLESASNEYAEKANVYPPEIVCSG AMIVRCRPQDLHLVEAAVQRALPQYKRSDVQVDHSPNAAG TVYVKGKQSDANLI QSVLPQAVDAYKDVTI QLELPADVTG



UniRef90_M4FQF6 UniRef90-G7DV888 UniRef90-M3ZT91 UniRef90-K7G290
UniRef90 $13 J V T 2$ UniRef90-W5NIM7 UniRef90-H2MMF4 UniRef90-C1BIY7
UniRef90 L8Y5H8 UniRef90 H9JL46 UniRef90-C7YLSO UniRef90-Q6NWK4 UniRef90-B5XBK1
UniRef90 M1W558 UniRet90-GOS198 UniRef90-G5EHV3 UniRef90-13S1N6 UniRef90-G308S1
UniRef90 H3CTR1 UniRef90-H3CTR1 1
UniRef90 F1RDT4 UniRef90-F4P315 UniRef90-F6SIE4
UniRef90
H3AAY2 UniRef90_l1GDR7 UniRet90-S7MU51 UniRef90-S8EVC9 UniRef90_L8WWA4 UniRef90-H3FSG3 UniRefefo-H9K72 UniRef90-B4LZU3 UniReffo-M5VZW9 UniRef90-B6HQ11 UniRef90-W5RRH1 UniRef90-F71996 UniRef90-A7SAS6 UniRef90-Q011W9 UniReffo-BOYDN9 UniRef90-R8BIC9 UniRef90-S4RXE4
 UniRef90_HoWXN9 UniRet90-T1H6F6 UniRef90-UPIOOO2C2E699 UniRef90-E3Q792 UniRef90-T1PDIO UniRef90-L5KU27 UniRef90-V2WZ49 UniRef90-D8Q3D4 UniRef90_C9SBE3
UniRef90 B3TLU2 UniRef90_A0A034VVJ5 UniRef90-EOW2X4 UniRef90-E2BNW7
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W1P9 UniRef90_U9UH80 UniRef90_VGGOK3 UniRef90_Q60FR7 UniRef90_U4LK13 UniRef90-F4RYM8 UniRef90-F6HMT9 UniRef90-T5A6AG
UniRef90- U5EXM7 UniRef90_UPIO00462213C UniRef90_U61J73
UniRef90-D2HVQ1 UniRef90-UPIO003F122F2 UniRet90_U6G9U UniRef90-K3XLK8
UniRef90-UPI0038BB49A UniRef90_U5EVT3 UniRef90-l3RCH2 UniRef90_R4UVIO

90
100
110
GVIVETEDGRTRTDNTFEARMERFEGETRSTTAKVLFG
 GVKLTGYNSRIVVDNTLDARLAIAEAKMLPEDGTTLFG GVELYNGDGKIKVSNTLESRLDLIAQQMMPEIRVALFG GIEVYNSNGKIKVSNTLESRLDLVAQQMMPEIREILFG GVEVYNSDGKIVVSNTLESRLELLAQQMMPEVRGALFG GVEIYNQDGKI KVSNTLESRLDLMAQQMMPEI RVALFG GIEMCNENGKIKVSNTLESRLELLAEQMMPEIRVSLFG


 Gl EMYNANWKIKVANTLESRLDLMAQQMMPEVRTALEG GVFIVGGNGKIDDDNTFETRLKHLKESALPALRETLFG GVAILAGGGKI EIDNTFEARLSTLNTSALPAMREALFG GVVLASHDGKIVFENTLDARLDVVFRNKLPHITRKQLF GVEEYNGNGK:|KVANTMESRLELMAQQMMPD:RVSLEG GVEVYNADGRIKKSNTLESRLDLLAQQMMPD:RVSLFG
 GVELFNSDGKIKVSNTLESRLDLMARQMMPEVRVTLFG GVEVYSSTQKIKVSNTLESRLDLLAHQKMPE:RKALFG GVVLMTRDGRITCDNTFDARLRMVIVECAPAYRHTLF GIVMYNSNGKIKVANTLESRLELIAQQLMPE:RVALEG GVEMSAKGGKIKVSSTLESRLDLIAGQVVPQURTALEG GVDLFAAKGRIKVSNTLETRLELIAQQLIPDIRSALFG GVELFAQRGRIKISNTLEARLDLAQQLVQVRNALFG GVELLALINGRIKVPNTLESRLELISQQLVPEI RNALFG GVVLASQDGKIVCENTLDARLDVVFRQKLPEVRKRLGG GVELSNKDGR1KVVNTLESRLEQUGEQMMPQLRETLFG
 GlVEHAKQGKIKVVNTLESRLEMLGRQMMPEIREILFG GVEVANSTGQUVCDNTLDARLRIAYEQNTPLIREKMF
 GLEMYSGDGRIVVENTLEKRLELIAEQALPDVRVALEF


G

G V V L A S Q D G K I V V C E N T L D D A

GVVMASRDGKIVCENTLDARL GI D DL L A H K N K I K I I S N T L E A R L


 GV ELLCAF H G RI R V N N T L E N R L E M I A G Q ML P E M R T K L F








 GVVEIVN G D R K I K V S N T L E S R L D L I A Q QVVSVGII R
GVEAYSNNQKIMISNTLDSRLDLLAQQRMPEIRKALFG
 GVVLASRDGKIVCENTLDARLQAVFRKKLDEIRRQSLF




UniRef90 KTIMW5



LLQELLAASTEETTKVSKSQYPTLLKALIVQSMIKIEED ELI EEALNATRDRLANLPKAEYDETLKGLLKASDEELGEE OVEVVNQVKNKLGDASAPGYKEMCQKLVLQGLYQLMEP QVLTEVVQQTRKKMCETSTNPYEPLLVDLLTQAMLKLLEP
 EMI RAVLSALRERLASLPADEYFQTLVTLTTEALEELND DLITELLNEAKMRLSRIVEDPYQSLLNKLVLGGLLRLLEP EVLDQ1FDEAKTQLNKISKGEYKAAFVGLIEEGLFTLKEE
 EVLDEVFEKAKAELKKYSKKEYKPVLHALVLESAYAKNEP DLL REVLSAGRLRLSSRLVQDAYQELLDRLVLQALLRLLEP ELLDEIFHATQKKLGEATKDKYAGDLKGLLAEGFYALNEE


SNLMNQARLKVLKARDD
DGI K K M
 EFINEVLRSGKERLANLPKDEYLGIVKDLMLQAVKELGED VMDDIVMTVCKKLEGIEKDKYVAFLRDLIVQSMLSLNEK DIVNAMKDQAAKDLLNVSGDEYKQLLKDLIVQCLLRLKEP DLITDLLNEAKQRLSKVVKDRYQVLLDGLVLQAA METVVEEARAKLAETSADRYRTLMTALIVQGARKLGDA DLITDLLKEAKQRLSRIVMDVYQGLLEKLLLQSLFRLGEP

|  |  |
| :---: | :---: |
| UniRet | EVILQCRSQD⿴囗LVEKLLPECLHELEETKVTIDLPAESAG |
| UniRef90－A040590D72 | VSVKVREVDVDLAKEAAKEASKNYEEVDVSVDESKDIA G |
| UniRef90－A0A059DD72 | AVLLRCRAVDQKLVQSVLDEAKRAYAEKA T T L |
| UniRef90－05NB63 | AVILRCRKEDRELVESVLESAKNEYADKANIYPPEISCSG |
| UniRet90－Q8U4A9 | EIRVHSNEKT ${ }^{\text {EAL }}$ |
| UniRef90－C5GB29 | KVEVRARKKDYDIV |
| UniRef90－UP1000444A375 | SVTVYARGKDLEVV |
| UniRet90＿J3PQ37 | DVVSVRPQDREL |
| UniRef90＿S6F618 UniRef90 Q32LB7 |  |
| UniRef90－O00780 | KI QVVGRKEDAGLLEKATTEAAAQYKKLDVSVDKEPTCCG |
| UniRef90－Q41396 | GVLLRCREDDVHLVEHVLNSAKEEYAEKAEVHTPEDHCSG |
| UniRef90－UPIO004 | G |
| UniRef90－D3 | G |
| UniRef90－R4WIL | DVLVKAREVDGPVVSSLFPDVLIKYKELDTENFLPSECAG |
| UniRet90－E4Z1H | KIYVICKECDKANVEGLLDNVEAAYKGVHPSKSLAKYCAG |
| UniRef90－UPIO003F490A5 | SVTLVHRPKDTDLVKSAASTAQTKYKELEFEASLPDDSAG |
| UniRet90－B7QBG8 | DVTVVCRRKDAKLVQAAVEVASKVFKKKTVTDDLPEASTG |
| UniRef90－UPI0004560 |  |
|  |  |
|  | G |
| UniRef90－Q6C | G |
| UniRef90－Foz843 | KIVVVGRKEDVPLDEKASSEAAAEYKSSTHKSIEVIVCSG |
| UniRef90－Q6BX68 | KVTI RVREADVALAKEAAPDAAKEYSPVETVDESKDSLG |
| UniRet90＿M1AW30 |  |
| 俍et90＿MOZXX3 |  |
| －171W5 |  |
|  | ， |
| UniRef90 A9NNQ7 |  |
| UniRet90－W1QFG6 | VRVR S DVELAKKVEEAAKDFKDVS |
| UniRef90－HOW885 |  |
| UniRef90－GO－ | SVVVRSNERTLKLLSERADEFRKALGEDVSLGEPVGTDG |
| 8 P | H |
| UniRef90＿B6C | VQARKKDNDV |
| UniRef90－Q2H4E1 | ELQIRARKADYEIVRKAIDAAAAEYKDVKATI DEPDGSTG |
| UniRet90－R4XAV3 | EVSISAREADYDVVKKAFVKSTQDFKDVKVSI DENDP |
| UniRef90 KOKOH4 | KVVKVRKQDVE TKEALKEAKKAKFQVD Q D Eb |
| UniRef90－c5AB33 | QMIVCCDRQDFPLMKAAVWYKTAKKKDADAYLSEETD |
| Ret90－ | VVVVRCRPQDLLMVKAAVQEAIPEYKQVQVQVDEEPDVIG |
|  |  |
| UniRef90－M8AKU1 | RKEDLELVESSWNLRGMSMRKRKMY RLL K S C G |
| UniRet90－G8Y1M8 |  |
| Ref90－D8M4F2 |  |
| et90＿K53385 |  |
| M7NV | G |
| UniRet90＿O06501 | KVVVRSNERTLKLVERLSEFREKLKDVEVTVGEPIDQTVG |
| UniReet90 12 CG96 | DYDAVKKAIEEATKEYKDTAAKIDEPAESAG |
| UniRef90－11KPH7 | SVLLRCRKDDLHLVEHVLDSAAQEYAEKEIIVDHDLYCSG |
| UniRef90－H2YGQ3 | NVIVQCLKEDVETVKSLLPDVMATFKDVKIENETSFTCG |
| UniRef90＿S3D428 |  |
| P10002 |  |
|  |  |
| UniRef90－F4Q0Z7 | KILVVCRQEDIALVEKAVTQAAAEYKSVHVDVDKQKGCSG |
| UniRet90－E12K51 |  |
| UniRef90－L999R1 | VMIVRCRSQDLLMVEAAVGKAAPEYKHVEILVDKEAHTAG |
| UniRet90－U5H2K9 | DVKVSGRQRDEKLLKKAAKEAVEEFEKQTIETDLDDKSAG |
| UniRef90－S7MXT1 | MIVCCRKQDFPLVKAAVQKAIPMYKDVDVQ\DQPEE\AG |
| 8L | G |
|  | KVRVSSNEETLKIAENI DEDKAFLREVSLELGEKDETDG |
| UniRef90＿L11H33 | AVVVRCRKSDQGVVQGVLKDAANQFTNATVTLDKDAPCAG |
| UniRef90－Q5CK0 | TVIVKCRKSDVSVVESAIPKATKKYKEVEAKVDKSKYCSG |
| UniRee90－UFIooo33 | IVMV RCRPQDCLLVQAAVHKAIPEYNQVQVQLDQEAQTAG |
| UniRef90 J7RYR3 |  |
| UniRet90 Sg9VVM4 | G |
| UniRef90－Q5JDS0 | VVIVRCRPQDILLVKAAVQTAMPEYVAISQKEVQVQVEAG |
| f90－G3B60 |  |
| UniRef90－UPI0003EAA5B6 |  |
| UniRef90 C5DV66 | G |
| iRef90－E4ZPD3 | KLQlı K V |
| ef9 | K VR |
| P10003 | VMIVRCRPQDLPLVEVAVRKAVP TYKRVEVQI DQPVHTAG |
| UniRef9－UP1000： | － |
| UniRef90 K1WBA3 |  |
| er90 W3 |  |
| ee90－F2QVM6 |  |
| Ref90－G1LGZ4 |  |
| UniRef90＿S4RA34 |  |
| UniRef90－UPIO00394329 | K |
| ＋90－P220 | K |
| e990－F60 | DVI |
| OL |  |
|  |  |
| $\begin{aligned} & \text { UniRef90_M4F2F0 } \\ & \text { UniDoton_mopoke } \end{aligned}$ |  |
|  |  |
| UniRef90－A4S2F4 UniRef90 UPIOOOOE40C7 | AVAREAVAAAAAEMPGTTVTLDESPACSG |
|  |  |



UniRef90_A5DRS2
UniRef90_B8NLG2
UniRef90_B6AAM1
UniRef90_K5W262
UniRef90_T1FMM4
UniRef90_M7X825
UniRef90_UPI00018B8E49
UniRef90_I3MVF4
UniRef90_N1JL95
UniRef90_G8C102
UniRef90_B6YV11
UniRef90_C1EGU5
UniRef90_UPI00046BBB3D
UniRef90_H2AVJ0
UniRef90_C6A5F1
UniRef90_K8F0D9
UniRef90_UPI0003C8C670
UniRef90_D8U1L3
UniRef90_Q9U1G5
UniRef90_Q6CLJ4
UniRef90_G0VGGN8
UniRef90_A7TRJ9
UniRef90_C5DG29
UniRef90_A0CS76
UniRef90_S9UDU9
UniRef90_A9T4Z5
UniRef90_M4C544
UniRef90_C5KWH5
UniRef90_UPI000252AB4D
UniRef90_Q01278
UniRef90_G9NY51
UniRe_

 Q V TVV R V R H K D E E Sila E E A E E DS G R T V R I T I E G S L S D D L A G EVVVRCKKQDAHII E ELIPKCKSTGKKVKVTADKEQYLPG
 $V V$ I V R C R P Q D F L L V E TA V Q K A I P E Y Q N V KV KV RARETD Y DLVRSAAEAAAAEYKEVGKEVDVSIDDTAN DIVVI R V K E S D S K L V L G LI D N DK K E Y K E I S K E S F L P K D S I G SVVVVKSNERTVLKL E GRLDDEFKKALDTDVEVTMGEPDT TI G A AVVRCRECDVVEKVKVAMAEAERQTPGLKLTLDEHACHCIG




 S A I K V R E T D V K Vi l
 SVVVKVREQDKQLVNSFKEAVLKEYKAKSSSEYLSKDSAG


 DVVVADRAKDVPL AEMVLKEATEKY DDVKVTVNKS DGKAG E V T I R C R Q E D M A L V E S I I P Q A Q K H RARQADYDAVREAAGWASAQYKHKTKDVKATIDAEN
 A V VIKVREADVVSLAKEAAEEAAKAK FSVVSVTVDEDA S LA G KI QVRARKKDYDAVKKAGKEAAKEFKEVSVELDEPAASAG S V I L R C R Q A DVDD LI K E I L P S V I IN Y Y K D I D I E M H L S S N L C G $A V V V R L T E K D Y K L I D D I V K S Y K D T V K G R D I V V S L Q E N A D G$
 $K A V L K V R K E D L S L I G E V L E P A K S K F T E V E I V S V D E S E S C T G$ $E \| T V L A R K V D L E A A Q E A A G Q A A K K F E E L D V G A S L S D D D A G$ EVVVVAVRAKDV RLAES VLKEASSDKYSKVVVTVNKA E E GMG

 | $N$ | $V$ | $V$ | $I$ | $R$ | $C$ | $K$ | $E$ | $C$ | $D$ | $V$ | $S$ | $L$ | $C$ | $K$ | $E$ | $C$ | $V$ | $P$ | $D$ | $S$ | $V$ | $K$ | $T$ | $Y$ | $K$ | $E$ | $C$ | $N$ | $V$ | $V$ | $V$ | $D$ | $Q$ | $S$ | $P$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $E$ | $E$ | $L$ | $S$ | $G$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $V$ | $V$ | $L$ | $A$ | $V$ | $R$ | $A$ | $K$ | $D$ | $V$ | $Q$ | $P$ | $A$ | $E$ | $Q$ | $V$ | $L$ | $K$ | $E$ | $A$ | $I$ | $E$ | $K$ | $Y$ | $S$ | $K$ | $V$ | $K$ | $V$ | $T$ | $L$ | $N$ | $K$ | $S$ | $E$ | $D$ |
| $R$ | $P$ | $G$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | EVVMLAVRSKDVHMDESLVPE』AANYAAIDEKLLPPAHSAG


 E V T $V$ V $\operatorname{F}$
 SVVTVRVRKADLELAKSAAEEALKAKFSATDTFDEDPEIAG SV V HV R Q E DEKKVS A LLGGELQRWYKEKTSKEYLDEDSWG
 DVSIT SNEEDLSLVESATKKAQQVKAEIDRESFLPKTSIGG

 $S V R V H G H E D D A D L L E G I V A D Y D G \quad F B V G E P D D C L G$ $R V L V R C R P Q D T L F M E T A L Q K V I P R Y T E V S C E V F L P A N L A G$
 KVQVRTRKADMAVAKKAVEAASKEYKE\|SATVDEDNLLED $S V V V R C R Q A D L G L V E Q Q C Q Q F E Q K T G R V D T K T F B D D D R C G G$ ELI AE I N QQDLLGRLQETWKTFAAEAVKCVVLSSEPLTCSGG DIVVRVNARDRELLEAAWDPLAAEFPGQNI RIDEPIETLA

 VGIVYSRQRDAEIVKAAI PKATEVLKSKNGSIDLNDSVLGG DLIV V Q T K EA D K T KI Q S A L S S M A S NI S S T T L E F GEPPDDTMG $N V L V R C R K A D V P L L E K A K I T V A Q Q Y K K C A I D D D L D D R S G G$ $R V R L T V R K A D V Q I \quad C Q Q V I P Q A L D L A K D V K I V I D E E P B C A G$ $K V T V T V K S N D V Q I A Q D A A K Q A E R D F K E V T V Q E G L D K D S A G$ AVIL R CRKE DLELVESVVLESARNE YAEK
AV I L R C R K E DLLE LV E SVLESARNEYAEK
ELVNVCREQDYELVAS QMASVQTAYKDVKDTVYLAAAAAG IVVYVRYRPS DSKVV E S T L G DVVKNE Y K S L T I E L D K N N H DVL EVVII YARSSDVELVEELL
 HVLVRI RKQDENVVND L K A A A Q Q KY S AVVKAELDKEFYCTG $R V S L I L R S R D R A L V E N S L A G G Q A R Y R Q I S N T E Q L D N S S P G$ $R A T V I A R D D D V R A A Q E A A T A A A E D Y K E V D V R G G L P A D G A G$ ELSVYGRASDQSLLEDVLDDYDGA TYAGERDCLG KV ELK K M K K D L Q L AREVVKTECENEFKA DAKRECENPMVI G
 E V QLAVRSADAEKVKGFIPRLADEFKEKSAEYVVDDS CI G DV R $V$ V Y G R A D D E E L L T D L A A E H G Y E Y A G





UniRef90 C4WY80 UniRef90-E9BU34 UniRefofo-D2REZ5 UniRef90-K6U3X3
UniRef90
KOIJBO UniRef90-J4CD98 UniRef90-LOGWS2 UniRef90-X1SGR1 UniRef90-F3KLN5
UniRef90 F8D5N5 UniRef90-K9LY64 UniRet90-C7NNT5 UniRef90_C7P2S7
UniRef90_J9K8B4 UniRef90-U1PRP5 UniRef90-W0K1X2 UniRef90-MOM9N5 UniRef90-L1LGL7 UniRef90-A5UKB5 UniRef90-F9UID9 UniRef90-F6D6U0 UniRef90-UPIO002C3E689 UniRef90-G0QWY3 UniRef90_L8GVQ1 UniRef90-O27039 UniRef90-O5ASQ6 UniRef90 GOV 156 UniRef90-G2DWR6 UniRef90-I3Y9T4 UniRef90-MOD712 UniRef90-X1T3L7 UniRef9- 991683 UniRef90-A2EK66 UniRef90_FOXT77 UniRef90_U1POF3
UniRef90 A9A2R1 UniRef90-V6AVX1 UniRef90-KOBEU5 UniRef90-A9V2H6 UniRef90-B0R758 UniRef90-G2MHI5 UniRef90-XOWD64 UniRef90-FOT964 UniRef90-F2KP27 UniRef90-U2YVG0 UniRef90 W9C404 UniRef90-A6N1V1 UniRef90-D0A8D7 UniRef90-Q2FQE3 UniRef90-D5E707
UniRef90
G7WLT4 UniRef90-D3RSX8 UniRef90-V4YFU1 UniR Refo-O29104 UniRef90-B1L6GG UniRef90-H8L4X6 UniRef90-K2CsJo UniRef90-F9WKC9 UniRef90-A0A024JD18 UniRef90-UPIOOO38032B0 UniRef90-X1RM13 UniRet90 M7B003 UniRef90-Q2NF84 UniRef90-D3E1Y8 UniRef90-GOQVD0 UniRef90-F2NK89 UniRef90-E4NLV0 UniRef90-I3T210 UniRef90_UPIOOO359D305 UniRef90-D7E6E3 UniRef90-H814H4 UniRef90-D1YVE2
UniRef90-Q896K7 UniRef90-G2DBG3 UniRef90-LOHCO4 UniRef90-A3DNQ9
UniRef90- $\times 1 / 1 \mathrm{~K} 88^{2}$ UniRef90-Q2FL42 UniRef90-V4XFB1
UniRef90_Q72J69 UniRef90-UPIO003DE80C0 UniRef90-LOPCG3 UniRet90_AORXK2

DHVVSDVVDEARKRLVKVTNEПYREVLIRKLI DQA TLQLD 40 MEKLHEQTRQKIVAMVNSQYKPMLVRLIHQSLMSIRTD EVIEEAFSKAEEKLREDASSEYKASLEKVTTEAGTETGGG VNNAFEEARKKLASGGKDSYRALMSNIIEESVSSVGSG
 IV DEV DSRVKKTLSGDSSDESSP LVDLIKEADNTLDVD DVLGEVREQVEEELASLDGNTREELTRALLEAAGTEFDGD evLetvrdovedglathegdrrethtrelledabeefegs DVLQSVRDSVEAEIASLEGDRREELIRTLLDAATAEFDDD KYIKSVDADVNKELDKMRKHRYREI DKKLIDQAMYQVVEQ DVLEDVRDRTETALAELTGDRREELTRALLADAAGEFGGD
 RVKKTLASLGDRRETLTRSLLDDAADEDGN EETKEQLLKTVVNPTNYMYKGAMKNLI DQGMIVLLEP LNEFSKPDYPLVLAKLI AEGVIILKEQ QLLDDLFETARARLAADATADYRAVLVQLVDEGAYAMQEP DVLESVRGDVEQRIATLDGEERETLTRQLLDGVAGEFDED DAVDKVFSKALEQUANADRSDYSNLIKTMLTEATQULGTS EAVDRVFSTALDQIANADRSDYSNLIKTLIEESI QTLGTS EALKSVTEQATKDUSD■TKDKYKTLLQDLLTQCLCQLLEP DALQSVRSAVEDRIVALDGDEREELTRELLDAASTEFDGD DVLEQVREGVDNALANVDGDRREELTESLLEAAATEFDES ELLNDLFQQARDKI GEVSKDEYQNVLKGLVLEGMYALNED EIUESSKKAVENLKEUASSEYKESLNEIIIEAATEIGGG EALETVYEDVQDR1KQMDTETKKKLLENLIKKNAV ELLDGIFEQAQGKLKEATSDKYTEIMKNLLDDGMYADNEE DVLADVYEEVEAALVELSGDRRESLTEALIEAAAEFDDDA DLVNSMKEDATKQLLRVSHNEYKNLLKELVVQGLLRLKEP EMLRQCFDEVSSYLKTMTRPEYPSFLEAMITESAKNLGPS EVLEKAYNRAFDEIAGLSADKQESLLKNDI GESHESK DLIKKAFVDAEARLKRLADSEYGDVLKKMIVESGVVVGGG LVLDVERRLADRMRAFMEDEYDAWLSALIVEAAGVIESP DVLQEVRERVESELAGMEGDRRVELTRTLLEASLKEFDTD E:LEEVFNLLRQKVRDMDEETRKKILKNLLEKNAKGGSP KIMETLYENTRKKVETIVASTYRPLLVNVRQSILAI QTD EYFSRAFSLAEGRLAAIVQENYEDFFRRAMAEAIDALGEK K KVDQLKESVKKKLPAVQNSDYPALVESLALLEALQQLAVN LVQDVERQLQERMRHFDTDAYSAWLQQLVAGAATALMES $V$ LNEVKNRLVNMQKEEYLPVLEKLIVDAGTVLDGG DLIADLLAEAKQRLAKVVKDRYQTLLDGLVLQGFYQLLEP
 EVI EEAFNKATEDLTNMADTEYVDALIEMI KEAAVEIGGG EVVDQVYAKVLEALEGLAKPEYAEVLQKLAEEAVGALGEA DVLEDVRGQVEEELAALSGDRRETLTRSLLDEAADEFDDD DVVNKMKESATKELDNAGRDHYKNLLKDLIVQGLLRLKEP EFFDKNVEEAKRAVRNGPAKYKDVMIKLTVQALVRLLEP ELDEVYNKAVDSVSNLSPSKNEELLKSLID
DVLEDVRSEVVKRLSALPKEKKVDILNKLI NLARKEVPTG DVLQEVRSDLIKRLSAMPKEKKVDLLNKL:NMARK LVQTVLQRDPERIQALRQEEYLELMGRLLARGATMIEHD SAFAEAERRLSGLRQDKYPAIFERLARETVSAVGTN EVINK LDEEAKDRLTNRIGFDDEESLKKLLDEALYYDENP KILDEVFAQARQQLRNLPDEEYCKFMTKLMDEAVETGGDE KALQDVRAAVEEALAEAAGERREELTRALLAEDAEEFDGD EVLEEVRRRVREALEALPKPEWPEVVRKLALEALEALPGA DAMGSMKDAAKKGLLRVSNDKYKKLLKDMIVQGLLRLREP

UniRef90_C4WY80 UniRef90-EgBU34
UniRef90-D2REZ5 UniRef90-K6U3X3 UniRef90-KOIJBO UniRef90-J4CD98
UniRef90-LOGWS2 UniRef90-X1SGR1 UniRef90-F3KLN5
UniRef90 F8D5N5 UniRef90-F8D5N5
UniRef90-K9LY64
Un UniRef90-C7NNT5 UniRef90_C7P2S7
UniRef90_J9K8B4 UniRef90-U1PRP5 UniRef90-W0K1X2
UniRef90-M0M9N5 UniRef90-E7QNY7 UniRef90-L1LGL7 UniRef90-A5UKB5
UniRet90 F9UID9 UniRef90-F9UID9
UniRef90-LOJHJ7 UniRef90-F6D6U0 UniRef90-UP10002C3E689 UniRef90_GOQWY3 UniRef90_L8GVQ1 UniRef90-O27039
UniRef90 UniRef90-GOV1J6 UniRef90-MOMTQ1 UniRef90_G2DWRE
UniRef90 13 Y9T4 UniRef90-MOD712 UniRef90-X1T3L7 UniRef90-J91683 UniRef90-A2EK66 UniRef90-FOXT77 UniRef90-U1 POF3
UniRef90-A9A2R1 UniRef90-V6AVX1 UniRef90-KOBEU5 UniRef90-A9V2H6 UniRef90-B0R758 UniRef90-G2MH15 UniRef90-XOWD64 UniRef90-FOT964 UniRef90-F2KP27 UniRef90-U2YVG0 UniRef90-U1QJG3 UniRef90-A6N1V1 UniRef90-DOA8D7 UniRef90_O2FQE3 UniRef90-D5E707
UniRef90
G7WLT4 UniRef90-D3RSX8 UniRef90-V4YFU1 UniR Refo-O29104 UniRef90_BLL6G6
UniRef90_W6L7B0 UniRef90-H814X6 UniRef90-K2CSJo UniRef90-F9WKC9 UniRef90-A0A024JD18 UniRet90-UPIO0038032B0 UniRef90-X1RM13 UniRef90 M7B003 UniRef90-O2NF84
UniRef90 ${ }^{\text {D3E1Y }}$ UniRef90_W9VB06 UniRef90-GOQVDO
UniRef90-F2NK89 UniRef90-E4NLV0 UniRef90-I3T210 UniRef90-UPIO00359D305 UniRef90-D7E6E3 UniRef90-H814H4 UniRef90-D1YVE2
UniRef9O-Q896K7 UniRef90-G2DBG3 UniRef90-LOHCO4 UniRef90-A3DNQ9
UniRef90
X1/K88 UniRef90-Q2FL42 UniRef90-V4XFB1
UniRef90_Q72J69 UniRef90-UPIO003DE80C0 UniRef90-LOPCG3 UniRef90_AORXK2
UniRef90_A6UT32
 AV VQCRKEDEAEVARI PELERWYKEKTKTYLITAEAWG
 GVVIECNKNDAELVRKIVADLQQKNSKVQARVSEHIDVLG VVMVRHRARDASVVESTLEDVKQAYEKLTKQKYKEAKSLN RLEVLANATDVKRLPRVWEAVTSALAERELQVDEPLATLG KVVIYTNSKDKDVVQSVLSQFSGAE DVSVYGREDDRELIGSYLEDDAFDE EVRVRGREVDQRELGOSULPADTQKYKEDTTEAFLNPEVTGG
 VVYGRPEDESLLRSLVDEVGHDHSYGGDHDCLG DVRVHGRSDDEALSSELLDDYDG YEYAGEMOCLG NVRIYGRPDDEDLLTDVVADYD KYGEYAGEYDCLG NVLVRCRTSDVDIVESVLSDVRDEYKS $\mathrm{TN}^{2}$ TSVDRKVEDMF

 ELVVLLKEEDVANIKKEIKSTENDVTDKTTETGENIKAI G KVTUMCIKNDLEKVKKAIDDVTKEDNSIKI TLDQTHFLI G KVELKVMKKDLNLARQVKNECEQEFKEVHLLEAEDPDIIG KVSLRCRKDDESSVKSVLSAAKSHKKDVKVTHDTVVSCCG DLVVSMREDDRSLLDKIAAEVEAEGKKTTLKVGDSIRTIG AVVHACKNDESTVSPMLREVEQWYQKVSIKMGQEEEALG PVTVYGRDDDAALI ESUVADYDG RLVVSANNQDQHRLHARWEQ RPSLPDKTVELASSIDTLA ELIVSANAQDQRQLNARWAQLAEALPGKTATLAEALDTLG DVVVHGRAADKALLEDLLEEYD DYSYGDSYDCLG KARIYVSPKDVSSVRELLKGDKQLVG KVGEGKEFDCSG RVRLTVRKADVEICNSIDPKALEMVKSVDPNLDCDPGCAG ALQVRAREADADAVRGVFADVTAEFEKLTGTIDEPAGSAG

 EIS STNAKDRDIVQSALSQFSGAE GSSETUDCLG EATVRVRKQDDSLIKEVINGAKKAVKDVKTVDEEDEECG PNSYHCRKQDFALVKPAVQRADPVYNDVDIQUYQPENDPD TVRVFGRADDEALISEILDDYDG YEYAGEYDCLG EVSVYGRASDEELLTDLLSDYEGW SFAGERDCLG KASHYVSSKDVSKVKRFLEG DKEDAARDAEMRESNCCSG DLIVSVKAEDVAKTKVSI SSDENEVKEKTLEIGDNDNTIG EMVVYSNKDDEPVVREVISDMA RSDLKYGGNLDCLGG KLQVRGRKQDYEVLKKAI EEAQKEYKDVVASTDEPEDTAG AVSVYGRSDDQELIEGILTEYDG FSYGGERDCLG AVLLRCRKEDHHHVESVLHSAKNEYASK A IVVYTCKNDEPTVTGMLSELEQWY LKTVKEY DNAEEADG DTAVKVHPDDRRLAADSISRINQEGFSLILSEEPIVTSG GSRIYSNKESEDIVKKL
 TVEMYGNADDEELLTELVGEYDRA DKDEGGGTTDTLG
 A II QCRKEDETEDHQMLNDLIKTGSSISDKTNEEDDAWG KFVLHVDPRDEDLCRRDI G RTMGUECPVQADDSCAG KVILHADKVTHDL LKDSVLKKTSTKFDGTTELGEPLKKGT AV $\square$ HVCKDDESLVKNMLSDLKKWYEDKSITLSKDEEAWG KIVVRVKASDVAAAESVTDAAAKFYKEVDKDHPLPDSDSG ETVVSANSADQKRLRLCWDRDTQAVAPTRNLSDDPDDTLG RLNVRCRKQDLSMVKAAVQKKAATKKDUDVHIDQ QLEILVREDDVENVKSMLDEVKETGNETSFVIGEPIDDIG
 AVELQQKKEDQDLIQSITYECESNFNTLVIKKDKNKNIL EAVV VNPEDAAHLQTWAQEESNFNTRGLELRTTDAQLRLG ADVVYGRESDQSLIEDILEEHDG
AVLLRCRKDDLQLVEAVLDSAAEEYAGK
KVTVRVRQQDVSLMKSVAQECESQFKEVKIIVDESADLIG
 K YANATDAELV KGSGYEYGGS: KCIG MGKLYSNAGDAELIKSS ELIVEVNEEDHRLLQPIWETFSNATADKQLRLSEPDRDQG PFVLHVDKRDLDLCRTTLAAD GПRCEVIPDIECAG SKII INPRDRDFIKKVL KEKGLKNTEIVESDNILG EVIUDNEEKDQKFIKQVNREDGPAYKGNLTLADEKQNLGG DVSVYYCRSADEALVGDLVAAFDG KERGFAVAGEVDCLG SVLLRCRESDRKLVESLADEEAKKEYSEK NIIIRARETDSAIIEKAIIDNAVDVFKHKTVQDDKEYDCDG




G A V VK TVD G DVEVK NTVEARMLRYRKHLRSEVAK KLF







## UniRef90 MOMOUO

UniRef90-LTVL26
UniRef90
U4LR53 UniRef90-E1REQ9 UniRef90-G4E1T7 UniRef90-C1FTPO
UniRef90 MOLPW5 UniRef90-UPIO00273ACBA UniRef90-G2Q036 UniRef90-B7A882 UniRef90-E6N7V1 UniRef90-V4JMY8 UniRef90-R5DBG3
UniRef90-MOGTD1 UniRef90-F6VCL1 UniRef90-H8GU71 UniRef90-M7TZE6 UniRef90 - X1WOD1 UniRef90-F6BCG4 UniRef90-AOBMT5
UniRef90 D8J5W7 UniRef90-W6KX28 UniRef90-UPIO00364F529 UniRef90-Q1IWP0 UniRef90-C3N6D6 UniRef90-B0E703 UniRet90-A3CS68 UniRefofo-D5CN81 UniRet90-S6B3Z1 UniRef90-X1ADT1 UniRef90-D1ZOY7 UniRef90-D7BEZO UniRef90 -J3JFW3
UniRef90-M1XZD2 UniRef90_UPI000472F793 UniRef90-F7PNM9 UniRef90-E1QTX1
UniRef90
R4W849 UniRef90-B1BAJ5 UniRef90_11KPH4 UniRef90-Q0W366 UniRef90-G4KPG7 UniRef90-A0A059LML3 UniRef90-K4MHE4 UniRef90-Q12WL4 UniRef90-O57673
UniRef90_H8ZOQ5 UniRef90-G2R3M3 UniRef90-B9EU54 UniRef90-M1PQT3 UniRef90-K7QWI8 UniRef90-FORIZ4 UniRef90_B8GFR1
UniRef90-T1Z1X8 UniRef90-Q9RWH1 UniRef90_C0GGW8 UniRef90-N6VSF9 UniRef90-UPIO003B2FF38 UniRef90-J1KZ99 UniRef90-A7FWRO UniRef90-F7XP29
UniRef90 V5INR0 UniRef90-V5INRO UniRef90_UPI00047275FD UniRef90_K7H7Z8 UniRet90-D7DRT8 UniRef90-U6JUG5 UniRef90-R6TG65
UniRef90 GOROV4 UniRef90-Q1H8R6 UniRef90-A2SSTT2 UniRef90-R5HP37 UniRef90-M5EIU3 UniRef90_UPIO003829191 UniRef90-LOHE69 Uniinefoollicheo UniRef90-Q23RT8 UniRef90-EOSNN7 UniRef90-W1PAG3 UniRef90-Q8TIU4 UniRef90-T11B68
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## L T K I F S D S Q Y Q I Y K M I R Q D Y E E L L K N L MVVQ G L I K L








RKEY R A


 D M $\square E$ A VF R G V I E R $\square$ S S M A D D Q Y R E V $\square$ A S ML L N A P L Q G D E LANLD GERREELTRDLLESALEEF E G






E Y L H Q $\quad$ LK E L E E K L H E Y R N D T Y R D F L K R LVK $K$ S L NVME S S K D E Y K D I L T S M $V$ I 1 K G V L S I G G G QVVNEVYAQSQKQLAADCSDRYKELLVDLIVQGLLDRLEAA




 Q $V$ L L

 DLINNSKEAVGKELVHVSHNHYRKLMKELIVQSLLRLRES ELLDNVVYSQTVVESI KSMPASKNEKLLKHII DK YEASGD $K L L L N V V L A V H N R L G N V D R K A Y R R I L Y S L V L Q G L C K L V E T$
 DVI S K V F NEADE K L Q N L S N G DYKYYV DS TLD S S L E L E G T



## UniRef90 momouo

 UniRef90-LTVL26UniRef90
U4LR53 UniRef90-E1REQ9 UniRef90_G4E1T7 UniRef90-C1FTPO
UniRef90
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UniRef90 M7TZE6 UniRef90-×1W0D1 UniRef90-F6BCG4 UniRet90 AOBMT5 UniRef90-D8J5W7 UniRef90-UPI000364F529 UniRef90-Q1IWP0 UniRef90-C3N6D6 UniRef90-B0E703 UniRet90-A3CS68 UniRef90-D5CN81 UniRef90-S6B3Z19
UniRef90 O8TWL9 UniRef90-X1ADT1 UniRef90-D1ZOY7 UniRef90-D7BEZO UniRef90-J3JFW3
UniRef90-M1XZD2 UniRef90_UPI000472F793 UniRef90_F7PNM9 UniRef90-E1QTX1 UniRef90-R4W849 UniRef90-B1BAJ5 UniRef90_-11KPH4 UniRef90-Q0W366 UniRef90- H2WHN1 UniRef90-A0A059LML3 UniRef90-K4MHE4 UniRef90-Q12WL4 UniRet90-Q57673 UniRef90 - $88 Z 005$
UniRef90 G2R3M3 UniRef90- B9EU54 UniRef90-M1PQT3 UniRef90-K7QWI8 UniRef90-FORIZ4 UniRe990-T1Z1188 UniRef90-Q9RWH1 UniRef90_C0GGW8 UniRef90-N6VSF9 UniRef90-UPIIO003B2FF38 UniRet90_J1KZ99 UniRef90_A7FWRO UniRef90_F7XP29 UniRef90-V5INR0 UniRef90-UPIO0047275FD UniRef90-K7H7Z8 UniRef90-B8CZG9 UniRef90-D7DRT8 UniRef90 U6JUG5 UniRef90-R6TG65
UniRef90 GOROV4 UniRef90-Q1H8R6 UniRef90-A2SSTT2 UniRef90-R5HP37 UniRef90-M5EIU3 UniRef90_UPIO003829191 UniRef90-LOHE69 Uniinefoollicheo UniRef90-Q23RT8 UniRef90-D3S1G7 UniRef90-EOSNN7
UniRef90- W1PAG3 UniRef90 O8TIJ4 UniRef90-T11B68 UniRef90-UPI00036FA432 UniRef90-XOVSN1 UniRef90 QOTPW4 UniRef90-UPIO00362FE9A UniRef90-UP100036E1032 UniRef90-G8LZK1
UniRef90-LOA1Q6
 ILLSEADKKDKDFVKNINRK円KDCGKEGKLVLAESDRTAG VVISEDDKNRDDFIKKINEKLKSMGKQGNLR SEETMMAG PLIVRVNAADHKRLNKRWESWSAEYPHRQVTLDEEDDCIG EVVVSPNDKDDSFLLTLNNKLKAKGKKDLLKUSNENRNIGK
 RLQVRARKADYEVVRKAIDDAASEYKEKT
EA LATHPENLPHLEALAQEAAEYKEKGLKLLPDPALRL DIVVETNEAALPLLREVV ADKKYGVKVVVSDKPAPIMA SLI AANAHDQRLLAANWEQVQQALPHKQARLDEPDDTLA TEEVILSPEDAPLGQQVLEGANAQGRHFRLS AEQRPTGG EVHVYGRADDADMLEDILADYD EA VEVNPADVDLARQIV KRPEQDLT CTIVVSRDDDRNIAKSM KVRLLVSPKDLSI TREVIEK NSRLKEK GLERANPALQG ELTVQLNERDMGLVEDEVKETEESTGRVTTEKNEPIVCMG K EVVVRCLORDIRHVRNVIEDADSEFQDVKIDIDEDKKCFG SVEIYGRADDEAMI AALLESYDG Y Y OM YEFAGEYDCLGG AVVVETCSEDEKAVKSIASELSKERNQRITKYSNTEDAWG EA VEVNPADLALARELVELSKERNVTDKSSVRENPALQG KATVYCSPNDKSTVEKVV KQNKGNNKNVTVKKDDKMLG KGVVHANERDSPVVEEVLSQLKMFSGDKYTMGAPVDIPG HLLVQANPRDLQHLKKDWASYAKAAADKRLELDSETIDCIG EVVLRANENDLMLLDEMLSETRDETGKDVELGEPVEAVG DLELILNERDSSLLEKLAEKUAEKTGTKTVKSGKKVDALG QTLVVVNPQDAQHLESWA SVRVRGSEADAELLASVVGEYDG EVVFSVYDQDQGFLDYVNEQLKKQGRKGQLRLAPDRQFKA
 DVEVYARADDEALVSELCTEYDG
 RGEVVFSQADREKVQAAVDAANKKLNGKLTLSGQTRALKG EVVLRCREKDDRLVELLPEC
QALVRFRKVDEPLAEGCIRDADAVYASREVKLDTSSTCAG GKA YSNAASEEIVRKL ELIVRLNKRDMELIVDLEKEVENATKKVSVGKAGN VDGAG EMVVQANARDLKKLKAHWERIASAGAQLSLASD P DDTLA DVRIVRARKADYETVREA NDDVLILEGDEKNTSSEDKEEUETGKDTELNKTELKDAG
 MM A A ARDLPMVQTLLKE GSYPG FVAGSPVDUDG SVLLRCRKEDLHLVESLLDSAKEEYAQKSHVYPPEU EA EVNPAEMNVARHLVS (VSPADAGELGRVNQALKEQGKQGNLTLSETREMQG ELLVRLNERDDKLIDAQVKTUEDMTGKVT:KKGKPVNVIG ETSVEVNPAEAQLARELVHDTE GVTIAPLKDDGPGG EIIISPNDKDKMDVNFMLKLKAKGKKGLLKISNENRNDKG ELVIRARQADYDAVREAAGWASAQYKHKT KARUYVLPKSVDTTRKLLES NKELANKDTEVKE ANFTG HVIIKLNSHDLRMSQRHIAGAHYAIVVVDKKNFLASESAG ELVIEMNKNDFELTWKLEKEVEEKLNDVTVKKGEPIDI DG EVII RCREMDRQVVESILPAAAAKYSKI
KGSVIFAPGDRERVAAAVKAANSRDKNGADTLAEERPDQG IVYVRCLDKDKDLCSSIVDQAVSDFKDVKLKVVVDDHCFG GVLLRCRKDDVHLVEHVLHSAKGEYAEKS AGVVFTNARDEKAAKEAISGLKTLSG FTFGGDTDTAG EEVILPPASRRAYGQDVVDQANQLDGEGHETGGPEEGLAG NIVVYCNEEDYEIITEYLKEKIPEKTFNVVKSNPSKY KGKVSCNARDVAAAKAVIAENPEFSG FK■GEPVNDDG E Di RCRQQDVDVVTSALETVADRYEE KII RCLKKDEGLCKDILSSAVSEYKEVVAKNEDDKKCFG GFKIYSSKKDEEIVKKLVKKM AVLLRCRKADHGFПESVLHLAKQEYAEK
K MiYSKASEETVRKLDKAAESKSLTYAGNDDCDG EVKVRFRKSDLRDGMSVLKQAAEQFEKADTEKYGPLESCG KGSVRVHKDDIELFKNLINKWNTTYGTVLTMDDKTFLPSR CTVIISRDADKKIAENM EVI I I EKDKDFLEALNKELESKGKKGSTTLNMEGKFNG ODAVEVNPADKMVARELVKELESKGKKGSVTVNMEGKFNG



UniRef90 Momouo UniRef90_L7VL26 UniRef90-E1REQ9 UniRef90_G4E1T7 UniRef90_C1FTPO
UniRef90-M0LPW5 UniRef90_UPI000273ACBA UniRef90_G2Q036 UniRef90-B7A882 UniRef90-E6N7V1
UniRef90-V4JMY8 UniRef90-R5DBG3 UniRef90-M0GTD1 UniRef90-F6VCL1 UniRef90-H8GU71 UniRef90-M7TZE6 UniRef90-X1W0D1 UniRef90-F6BCG4 UniRef90-A0BMT5
UniRef90-D8J5W7 UniRef90-W6KX28 UniRef90_UPI000364F529 UniRef90-Q1IWP0 UniRef90-C3N6D6 UniRef90-B0E703 UniRef90-A3CS68 UniRef90-D5CN81 UniRef90-S6B3Z1 UniRef90-X1ADT1 UniRef90-D1ZOY7 UniRef90-D7BEZ0 UniRef90_J3JFW3
UniRef90-M1XZD2 UniRef90_UPIO00472F793 UniRef90_F7PNM9 UniRef90-E1QTX1 UniRef90_R4W849 UniRef90-B1BAJ5 UniRef90_I1KPH4 UniRef90-Q0W366
UniRef90-G4KPG7 UniRef90-H2WHN1 UniRef90-A0A059LML3 UniRef90_K4MHE4 UniRef90-Q12WL4 UniRef90_Q57673 UniRef90-H8ZOQ5 UniRef90-G2R3M3 UniRef90-B9EU54 UniRef90-M1PQT3
UniRef90-K7QWI8 UniRef90-FORIZ4 UniRef90-B8GFR1 UniRef90-T1Z1X8 UniRef90-Q9RWH1 UniRef90_C0GGW8 UniRef90-N6VSF9 UniRef90_UPI0003B2FF38 UniRef90-J1KZ99 UniRef90_A7FWR0 UniRef90-F7XP29 UniRef90-V5INR0 UniRef90-UPI00047275FD UniRef90-K7H7Z8 UniRef90-B8CZG9 UniRef90-D7DRT8 UniRef90_U6JUG5 UniRef90_R6TG65
UniRef90_G0ROV4 UniRef90_Q1H8R6 UniRef90-A2SST2 UniRef90-R5HP37 UniRef90-M5EIU3 UniRef90-UPIO003829191 UniRef90-LOHE69 UniRef90-I1CRE0 UniRef90-Q23RT8 UniRef90_D3S1G7 UniRef90-EOSNN7 UniRef90-W1PAG3 UniRef90-Q8TIJ4
UniRef90-T1IB68 UniRef90-T1IB68
UniRef90_UPIO0036FA432 UniRef90-XOVSN1 UniRef90-Q0TPW4 UniRef90_UPI000362FE9A UniRef90_UPI00036E1032 UniRef90-G8LZK1 UniRef90_LOA1Q6 UniRef90_UPI00036DC16E

$G V R A V G Q G G K T Q V E N A L E S R L E R A W D A L S S K V A Q A L W G$ GLRATSDDGSMRYDNSVEARLERLKPILRTEIAKML GVLLTDDARRDRVDNSFEGRMARLRTSIQQSIQQHL
 GVDIYNRKSKTKVSDTHESRLDLI A PQMMLGI CVAFF
 GLLVETDDGMVSI DNTFDTRLEMLMPK LDPE GKKLFG
 GVVAESEASRVRVNNTFDSVLEDVWEDNLKEASTRLF GVVVSSVDGRIICGNTLSYRAATSFEEQLPIIRRFYLF

 GVT A S LGDRI DCNNTLEHRMNQALADDALPLI RKMLIF


 GLNASTPDEKVVVFNTLEARLRSARERLKDDVFSVLYG GVRJTSAGGKSYVENTLAERLERGWEVLSAKAVKAIIWG GVVVESTSSRVRVNNTEDSVLEDVWEDNLKELSTRLF
 GVVVESSASRVRVNNTFDSILEGVWEDEDRSIS ERLG



GVVVTSADGRDVCANTDDERDKDTYSQNDPADRQVLFG


$G V V L A S R D G K D V C E T D D A R L E V V F R K K D P E D R R S L L G$ GTIVKRSDGSVVCNNTFSKRLSRKRNSIRPKI AEVLE GVRAVGRGGKTQVENSVLSRLARAWDALSAKVAQVLWG



## G\| IRAES IDDGTLRTDNSYESRGEMLLP\LLPETNNELF

 GVELAARAGKIKVSSTLESRLDLIANQIVPQVRTALFG

## 

GVVVQSTDGQLTLDFSYQTFMGEVWETSDKDASELLFG GLLL RRGRVDI NCTFSMLLQRRRESLSAQVAEILE GLLMTAKNGKI QLDNTLEKRLHLLEEQILPELRFDLLG GVI ITNKEGTI ILNNTIEARLNRQKDYURKELGKDL G\|LVEGEGAELQIDYSYRTFLSGVWESGLKDASDILFG

G I L LT NQAGD\|IVKNTLDVRCDLAFQDSDPDDRSYMF



|  |  |
| :---: | :---: |
| UniRef90_R6ID |  |
| UniRee900 13 TFL8 | VARAUEEKA |
| UniRee90-RSEG73 |  |
| UniRef90-D9SX40 |  |
| Ref90-O2FNK3 | DLMDQVYKQALDKIVSMPESFHEEAITSLLRKAKEED P |
| UniRef90-D91 | IDQAFAGAEDKLLNLDAERYQDLVYRLI LTS STIDGNEE |
| 90 | K |
| UniRef90- A6UP51 |  |
| UniRef90-V4HMV7 | E |
| UniRef90-W0E3W7 | P |
| UniRef90-C6LS1 | AYYAALCNI QESADTLGDD |
| UniRef90 | - ANCFFEAERRISELSSSNYPSVLALLINEAKLIEAGDS |
| UniRef90 A0A022TD38 | DELFERARGEVTTAATGKYEKTLAGL LIEGLYALNES |
| UniRet90- J1/ | LGRVADTVVI AGMPATFHEMALRALCPEAAAAVG |
| UniRef90- D1Y768 | ELIGRSFDGALIARLCKLAGDKY LAFMEKLLDQAVSSGDEE |
| UniRef90-Q46FHO | DLLDKVYVQTVEKIKSMPASKKEELLKNI L L S K EAS |
| UniRef90-D9C | SEVINEAISRLRSDRGEWYTRY: KSVIEELAEESKEG |
| UniRef90-A0AO31 UniRef90- $99 C J A 3$ |  |
| UniRet90-G0EE | EWILEKAVNEALRRLRSRVGDEYTAFLEDMLKRAAETGRET |
| UniRe |  |
| UniRef90-UPIOOO37C3 | ELRGAPSPQYPQILARLI QEASAALDNA |
| UniRef90 V6 | KLEEFTKNEYTRTMQTLLSEAVECCNLIT |
| UniRef90-UP10004711D9C | II DEITNRVKKTFSEISSDESSPLLDLI自EAINALDDD |
| UniRef90-F4BZO5 | DLLEKARTKLLEKISNLPKKDNEAMLKKM |
|  |  |
| UniRef90- ABABF5 | ELLCQVVEEAWKRALEEAEERYKKLLEKVMTIAMSNEAGED |
| UniRef90-D5TZR4 | I IDELFKQAENGLNHLDLLEVEKSLENLLTDSLKYVDKP |
|  |  |
|  | LEQVRILKFLDAVTNLPKDKNEALIKKLL LIEPYDLK |
| UniRef90-C1MP50 | VRGl LaEARDELRDASKPEYESLLVGLVEQGVAKLQAT |
| 1H1Y0 |  |
| C5VQ34 | L |
| UniRef90 LiQEI4 |  |
|  | EMVDAAFAAALDKI CTMPQADYVAYLAKLAAQAATTGTE |
|  | G |
| UniRef9-16ZT |  |
| UniRet90_A4WN95 |  |
|  |  |
| U | SVGLVVDAERAAVLETLFVKSVQALESR |
|  | DVVAKTFDMALEKVKNLPKDKYSKLILGML SYAEDGD |
|  | HLAPERYRKFLERCLREAEQA的GT |
| Un | DRSFEIISSLPESKDKELLNIIMNN |
| Un | ELIESALNRADEEAVKTNDDYRRTFLEKSLEKGVVALSST |
|  |  |
| UniRet90 S7U4C4 <br> NiPROO |  |
|  |  |
|  | KKLVKSVFLDCLNSIGEK |
|  | DVLREAYDSVRKRSFDT ENSIRNLTRESLRLVNAP |
| iRef90-UP10002D392B2 | QVMDKVFEEAEKRLSKVNLETFQEFVKTSIL ALDIDGDE |
| e90-LOA |  |
| e90-R4 |  |
| iRef90 Q6 |  |
|  |  |
|  | $\mathrm{E}$ |
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| :---: | :---: |
| UniRef90-13TFL8 | S |
|  | VVISENDKNVLTKAVF |
| Ref90-UPIO0036EEE87 | GAVIHCSPNDVGIVKEAVE |
| Ref90-D9SX | AD ${ }^{\text {d SRFKAKGKK }}$ |
| UniRet90-Q2FNK3 | KGRVSCAARDEKILKNVLKQSE K F S |
| UniRet90-D9RZY6 | IVVSEADKKRDELLEKVNNALKKQGKAGNDRLSEKRPDKG |
| UniRef90-J9NU | MIVCCGKQDFPLVKAAVPKV\ATKKDVDVQUVQPEERAG |
| UniRef90-148W766 | EGILYVGEAEKVITPEWVANFNKQHNAKIILAGEPMPFKG |
| UniRef90-A6UP51 | ELDLQLNKNDWKLTDALEKEMEDRLKKVTVKKGESLP DG |
| UniRef90-V4HMV7 | SVSVYGRASDEALLTRVLADYEGW SYAGEHDCFG |
| UniRef90- W0E3W7 | RLRVEANAHDLVLL RERWA A L L A APEGRELVEEPDTALGG |
| UniRef90_C6LS1 UniRef90-H1YZF |  |
| UniRef90-A0A022TD3 | KVQVRARKADYAAVRKAAENASKEFKDKTVEIDE |
| UniRef90-J1ASI2 | GGVVYCNARDDPTVKKDLAESEL A AFSIGEPTSVEG |
| UniRef90-X1AHX5 | DFISDQRKDSESFIEDINKELKSKGKKGELKLSTSLPIKG |
| UniRef90-D1 | AAGEKRIDQAWLDKYNASRGRKLTLSAEKTDIKG |
| UniRef90-Q46FHO |  |
| UniRef90 D9Q017 | I QVNNDDRKLVSDMIKAYP |
| UniRef90 J9CJA3 | NARDKAAVG EKLVNALGGKLHLSDSTGDFAG |
| UniRef90-G0EE14 | LA GEDDEGVG |
| 6TWZ1 | SI QLLSRDAGMF AAISGHPSCKDEDEPETAG |
| UniRef90-UP100037C3 | EVV VEVHPNEVTAAQMALAQL |
|  | HAS |
| UniRef90-UPI0004711浐 | KARIYVSPKNDSSVRKSFKEDKQLADRDSEITEFNGS G |
| UniRef90-F4BZ05 | DMKVYSNKRDEAFLSSLAPNY |
| S5Z | DLVINPCYGSKDIP ${ }^{\text {VVV }}$ |
| - |  |
|  |  |
| UniRef90 D5TZ |  |
| A0B9K5 |  |
| UniRet90-C1MP50 | a |
| UniRef90-X1H1YO | NEIDRQFINR NSELGPGYKGNLRLSDERQNLGG |
|  | NVITPQFVEELNKELKSKGKDGKLKLSSENRNDG |
| UniRef90-LLQEI4 | T M Sep ban k |
| UniRef90- R5A | RLTMSQATRDLA |
| UniRef90-D5VRE | V NLNKRDYERLEEALWKLEKEVKVTVLKKGEVVDILG |
| UniRef90_16ZTI2 |  |
| niRef90_A4WN95 | IYTSPKDRGVVEADARNMGLTG |
|  | DKQRGFIENTNKKLSQKGПDGKIKLSEEKNISG |
| B8DC | RLT RVNPEDEPAVADITAATKDRFPGLEASVRGDAGIPG |
| UniRef90-R7KBL4 |  |
| 硅 |  |
| Lok |  |
| UniRet90- XOY1G1 | TI QILSGDVEKKLLKGVITKIEANVREIKLNLGKRVGPEG |
|  | RLTIRARPEEAELLTAILNHVAERFPELKVKPDESLTTGG |
| UniRef90-UPIO004784B | RLVITVHPDDESMVSAIIQNAQHHYNGLEAVKSDPATTAG |
| UniRef90_B0K8F1 |  |
|  |  |
| UniRef90 E8RAJ3 | KKIV VKGDLEAARR VAELG |
| iRef90- LoABW4 | GLI VYTSEDDKDLVKKLNKTSSQKNIEVSTQENANII G |
| R4G4 |  |
|  | G |
| UniRef90-U2Q103 |  |
|  | R |
| U2CGL8 |  |
| UniRet90_N9WKD6 |  |
| UniRef90-UP100047B4166 | LVLSAEDAKQYQi MNEANALLQQAGKPASLTLSSEHRQTG |
|  | G |
| UniRef90-G7WRE9 | KVKSSKKDEFVSSLAPNFA |
|  |  |
| UniRet90_R6DDF6 |  |
| UniRet90_F4BA63 |  |
| UniRef90 UPIO001E30153 | VLLSSKDKLRLPSGFIDDVNKKLVQRGLISDETRNISG |
| $\begin{aligned} & \text { UniR } \\ & \text { UniR } \end{aligned}$ | ESLILNNDVSKEVVEQINTELKAKGLKGEIKISETVGSFR |
| A0AO37ZOP5 |  |
| UniRef90-U6EY44 |  |
| UniRef90-10A | $\mathfrak{G}$ |
| C7LW70 |  |
| G8N8E2 | N |
| R61 | VYVRPGDMRFADDI KKAFGRDCKVESSDET G |
| UniRet90-D6PC57 | RPVEVDRAA ${ }^{\text {a }}$ SKEAGRK VGESVDGLG |
| UniRef90 B3TBQ5 | G |
| Ref90-D4MS11 |  |
| ef90-X1B |  |
| Ref90_X118180 |  |
|  | G |
| - $\times 1$ | G |
| 384F41C | DRSRVKVATRANELLAKEGRCAQLRLSSEARDFR |
| UniRef90-A1RSF2 | G |
| Q4J8M1 | GAIVYCSNNDKKFIEGGLTT KRINNVSVEVDNSUK |



UniRef90-A0A022TD38
UniRef90-J1ASI2
UniRef90- X1AHX5
UniRef90_D1Y768
UniRef90 Q46FH0 UniRef90-D9Q0I7 UniRef90_A0A031LPI8 UniRef90_J9CJA3 UniRef90_G0EE14
UniRef90_V6TWZ1 UniRef90-UPIO0037C3DC6 UniRef90_V6TK57 UniRef90_C4JPD1 UniRef90_UPI0004711D9C UniRef90-F4BZ05 UniRef90-S5ZLF0 UniRef90-X0RJG0 UniRef90-A8ABF5 UniRef90-D5TZR4 UniRef90-X6NCV9
UniRef90-AOB9K5 UniRef90-C1MP50 UniRef90-X1H1YO UniRef90_C5VQ34
UniRef90_L1QE14 UniRef90-A0A023X7B1 UniRef90 R5AWT4 UniRef90-D5VRB4 UniRef90-I6ZTI2 UniRef90_A4WN95 UniRef90_E4U989
UniRef90_A3DHN7 UniRef90_B8DQW2 UniRef90-R7KBL4 UniRef90-H5SNE8 UniRef90-LOKYL6
UniRef90 A1RYD4 UniRef90-XOY1G1 UniRef90-S7U4C4 UniRef90-UPI0004784B73 UniRef90_B0K8F1 UniRef90-J9DP38
UniRef90 E8RAJ3 UniRef90-UPI0002D392B2 UniRef90-LOABW4 UniRef90_R4G439 UniRef90_U2Q103 UniRef90-F4A012
UniRef90-U2CGL8
UniRef90-K7VGT5 UniRef90-UPI00047B4166 UniRef90_G7V9Z6 UniRef90_G7WRE9 UniRef90_B6FYC6
UniRef90_R6DDF6 UniRef90-F4BA63 UniRef90-UPI0001E30153 UniRef90-R6FXL9 UniRef90-B1YC21
UniRef90-A0A037ZOP5
UniRef90_U6EY44
UniRef90-IOA1T4
UniRef90-C7LW70
UniRef90_G8N8E2
UniRef90_R6IU25
UniRef90-B3TBQ5
UniRef90-D4MS11
UniRef90-X1BI99
UniRef90-X11118
UniRef90_A4YI04
UniRef90_A5GCQ9
UniRef90-A5GCQ9
UniRef90_X1S0A0
UniRef90-UPI0003B4F41C
UniRef90-A1RSF2
UniRef90_Q4J8M1

## C







 GVVUVSVDGKVVCDVSLDDRLRVAFENNLPEIVRGIF GFVL K F G R I KNNV K L E VLL A LARKD L E I E L


 GVIVASKDGS VVVDYTLES II QNKLEEI
$G V V A V A K G G K T R V A N T L P D R L E R A W E V L S A K V S Q V L W$ GFILKSGD DEI NNSFEA乌I RMKREEVEAEVIDKLF
 GIVATNERGDLVVDNRLETRLANLRARYRAELGRAL GVVIENEDGTIRLDYTYDVILKGVNEQFLKQTSDDLFG GVVI VSRDGREIYNATLEAKIAEVRESVKPKVLE GVVLVSSDERMLFDNRFPARMKRMKNEMRLEAVKR GMVI ESADGM VDNTLATRWAAVEK



UniRef90_UPI0004544146 UniRef90 ${ }^{-}$X1RRW9 UniRef90_UPI00040D588B UniRef90_UPI000463048F UniRef90_F4X9T0 UniRef90_V9H8J8 UniRef90_I3XSR0 UniRef90_U1MI93 UniRef90_D4M875 UniRef90-D5EEF5
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$\checkmark$ LA QAFD $\square$ A QQE L R NVT QPEYRE $\square L A R L I S E A R Q A D P D A$
 LI D S V L C R A AKSFSSMDKKKY T QI MA GLL S DAAAAVVGE VI S KVFET T IVE LLCNASSD DFKGFVKTVI LDSTLAGDEN K IV V DLVNSMKEAASKELLHVSHHHHSYEHKDLIVQGLLRLKEP $E$ VI D S V F E K S DD E L C K M S D E D L K S F E M I S E V L N T A Y E S M I H A A D A E Y F E ML R K M L H K F V L A Q D G

WTIE NVVK E N A K K S D A I D NV F R L V V E R I N N M D DA S Y R D L F K K L I L N N V E T G D E ELAS DVIN SIJK K RI A E R G S E A Y G KL M MVLL N Q A I E IT Q S K L VDESFDRAMREI AEMDREKYKDLLVSLLEESMRLYGED

 WI S K V Y D Q V L R Q $D$ LI A DVY R Q ALVKMAELPKDEYLGFCARLLDEAVSTRDE



 LVDAAFRQAE QQLLDSLPTAE YTKLCAQLAARASAS GSEE QI TEE ITFAKATAKLQQETGPEYEKKL VGYAQECAQYFDKD E I S S A DA EA Q K A A C A LP E Q E Y F A L I L K M I G K Y S L P LDD G E $V L E K V F E Q A A A K L A A M P A H D Y K E W L V R L L V R A A E T G D E E$



 DILNRTFE EMLAELSEMDANEKGGVYKKIVDQGSKVIPS P
 E M A Q E V F A L V R A K I A A F T R T T Y G Q R L T A L L A E A L E QL G A E KVIE NVLE K SLLE K L S S L S K E E Y L S Y I K E RI L T L P P D D G D E KVI DEVFFDKARTALDDTLDESRYEALVTKIVVNGSETGTEK EI LA ETIDAEAEKRLLSLDDAAYAKVI DGML KKLDRS LGTE E L K D K L F


 $E \square K Q Q L F H D V A E R L A Q F S T P E Y L E Y L S Q R I Q E A R D F A G E D$
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UniRef90
CODAB9 UniRef90-R9T3X5 UniRef90 ${ }^{-}$R5XSY1 UniRef90-H1C165
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UniRef90 L2GUE2 UniRef90_R6G8A9
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 KGK CFSKKDLER1EDRVKEVVAENQGELVIDKEPANDKD CLINDGKDEDFLIQLNNELKSKV VILSEETRNFMG DVVVYVLARDRNRVVK GEVREDDSDVRGEURELESDLGG ALVVYLDPAD


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