## QUERY

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GAEHRLENVQKVNGVQF: NDSKATNVNATFYALECME GVEHRLEKVARVRGIQFINDSKATNVNSCWYALQSMK GVEHRDEFVREVDGVKYYNDSKGTNPDSTEVAVAAM DG GLA ARCRLVRIRNDVRWFNDSKATNVGACDAAI EGLAEDG GVEHRLEKVLKIQNVQYTNDSKATNINATYYALESMTTQ VPHRMEAVGTFNGIRFINDSKGTNVDATAYALAAYK
 GLPHRCRFVRELHGVRWFNDSKATNVGASIAALEGLAENG GLPHRTQWVRERRGVNWYDDSKGTNVGATVAALRGMP GLPHRTELVAEDNGIKFDNDSKSTNVDSLKKALESYED GEPHRVQPI GRVNGVEYYDDSKGTNVGATVAALSGLGPDH GLAHRFQLVLERNDVRWDNDSKATNVGSAEAALSGLHDDG GVEHRLEKVARVRGVEFINDSKATNVNSCWYALESMR
 GVEHRLEFVAELGVSYYNNSKATNSKATHMALTSFK GPHRLEHVAFI GGVNYTNDSKATNVNSVWYALLESFSPD GVEHRLEHVLKINKVQYINDSKATNVNATYYALESMSA GVKHRMQFVKEFAGRRFYNDSKATNMEATEVALKSFK GVEHRLERFLKVHGIEFINDSKATNVNSSWYALEGSVHK VEHRLETVAVVAGVTYI NDSKATNVDSAWYALDSMTH GVEHRLESVDEVNGVDYI NDSKATNVDSVWYALESMKD VEHRLENVLKIGGIEFINDSKATNVNATYFALESMKN GVEHRMEFVRQWQGVTFYNDSKATNPEAAFRALGAFPNK GLHHRCELVATVNQVDWFNDSKGTNI GASTAAI QGLERPK GVPHRLEYIASVDGVDYMNDSKATNINSTWYALESMR K GVEHRLEKVCKVDGVQYUNDSKATNVDACWYALESMK GVEHR|EYVTEKKGVTYYNDSKGTNPDAAIKA:QAMKH GVAHRLEYVATVNGVRYDNDSKGTNPDAAMKALEAYDV GVEHRIELVREINGVKFYNDSTASSPTRTПAGLNSFK GVEHRUEFVRELDGVKWYNDSUATSPTRVLAGLNSFK GVEHRI EYVDTVKGVAYYNDS
 GVEHRIEYVATIDGVRYYNDSKGTNTDAAIKAIEALDY GVAHRLQFVGEVDGRRFYNDSKATNNDATKKALGAFQN GLPHRLEFLGNFNGVEVYNDSKSTTPHALMHALKTFPDNS GVEHRMEYVATVRGVRYUNDSKATNVNSCWYALQSMT
 GVEHRCELVREI DGVKYYNDSTASSPTRTLAGLNAFDH GVEHRDEFVEVNGVKYYNDSKGTNPDAAIQAV LIAMPA GLQHRCEYIATVNDVTYUNDSKGTNVGATLAAIEGFKNEK GVKHRLQYVAEVDGRRFYNDSKATNI LATQKALAAFA DE GVEHRLEKVCKVGGVQYVNDSKATNVDACWYALESMK VPHRLEPVAEDNGVCYINDSKGTNPEATMKAINAYSN GLPHRVEKVGEKNGITFIDDSKGTNVGATVAAIAGLP

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 PTVWIVGGVDKGNDYEDLLPLVREKVKAIVCLGEDNEKLK PVVLVMGGVDKGNDYSAI RDLVKEKVKAIICLGVDNAPIQ KVVLI LGGTDKGNDYTEI EQLVKDKVRALVFLGVDNSKLH RVVLI AGGEGKGADFAPLRSAVRRSARAVVLIGRDAGMI A DVVLI AGGYDKGADFDNLDEKSKDKLKTAILFGQTAEKI S NVVLI AGGMAKDQDFSPLTEVFSQSLRALVLFGVDAAKI A TVVWVGGVDKGNDYSDLZPLVHEKVKALICLGVDNSKI PTVWI VGGVDKGNDYNELMPLVREKVKAICCGGVDNAKI ThYLLLGGDGKSADFTPLKRYLGGDRIRLYCFGRDGAELA KIVLI AGGVGKGQNFAPLSPILNNYVCTIVLIGQSAEELA PVVWI CGGLDRGVDFRELDPVMKGRVKAVVALGQTAP LLL
 KLVLI AGGDGKGADFSGLAAPIAANCRAVVLLGRDAELIA RIVVILGGDGKGQDFSPLVAPVSRHVRTAVLIGRDAGRIR TLHLLLGGDGKSADFSPLKPYLQGDNVRLYCFGRDGDLLA KVILI GGGKDKGNDYSE:EELVKEKVNAIDCLGVDNSKLH PIILIVGGYDKNVDFNPLFESFNGKVKTLI LVGDTKYKFY PTYLI GGGYDKNASYEEWI ESFDGKVQKLVLI GQTKEKDE PVVLI AGGLDRGSDYEELIDSMQGRVKAVVLLGETREKIA NII LI AGGVGKDQDFSELTSALKQSVKAVVLMGVDADKI A VLLLGGVDKGNDYDMLRDLVKQKVKAIICLGKDTSR1: H PTVWIVGGEDKGNSYEELYSFVNTKVKAVICLGVNNEKLL $K L I L I A G G D A K G A D D T E L Q P A L Q R D V Q Q L I T L G Q D G P A I A$ PVVWI AGGVDKGNDYSMLQGLVTNKVKAIVCLGKNNAKLH PVVWI AGGTDKGNDYTVLYELVKQKVKALVCMGVDNRKLI PVVWIAGGTDKGNDYTLLEDLAGQKVKTLICLGVDNRKLI PVIWIVGGTDKGNDYSELMPFVKKKVKAIVCLGVDNHKII NVIWI AGGLDRGDDYRRLDPLLQGRVKTVLTMGQSGPRIA VLHLLDGGDGKGADFEPLRPYLAGENDRLYCFGRDGAQLA KIILIAGGDGKGADFSPLAEVAEAHLKTCVLIGRDAPLIE PTLLILGGTDKGNDYNDLMELVKEKVVGLIYLTTDSAKLH PTVLILGGKDKGNDYNEIKDLVAQKCRALVYMGLHNEKLH PTILILGGKDKGNDYSQIYDLVKEKCRGLVYLGADNKKLH PTILI GGGYDKNSSYDEWIDSFGEKVRYLVLVGATKEKIA PTVLI GGGYDKGSEYTEWINSFDGKVKKLILLGDTKEKI A PIVLIAGGKNKGVSFTEFAGK\|KERVRVLITVGDHGGQ|E
 PIILI AGGMDKHADFTGFIEAFDSKVKALVLLGETADQ:A PTWLI GGGYDKKSTYDEWIEAFDGKVKELILMGVTAPKIA
 GLI WI VGGQDKGNDYNPLIPYVSQKVKAIVCLGLDNQKI PIILIAGGYDKGEDFTPFVRSFNGKVKALILMGVTADRIE PVVLLAGGLDRGNSFDELIPAFERVHTVIVFGETKDKI R VILIVGGKDKGADFYSLRHIVQKKVK ALA AGETKEKIK PVVLILGGTDKGNDYSDI SELVSDRVHHLIELGVDNDKLD PVVLVAGGLDRGSDYMEL LPALQEGVKGVVLLGETREKLA PTI WI AGGLDKGNDYSQ1 EELVRRKVKALVClG GADNHKLV KVILLAGGLDRGTDFNDLVPALRKHVKQLFTFGETAETLC PVVLIAGGLDRGIDFRELVPVLRKHVKAIVTYGQTADILL TLHLLLGGDGKSADFSALLPYLSGDNDRLYCFGQDGQALA

 $P$ TVV W V G G Q D K G ND Y L T L M P L V R E K V K A I V C L G W D N A K I I


 $P$ VI L L A G G L D R GNE F D A L L P Y L Q Q V K A MV L F G Q TA A K I G P TIL I I G G K D K G N D Y N E I L D L V K Q K C K A L V F L G A D N T K L H



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A $\square R P E V A E Q T E T M E Q A M R L 100$
110
APRVQ GDMVLLSPACASLD WQ G $\square$ KPLYAEKTLE EAVQKAYEVAKAGDVVLLSPACASFD
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 D L Q K GEFVEDLKEA VK KSF YAKEGDVLLSPACAS WD
 NAFEDVIVNTQTMSEAVQDAYHDAQKGDTVLLISPACA S F D ENLPSAAVFADSMDAAVEI GASLATPGDVVLLSPACASFD EAYENVVVEVQ TME DAVVKIA QSLAAES GDTVLLSPAACAS F D
 AVFYNVVDMTA GAEEAVVVAY KLGSTGGTVLLSPACACS D

 NS CKNHGVEFY $\square T E D A V E L A K K L A D K G D D V L L S P A C A S W D$ TPASVAVHYAANMQDAVEKAASVAHQGDVVLLSPACASFD

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 AALQDCGVPATTMADAVELAASRAHEGDAVLLSPACAS LD

 AS A K K N GI I VQ S D Y R A V V K KA Y A Lich E R N D TV L L S P C C A S F D
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 R A L
 ETARDNVI LADTFEEAVVMESARLLAREGBAVLLASPACAS WG



 DCAKDKIKFVVDSMEEAVSY $\quad$ KA GKAQDGEAVLLSPACASWG

 KCARENVYRAADMREAVMKAKNLAKEGYAVLLSPACAS WD


 A YFE GVI Y ETQRVVQAVARGLALGQPGDVVLLSPACASFD
 QTGKEVVCVNTQTLEKAVRTAYASSSPGDVLLLSPACASWD ARAGEAGVRVDTVDEAVSAAAGLAQEGDVVLLSSACAASWD $N L R P Q V S Q Q L T A T M E E A M R L L A P T V Q T G D M V L L S P A C A S D D D$
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1
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 GV|A H R I GVEHRIEFVKKVNGVSFYNDSKGTNPDSTLVAVKAMTN GLPHRCQWVGQHNGVDFYNDSKATNVGAALAAISGFATAG GVEHRDEFVANDDGIKF $\quad$ GNDSKATNPDAAQKA EADE GLPHRMEKVAAFNGVTFYDDSKSTNVGATVAALNGMK GVEHRLQFVKELDGRRFYNDSKATNILASQKALEAFN GLAHRCEWVAEHAGVAYYNDSKGTNVGAAVAA EGMPPQG
G V

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$V E H R D E F V A T K K G V D Y Y N D S K G T N P D A A D Q G I R A M N$
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I EHRLEPVLSVGGVLYDNDSKATNVDAAWYALEC QTK


 GLSHRVEKVAEINGIIVFDDSKGTNVGATVAALNGMSC GVEHRLEFVGKKNDVSYYNNSKATNTIATITALQAF QE GLAHRMQRVAEDDGIVWVNDSKATNIGACIAALQ GSDG GLEHRCEFVAQVHGVRWI NDSKGTNVGATQAALMGDSQSG



 GEPHRMQSVAVVHDVEYVNDSKGTNVGATLAAI SGLGRER GVEHRCEFVREI DGVKYYNDSIASSPTRTIAGLRAFE GLPHRFEKI FEKNGI CWDNDSKATNVGSTLAADKSVQCQG GVEHRLEMVGCFSGVTY $\backslash$ NDSKGTNTNATVTALN AVKE GVRHRMQFVTEYDGRKFYNDSKATNTLATKSALSSFE GLPHRMEFVREVNGVAWYEDSKGTNVGSVVKSLESF

 GEPHRAAFVRNVGGVDYI NDSKGTNVGATVAALEGDG Q VEHRLETVEVVNGVTYI NDSKATNVDSAWYALDSMHA


 GLPHRFQAI PTNDGVRWVNDSKATNVGSTVAALNGLNVAG GVEHRDEVREDNGVKFYNSSDDSSPSRTIAALSTFKN

## UniRef90_K1M496

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UniRef90 UPIOOO35 UniRef90-UP100035DEOF5 UniRef90-W1 J6P1
UniRet90 C6VTT2 UniRef90-UPIO0047594B1 UniRef90-R6RG04 UniRef90-LOFB23 UniRef90-UPIOOO469A1F1 UniRef90-M1YVN2
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 KVILIAGGSSKNNDFTQLAKMFRDKVKFLILLGQTAHQLK NVILLAGGLDRGNGFEDLEDALS CVKTLVTFGETAPKLE

 NIVLI AGGLDRGLDFHELI PVMRERVKAVVTMGQTRQVME
 KVILIAGGYDKNVPFEPLAEKGIDKDKTLILLGMTKDKIK PTLLI GGGYDKNSDYEEWIDAFDGKVRYLVLIGQTREKIK KTI GGGYDKGSDFNSLMENHAPNLRSLIVFGQTGPKMA PLI WI AGGVDKGNDYSLLDDKVDDHVKVLI CLGKENEKLK KQVLIAGGDGKGADFSPLLPAVQQHCRAVILLGRDAP:LEE NVI AGGDGKGQDFSHMKQAVANNARAVVLIGRDAKI A KVVLIAGGDPKGADFAELRKPVERCVRTLVLTGEAADAME PLVLI AGGLDRGSDYRELTPVLQERVKALVTLGQTGEKTQ PTLLIGGGYDKGSSYDEWI DAFGGKVRYLVLLGQTRDA: S P VLLAGGLDRGNEFDDLIPYFK NVKALVTFGQTAPKLV KVVLI AGGDGKGADFAPLAPVVARAARALVLIGRDAPRLA RVVVILGGDGKGQDFSPLAMPVSRYVRAAVLI GRDAPQIR KVILI AGGYDKHDPFDVLGPAAVQSVKCLILLGATADKIA PIILIAGGHDKGSEFDNFILSFKGKVKSIVLLGETKEKIK OLGGGYDKKSTYDEWIESFDGKVKCLLLIGQTAQDIA GLVLLAGGLGKGQDFTPLKRYLGHEVSAVYCFGKDKQKLE PTVL GGGYDKQSEYDAWIJEAFEGKVKALVLIGQTKEKI A PTLIIAGGYDKHSEFDGFIDAFGGKVKLMVCLGTDAEKI STILLAGGLDRGNDFDELMPYMS NVKALVLFGETSTKLR TLYLLVGGDGKSADFTPLKPYLSRDNIRLYCFGRDGNQLA PVILIAGGVDKGNDYSQIEALVKSKVKGLIVLGKDPVKLE
 PIVLIAGGKNKGLDFHDFMKIVKEQVKSLVLVGAAADEME DVILIAGGDGKGADFRPLANAL GSVTHLITLGRDGDKDA PVILIAGGKDKGGDFSALKEDFLGRIKYLVLI GEARSKIE PTILI GGGYDKQNEYDEWVEAFDGKVKLLVLI GQTKEKI A PVVWI VGGTDKGNDYSVMNDLVKEKVKAIVCLGVDNKKI H PVILLAGGLDRGNGFDELIPALK YVKALITGGETAPKLE PTVLI AGGLVDRGSDYMELLPAFQSRVKGLVAFGETKEKIV SVVLI AGGDGKGQDFSPLAQPVTQHARAVVLIGRDAKKIV KTVLI LGGKDKGNDYNEIADLVKENCSGLIFMGLHNEKLH KVVLI AGGDGKGQDFSPLAPAVSAHARAVVLIGRDGQRIG DIILIAGGLDRGLDFHDLDPALHAHVRGIVTLGETREKLA KVILI AGGDAKGADMKELTPVIKEKVKSVVLMGKDAELIR KVHVI LGGQGKGADFSLLRPVFNEVQGDIFCFGEDAALI A PVVWI AGGTDKGNDYGQLTEVVGRVKVLICLGKDNRLLR PLVWI AGGIDKGNDYSLIMETVNAKVKALVCLGKDNSRLR PLIWI AGGVDKGNDYTLLDPAMGGKVKVLICLGKENEKLK PVVWI AGGTDKGNDYAPLKEFARHKVHTLVCMGLDNAKLV KLALILGGQGKGQDFKPLRDAIQKYVKSVILIGEDAAVI E PIVTIAGGYDKGSDFEDFINAFNGKVDNVILLGETKEKIR
 PV PIILLAGGYDKKEDYSELMELVAKRVKRLIVLGVTADDLI PTILIAGGLDRGHSFEELRPHMN HVKALI GI GETGDRLL GITLIAGGKDKGGEYTPLAGLVKERVGHLI LIGEAKERMC PIVLIAGGLDRGNGFDELVPYLKGKVRNVVLYGQTADKMV PI RII MGGSDKGEDYSVLAADLQKKVKKAYLTGDTREKMR R| TVVLI AGGQGKGQDFSPLDADVSHBARAVVLIGEDAPAIG PVVWI AGGTDKGNDYSVLFDLVREKVKLLI CMGVDNKKLI KLILIAGGEGKGADFTVMGECLKQFVSLLITLGKDGDKIA KIVLIAGGYDKHDDYTPIAKPIVENVSKLILMGATAEKI A PIILIAGGVDKGTDFSPWISAFANKVKHI CVIGQATEKLD PIVLIAGGMDKGSSFDEMLEVAKANVKAIILMGETATKIE KAVLI AGGDGKDAEFSVLRPVVAEKVRAAVLMGKDAPRLE GIHLILGGKDKNSDYRTLRPLMAGRVKAVYTDGSAAEKIM TLYULLGGDGKAADFSELRPLINKPNIVCYCFGQDGADLA GVILIAGGYDKHIPFEPLADEGYPYIKELILLGDTRNKIIK

## UniRef90_K1M496

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 GELKDCGHFAVTMEEAMQKSFLLAQAGDVVLLSPACASFD RVATEAGVPVENMEEAVSLAYEQSLPGDVVLLSPACASWD STLGDLVIRADSMVDAVRKAATAAQSGDVVLLSPACASFD RAAEQAGLTQEADAEAVERAALLAEPGDTVLLSPACASWD DCAKRHGFFAEDMQEAVKVCASYANAGDYVLLSPACASWG ECCDKHGVFKDTYEEALEFCTESAQKGDAVLLSPACASWD RAAEDDI ESVDTLDEAVVKAYAHSKEDDVVLLSPACASWD EVLGGPGQNDDMDDAVRQAAALAEPGDSVLLSPACASFD AALRDAGVPAPTLPEAVRLIAAQRAHAGDAVLMSPACASFD TAVEGALLRVSGLEEAVQTARAQAASGDVVLLSPACASFD DTAFNNVYIVDNMEEAVIKSYGLAESGDNILLSPACASWD
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 KTARDNI TNTDSLENAVQICHDNAVSGDVVLLSPACASWD KVGEENIVEVVDSMNEAVQKAYQLSNKDDVVLLSPACASWD TYFAGKVYATEDVRDAVNKGREWGVPGDVVLLSPACASFD QALGSTGVAADSMEQAVNTAMGLATSGDVVLLSPACASMD ETAHACGFMADNDEEAVNDCAQKAQKGDAVLLSPACASWG (1)AAQDVGTQARTFEEAVELADAEAKSGDVVLLSPACTSWD ALKEGALKVGSMAEAVSKAAELASSGDVVLLSPACASLD AVLNGSHEAAQSMDAAVQVAYTHAEPGDVVLLSPACASFD ECARKHGVFADTFEECMEICVKNAVSGDAVLLSPACASWG EAFES IVKDTLSAEEAVKASAAFAKDGDVVLLSPCCASFD STAKKAGIDPVENVEAVPVAWALSEPGDCILLSPACASWD RVARLAGDARETVEEAVREAQALAKPGDVVLLSPACASWD DFFGGVVDKAKSMVDAVNTAQGFARSGETVLLSPACASFD AADEDCGHHATTMEEAVRRSFALARNGDAVLMSPACASGD EFFDGYGDPVRSMKDAVDAAYNMAKKGETVLLSPCCASFD AALIGCGVAASLEKAVTLGFEQAHPGDAVLLSPACASFD QALNGCVYFAANMSDAVKTAANLARRGESVLLSPACASLD SVDPRI QRVDDLAQAVCLAEQAATAGDIVMFSPACASLD EAFEELI PDTSSMEEAVNAAKEVAEKGDVVLLSPACASFD DAFHEQ DETNNMKDAVRSALNYAEAHDVVLLSPACASFD TAFAGKIKETESDAEAVAWSLDLGKSGDVVLLSPACASFD QA DQGII QHANSLKHAVDLAQQATHAKDVVLLSPACASFD KAAIKNIYUVKDMEEAVLKGYQISNSPHTVLLSPACASWD LALGATVPCVETMEQAVTRGRELAKAGDIVLLSPACASFD DAFDKAMYMEDGFNEAIYRAKDIANEGDAITTLSPACASFD ALLRPEVSQRTETLEQAMKLLKSRLKKGDTVLLSPACASFD KAANAAITKVETYEEAVSCAKAEAVPGDTVLLSPACASWD QFAEGTVYEAGTLHEAVLKAYAVSEDGDTVLLSPACASWD NALGSLTHLADTLEDAVALAHRLTSPGGVVLFSPACSSFD DAAQKAITKVNNLKEAVPEAYRQSNEGEVILKSPAAASWD EAGRSAGVKTTTHEEAVRKAEEDSEESDTILLSPACASWD DMLHDNKIVVRDLTDAFNYASSGABNGDTVLLSPGCTSFD DSFSP MCEVIDTRDATMEEAYRRAVEGDVVLLSPCCASFD SLHSNNVKVQTIQEAVLVAAKHSQAGDIVLLSPACASLD
 KSAKMKGINVNDMEEAVKMASSLAYPGDNVLLSPGCASYD $K S A K I K G I N V N D M E E A V R I I S H Q L S K E G D V V L L S P A C A S W G$
$Q A L R D V V G V Q M R Q A V Q A A S L A Q R G D S L L A P A C A S L D$ QALRDVVVCVQNMRQAVQAAKSLAQRGDSVLLAPACASLDD


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| UniRef90-UPIO0042947A3 | QFKTFEERGNKFD |
| UniRef90-S6CEV9 | QFRNYAERG |
| UniRet90 | ENFEHRGR |
|  | MFDSEEERGDYKELVRKF |
| UniRef90-UPI0004267CDE | MFNSFEERGRMFKEALHTL |
| UniRef90-EORGM9 | MFRSYEERG |
| UniRef90-C3JBD6 | LFFNYEDRGEQF |
| UniRefolouliouats | MFKNFEERGRDF |
| UniRef90-A1SU17 | MYKNFMQRGDHFKRLVKAL |
| UniRef90_UPIO0036A3012 UniRef90_UPIO0037A6F59 | QFKNYQDRGNKFTKAVLGL |
| UniRef90-IOGKM2 | MFRDFED |
| UniRef90-UP10002F | QFKTFEERGDMFINCV |
| UniRef90-UPIO0033 | QFKTFEERGDMFVHSV |
| UniRef90 Q09BM1 | QFKNFEDRGETFKRLV |
| UniRef90-UPI0002D61 | MFPSYEER |
| UniRef90-G2 | MFDNYEHRGRVFADAV |
| UniRef90-E9zZQ1 | QYKSYVDRGNQFAQAV |
| UniRef90-I7KT04 | MFKNFEERGNRFKEl |
| UniRef90-C6LH06 | MFPNYEVRGKVFKEL |
| UniRef90-D1VUD1 | MYSSYEERGKHFKKI |
| UniRef90-S7V | LFKNYEDRGDQF |
| UniRef90 UPIOOO3A18F0B | MFRNFEERGELF |
| UniRef90-F4LT | MFENYEERAEVF |
| UniRet90-W4QP15 | KTFEERGKRFVEAVESLS |
| UniRef90-UPIO004661 | MFRNYQDRGEQFRQAV |
| UniRef90-W2EA51 | MFSSFEERGSMFKESVHNL |
|  | MFPNYEVRGKVFKECVR |
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|  | QFK |
| UniRef9- F007Y | MFRNYEHRAEV |
| UniRef90-E6U6U1 | MFKDFETRGDLFKN\V |
| UniRef90-M1ZCJ0 | MYNSFEMRGNDFKKAV |
| R5PHT9 | MFDNYEQRGDMFKEY |
| UniRef90_N6X | MFTNYEARGA |
| UniRef90 R5EDBO |  |
|  |  |
|  |  |
| UniRef90-R6QSQ5 | MFKSYEERGRLFKEY |
| UniRet90_UPIOO035DE0F5 | QYKTFEERGNMFMES |
| UniRef90-C6 | LFKNYEDRGDQFK |
| UniRef90-UP100047594B1 | NYMQRGDAFA |
| UniR | Q |
| UniRet90_Lor | MFKSYEERGEFFKEL |
| UniRef90-UPIO00469A1F1 | MYSNFMARGDDFRQLV |
| UniRef90-M1Y | MFRDYADRGERFRECVQRL |
| UniRef90-F7K81 | MFPNYEVRGNMF |
| UniRef90-R6 | KCYEDRGEQFKAAVRNL |
| UniRef90-F773Q4 | QYKSFEDRGDIDFDAV |
| UniRef90-UPIOOO248CC70 | MFSSYEERGSMFKESV |
| UniRef90-G1XE74 | SYEDRGRQFKDAV |
| UniRef90-M5DX27 |  |
| Unif |  |
| UniRef90-S6 | MFRNYEHRAQVFVAA |
| UniRef90-UPIOOO363D | MFASYEQRGRIFKEA |
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| UniRef90-UPI00034D2959 | LFRNYEDRGEQFMRFT |
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| UniRet90-U5BQ08 |  |
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| UniRef90 UPIO0047BCCA0 | M |
| Un |  |
| 5AIG |  |
| UniRef90_AOP) | MFPNFEVRGNKFKE |
| Uni | QFSDFEQRGQEFSH |
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| UniRef90_UPIO0046F08DE UniRef90_A5G8K2 | QYPNFEARGDEF |
| UniRef90-UP10004683978 | QFDTFEQRGDQYDDE |
| UniRef90_B0VH51 | RFNNYEERG |
| UniRef90-D6XTM6 | QFRTFEERGDTF |
| UniRef90_GOEJ47 | MF KN |
| UniRef90_UP100035C91D2 | MFRGYPHR |
| UniRet90_UP100036F049D |  |
|  |  |
| UniRef90-F8KYA0 | FENYAHRGKTFREAV |
| UniRef90-UPIO00463DF80 | MYENFEVRGQDFKDNV |
| iRef90-UP1000418F065 | QYKDYQERGRVETEEVM |
| UniRef90-C1F460 | QFENYEQRGQVFKDLVLA |
| ML37 | QFKNFEHRGDVFMALAQK |
| iRef90-S0FVW3 | MFKNFEQRGNVFKELV |
| SiRef90_R9CHL8 |  |

## UniRef90 D7UXP9

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UniRef90 W4CKZ3 UniRef90-R410J6 UniRef90_UPIO003795F3B UniRef90_C9LJW5 UniRef90-A0A037ZOY4 UniRef90_V2ZFQ1 UniRef90-UPIo003B647B5 UniRef90-D4W6R1 UniRef90-Q07WI3 UniRef90_B1YIT8 UniRef90-M5DP35 UniRef90_-Q15Q15 UniRef90-R9M611 UniRef90-UPIOOO360D56B UniRef90-UPIO002624AC5 UniRef90-D4YRY2 UniRef90-Q899G5 UniRef90-I1YGJ7 UniRef90-A4A5F8 UniRef90_UPI0003F55AAF UniRef90-D4YIS6 UniRef90-O1YSD3 UniRef90-A6CTV1 UniRef90-L7EHH7 UniRef90-UP100047B3C4B UniRef90_A6LPL7 UniRef90-B9XIG9 UniRef90-UPIO004705D65 niRet90_D2RKR2 UniRef9O-UPIIO00360BDA3 UniRef90-UP10002E9EB06 UniRef90-R7G311 UniRef90-B2KEW4 UniRef90-Q31161
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 V E H R I E Y V A T KN DVVMYYN D S K G T N P P A A A V K A GLPHRVEWVATDNEID FYDDSKGTNVGATCAAI KGMMKA G


 GVKHRMQYVAT $\square$ K N RLLF YNDSKATNILATKKALSAF V E HRIE IV ATKNGVDYYNDSKGTNPDAADQGIKAM
 V E H RVV Y V T TII N GVE Y Y N D S K G T N P D A A IVGI Q S M D R


 GI P H RI E WV RLLNDVD Y FND SKGTNVASTVAALENFRDKK
 GVVE H R



 G V

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 GLSHRCELIAVVKQGVVYINDSKATNVGATVAALEGLDNHG GVAHRTE YI GEFAGRKVYNDSKATNNVATEAALSGF Q S GLA H R C Q WV R N $\square \mathrm{N}$ G V D Y F N D S K G T N V G S T L A A L K GLL G R N G


 Y N SKS TNIEAATVAPS FK GVE H R L E F V K E I Q E V K Y F N D S DA S S PT R T LAAALQS F D R GLLP H R C R R L V R E R R G V GL A H R C E L V V L E S G G V



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 PTI WI AGGQDKGNDYEELLPLVKEKVKAII FLGKENKKFV PLI WI AGGVDKGNDYAVLMQDIKDHVKMLICLGKDNAKLL KiVLI AGGDGKGADFDDLAEPVASFVKALVLI GTDANKI A PLILIAGGDDRGSDYMELDPVFRDRLKGVVALGETREKIR KI LLLGGLDKDGDFSELNDDIKKKCKAVVCFGRDAKNI Y PTVWIVGGIDKGNDYTE EDLVKRKVKALVCLGLDNQKIV PTILI GGGYDKGSEFDLYVKAFKDKVKLLVLDGQTAEKIA KVVLLAGGDGKGQDFSPLLEAVQANARAVVLFGRDAPLIE
 KLILIAGGYDKHDPYDVLGKP CCEHVKTLLLTGATAPKIR PVVLI AGGDGKGQDFGPLREALAHTTRAVVLIGRDAPGIA PVILLAGGLDRGNEFDELKPHMS FVKAVITFGETAPKFE PT LLAGGLDRGNEFDDLKEEFKNVKAVITFGETAPKI E PTILIGGGYDKGGSFSDWIDRSFDGKVKCLLLLGDTKDRI A KAVVI LGGDGKGQDFSPLKAAVEANARAVVLIGRDAQLI D KLILLCGGLDRGNDFESLIPSLEGVKAVILFGQTKYKLE PTYLI GGGYDKQSEYDEWI ESFGGKVRKLVLGGQTREKIA NIILIAGGESKGQSLLPLRDHIKRNVTHLLLI GKDAKLFE PVILIAGGLDRGSDYMELLPVLGENVKALVTLGQTRDKLA GLHVI DGGLDKNSDFAPLVDALASRAVSVALIGTAAEKIA RIVLLAGGLDRGSDYMELLPLFKERVAAVVAVGETRAKI A NLVWI VGGVDKGNDYNLISDLIEKYVRLVICLGKDNTKI V PVILI AGGYDKKDPFDILAEEGYSKIKTLVLMGATKYKIK PVILLAGGLDRGNSFDSLLPYLGGVKAMIVFGETAELLM PTILLAGGLDRGNEFDELKPFLKNVKAMILFGETAPKLE PLIVILGGKAKLADFSELTGVLAEKIRCVVVYGASRKTIE RLFLLLGGDGKGADFSSLQPLLQDSHIHLYCFGRDGAQLA KTLLIGGGYDKNLEFDAWIESFDGKVKCLLLIGQTKDKIA NLLLIAGGYQKNADYTELLEDAKDKLKALILLGETKYDIK KVVLIAGGLDRGNDFDELIPAFTS SKHAVFYGETKEKLT KVVLI AGGDGKGADFAPLQAPALLHCRALVLIGRDAGLI A KVIVI LGGQGKGQDFSLLRQSVEKYVKAAILI GEDAQQI E RVILILGGTDKGNDYTD ENLVLSKVDGLIFLGGDNEKLH PVVLLAGGLDRGTEFDELKPFFK NVRAVVLFGETKHKIA $K L H L L V G G D G K G A D F S E L K T V L A D L N V Q L Y C F G R D G Y Q F A$ KVVVI LGGQGKGQDFKALRAAVQQYVKTVVLIGEDADKDE KLHLLVGGDGKGADFSELKLVLANLNVQLYCYGRDGHHFA PVVLI AGGLDRGSDYMELLPVLSGRVKALVALGQTKDKLI TLHLLLGGDGKSADFSPLLHYLQGNNVLLYCFGRDADQLA RIILLAGGLGKGQDFTPI KNLLGHEVSLMLCFGRDGGMLR PVVLI LGGTDKGNDYNEIAPLVREKCRALVFLGADNSKLQ KVILIAGGYDKKПSFNPLAEEGYKNTKALILLGVTRVKIQ KLII AGGYDKGVPFTQLGMAMVEKVKVLILTGDTAPAIK R HWI LGGKRKTDDDDACKPFYGHVVSAWTDGEAAELFE DLYLIAGGDGKGSDFRPLTEPLN NI TQLITHGEDGRKGA PIIWI CGGLERGADLDPLKSAMT HVKHVIGLGETGQRFA RIWLLAGGEGKGQDFSELAEFCQTYVAEVLAYGDDATRIV KLTLIAGGDGKGADFSPLEERFNVQVNELITLGKDGPKLA KIILIAGGKDKGTPYDALGPEVNEHVKLLILCGATAGVIR PI LLLAGGFDKHISFDLLKPY QDRLKALYVFGESADQUQ $P L V M L G G G D V K G A D L S P L Q Q A C R D Q R A A V V L G K D A K K I A$
 KQVVI LGGVGKGQQFDALTPVLERHAHAVVLI GDAAELI A RLILIAGGRDKGADFRVLKPAVAAHCDKVLLI GEAAPVIA VILIAGGYDKHDPFKPLADEGYKFПKTLILLGDTKEK】K NVI WLAGGLDRGNEVTELADHM DRVKGMVVFGQAADKFA RLILIAGGQGKGQNFTELKAPLGKFVKLLALFGEDAQSTA NLIVIAGGDAKGADLSALKPY KSHVKALVCFGKDAAELA PTVLAGGLDRGNSFDELIPYLKKNVKALITEGETAVKFL PVILLAGGLDRGNGFEELDPSLKQVKAIVTFGQTAEKI E KVIVIAGGYDKNIPFEPLAYEGYPYIKELILMGATKHKIK NIWLIAGGKDKSLDYHDVGPLMSQRVKGAFLIGEAREKI A QLWLLLGGDGKSADFTPLDPYLQRDNLKTYCFGRDGDELA HVILLAGGHDKMTGDDDLMEAVKAKTDALILLGEARQRFC IILIAGGDDRGSDYMDLDPVFQSQVKALVVLGQTRHKLA RVILLAGGEGKGADFTPLAAPLARHGREAILFGRDAERLA PTVLIVGGKDKGLDFGGLFDGIKGNVKAVIATGESAFRIA KTWLILGGQDKGSPYGVL DPLLETKCKKVLLVGQAAAKIK QVILI AGGVGKEADFNELGQAVVQSCRQALLFGQDKAIIA RLYLI AGGDGKGADFGPLVPALRDDIALTYCFGKDGARFA PTYLI GGGYDKGADLEPLGPVLRKYCKAVLCFGRDGKLF PTYLIGGGYDKQSEYTEWINSFDGKVKKLVLIGQTREKIA KVA1, LGGQGKGQDFTALRDALSKYAKLAVLIGEDADEVI E KQIMI QGGSDKGVSFEPMAAPICEKVKVLILMGQTKDKIR PVVLLAGGLDRGYTFEKMDPAFKDHVKALILEGQTAKLLAA PIILIAGGDGKGADFSLLKQSIQSNVSGVILLGRDAKRFQ KVVLIAGGYDKHIPFDVLGPEVVEHVKALVLTGDTAPKLR NIIVILGGRNKGSNFASLIDPVLTQTVKHVVAMGECRTEIA PMI WI AGGVDKGNDYSVVTHLENGKVKTLICLGTENEKLK KII IIAGGYDKHDPYEPLGPVINDKVKVLI LLGDTAPKIE PVVLLAGGLDRGYTFEKLVPALRQHVKAVVLFGESKEKMA
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$R \prod G K Q S V|F Y| 90$
90
100
110
VI A AV PVAFEASSPGDVI LLSPACASWD NF F Q DVIVETESLRQAVRIA YLLS $\square H G D N I L L S P A C S S F N$



 K $\square$ AK D A GVVPVQT TETAVVPLA YEVVRPGDVILLSPAAAS WD ATAKKYGIYADSMEEVVKI CAQNAKPGDAVLLSPACASWG A V L E L P IVY A A DD LK E A V A LAA H K VA S P G D A V L L S P A C A S F D RAAREAGIIRVHNVVDAVPAAYSFSEEGDTILLSPACASWD A A AKENVI MTDSLVEAVVVSSKQAVSGDAVLLSPACASWG

 $K L A E E M G I Q V D N V E Q A A T A A F S L S D E G D V I L L S P A C A S W D$ ECADKHGVFMETYADALKFCSDNAVSGEAVLLSPACASWD $R$ V A K E A GIVQVDNVK Q A V S E A Y A Y S D E E DVI L L S P A CA S WD QEAE ECGFFVE SLEEAVVKTAHDDAK S GDAVLLSPACAS WD AA $\square$ A GCGVDVTSLADAVGQAQRLAHPGDAVLLSPACASFD D A A K K A GVVFVEDAE EAVV LAA Y ELLS QKE DTILLLSPANA S WD D CA K K H GU F V D D L Q Q A V D Y C A E H A K E G E AV L L S P A C A S W G R MLLA S VCEVVVS SLLE EA V R RAAAAAA S P GE VV L L S P A CA S F D ECFKDI IVVRESMDDAVCHAYRFARKHGVILLSPACS S DD
 GRLPQP ITRHASLEDAVHSLARRARPGDVVLLAPACASFD $K V A E K T V D P L E D A E Q A V R E A A D L D A Q P G D L V L L S P A C A S W D$

 KTA E D A KV DTME EAV HEAYRQSEAEDVILLSPACAS WD A F A P P


 T S A DK A GE LVA T L P E A V LAA A S H QLLA E G DVLLLFS PA CA S WD
 QALTETTVVHASTLKDAVTQAQQYAQPEDVVLLSPACASFD KFF D GKISSRACSMHEAVVSLAYKMASSKGDTVLLSSACASSDD $R$ VA T E A GVVIVVT DVVE E A VVPV A Y E Y S E P G DVI L L S S A A CA S WD

 $N V A Q K Q D I V D N G E A A V R E A S A L A E E G D V V L L S P A C A S W D$ QLRLVDATITETMEQAMGVIARQIQPGDIVLLSPACASLD



 AL ADEHCTVYD HLDDQAVEDAYEQADAGDIVLIFAPACAS WD KLK K A T DEVATMAEAVAKAAEGASS GDIVL LSS A CA S LDD DLATEASTVTREMEEAVATAFDVSKPGDIILLSPASASWD D GVVDGACK QWQ T IDDEA L NHARRQHAQKNDVVL L S PA CA SFD

 QMLE NVVDYADSMQDAVLKAASRAMPGDQVLLSSACASTAD DAARKAGIVDNTLQEAVPKAYELTEPGDVLLDFSACAS WD EAFKKVIISICNSIVEEAINDAKENGES GDVVETLSPACAS FD
 E A L G D A G D S

 ALLTSKSHLV NTMQEAVVFAKVLVSKRGDVVLLAAPACA S IDD ETAAAKAGIQVDNVEAAVPAAYEISEEGDVILLSPACASWD
 K A A $\square$ K I I E R V V N V V E K A V P S A L K L DVFDNNINMVESLEEAVRLAESIANQGDIVTLLSPACASFD
 A LLRPEVVSVRTDTLLQQAMAADAPQTAPGDLVLLDSPACA S LDD
 RVA E MA GVVAS QAVY QAVVQQA S ELLA E T G DVVLLIS PACA S WD
 K DLPGYKYFCGT IDDKAVEYAFNNAQKED DILLSSPACASBCD


 D K V K E F GYQVVS GI E EATHQAS QLA S Q G D VVL L S PA CA S WD QAI A GTTTHAAASLQEAVELCQQHTQAHDVVLLSSACASTD
 QTAKDAGIMTENVETAVPLAYQLSAPGDLVLLSPANASWD


 KAVVEAI DNVTNMEEAVEAAVNHAEKGDIVELSPASASFG


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| UniRef90-UPI0003F59AB1 | MFPSYEVRGRIFKE |
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| UniRef90_Q039R8 | QYPNFEVRGDDF |
| UniRef90-R5E1L3 | MF DNYE |
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| UniRef90 UPloou4130 | QYKTFEVRGDMFMEAV |
| UniRef90-R5R | MFKNFEERGKLIKKEY |
|  | MFSGYEERG |
| UniRef90-Q65J | DMFVNAVHML |
| UniRef90-UPIO00047B3DC4 | MFPSYEVRGKEFKDYVNSL |
| UniRef90-D5DJT6 | QFKTFEERGD@F TESVHKL |
| UniRef90-R6YK | MFDSYEQRGTMFKDFVRGL |
| UniRef90-UPIO0036C414B | MFRNYVHRAEVFVAAVNKLAAE |
| UniRef90-G4 | QYPNFEVRGDHYIAAVDQLKKE |
|  | MFPNYEVRG |
| UniRef90-D5M | MFTDFEDRGRVFKAAV |
| UniRef90-AOF | MYKNYTERGNHFKEIVQRL |
| UniRet90-W4E182 | MFTSYEERGRMFKEAVHNL |
| UniRef90-G2LFK1 | MFDNFEHRGRVFKATVKGL |
| UniRef90-AOAO | MFESYEQRGR】FKQ |
| UniRe | KNYEDRGEQFKK |
| UniRef90_B9D | MFANFEDRGNMFK |
| Ref9- | RTFEERGDMF |
| UniRef90-UPIO003621632 | AYENFEVRGEHFKAL |
| UniRef90-R8AT83 | QFKNFEVRGHEFTRL |
| UniRef90-D4KR | KDYTQRGELFRQY |
| G4D | S Y EERG |
|  | QFKNFEDRGRVFKE |
| UniRef90-W5YII1 | MFRDYLDRGEQFRALVEAL |
| UniRef90-Q6FFC2 | MFKGYPDRGHQFVACVDAL |
| UniRef90-B2RIE9 UniRet90 W7CG38 | LFQNYEDRGDQ |
| UniRef90-D0YW92 | QFANFMARGDAFIELATEL |
| UniRef90-K6W005 | MFKGYDDRGHQFVACVKAL |
|  | QYPNFMARGDAFVA |
| UniRef90-W4CK2 | A |
| nire | CNF |
| UniReif90 C9LJW5 | QFKGFEDRGDKFAAMVENLI |
| UniRef90-AOAO | MFPNFEVRGNRFKEI |
| UniRe990-V2ZFQ1 | QFKNFMERGKVFKR |
| UniRef90_UPIo003B647B5 | QFRDYEARGDAFRAAVAML |
| UniRef90-D4W6 | QYQNFEQRGDHF |
| UniRet90_C07V | KNFMARGDD |
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| UniRet90-M5DP35 | MFKNYQQRGDLFVKAVNTLVA |
| UniRef90_Q15Q15 | MFANFMERGWVF |
|  | QFENFENRGNIFKEYVKTL |
| UniRef90-UPIo002624AC5 | MFRDYQDRGQQFTAAVQKL |
| UniReef90- D4 | RTFEERGDYFVSFVKEL |
| UniRet90-O899G5 | MFKNFEERGNKFKS |
| UniRef | MFS Y VDRGQQFEHAV |
| Un | QFESYGARGERFKELV |
| UniRef90-UPIO003F5: | MFPNFMARGDKF |
| UniRef90-D4YIS | QYPNFEVRGDRY |
| UniRef90-Q1YSD3 | MF S |
| UniRef90- W1 |  |
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| (7E |  |
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| UniRef90-D2RK | MFANFPERGRVFKQ |
| UniRef90_UPIO00360BDA3 | MFSSFElRGNVFKQA |
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| UniRef90-R7G311 | RFTDFEQRGDAF $\square$ K |
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|  | QYPNFEVRGDLITKAVEKL |
| UniRef90-A0A024QOY2 | 边 |
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| UniRet90-Q5L521 | Q |
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## UniRef90_R2NYP3 UniRef90-L1MIL1 UniRef90-KOIYV3 UniRef90-R6IBE3 UniRef90_S0G2G7 UniRef90_D3ILX9 UniRef90_J1EEW4 UniRef90_UPI00036C4464 UniRef90_R9IQA8 UniRef90-V1CQY8 UniRef90-R6NM43 UniRef90-R5JG58 UniRef90_UPIO0041CCEE2

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 PVVLI AGGRDKGSDYSLLREVVGRKVKHLVLVGEAAGLMR KVILI 1 GGDGKDADFTALRDVVAKYVRAVVLIGKDALLTE PIVLI LGGKDKGNDYNAI KSLVAERCRALVYMGVDNRKLH RLILIVGGDGKGADFSPLQYYFAAQVTELI CLGRDGKALA PIILLAGGLDRGNSFEGLAPYLS NVKAMIVFGETADLLK PVVLI AGGLDRGSDMMELLPLFQERVKAVVAIGETRTKIA PVILLAGGLDRGDEFDELKPFFKNVKTLIVFGETADKVG RI HWI DGGEAKSDDDDACAPRF GHIASAYTIGAAGPRFA PIVLI AGGSDKGПPFDP KIILI AGGVGKEADFSMMADDVQKACRKVILFGRDKALI E PTILIMGGLDRGHSFEPLNDYMKNVKLVVCYGQTKNRII PTVLLAGGLDRGNEFDDLDP HLTSVKAIIAFGETAEKWK RLVLIAGGDGKGQDFSSLAEPVAKHVRAVFLIGKDAP ILR KLIVIMGGYDKKIPFEPMADTVCKQVKLVLLMGVTADKIE PLVLILGGRNKKIDFAPLHALRAKEIRELLLMGEAAPQIA
 NTILLAGGSDKGLDYKEVGETHAKKVGTLILTGPTSEKI E RVWLIAGGDAKGQDLSVLAPALNQ LAGLITLGQDGPAI A RIVLILGGEGKGQDFSPLAAPVLRYARAVVLIGRDAPLIE PVVLLLGGKDKNQPWENLLHLVNQKVDHVILFGDAAEKUH PIVYLGGGLDRGFTFEKLEPLFKKHVKAAVLWGETKQLMA KVILIVGGYDKHDPFEPLAYEGYPFIKELIVLGATKDKIK
 PIVLI AGGLDRGHSFEELREAMK NVKAVVALGETKHRFI KVILVAGGLGKGQDFSPLAEPARQYLRAALLMGEDRTTVA GIVLI AGGLDRGSDYMELDPLFRDRVKALVAIGQTRDKLA KIVLIAGGYDKHLDYTPIAKPIVENVSALVLVGATTEKIS PVVLI LGGKDKGAPWDDVLAAEVE LRKVLLVGAAADLLA KLHLIMAGDGKNEDYTLLAKIIKEKVKILALVGPDADEIU $P V V L I A G G D G K G Q D F A P L A P A C Q R \| A R A V V L I G R D A P A I Q$ QLILIAGGDGKGADFSELATVLNRDVDHLITGGQDGPABA
 RKVVILGGRGKGEQYDELAKVVKEHVKAALLLGEEKEATS THWUVGGRPKEGGDDALAPYFPRIAHAYLIGESTEAFV KI LLI AGGYDKK PLLLI AGGYDKHVPLDAFFEAFGGKVKKLILLGQTAKQFE PVHLI MGGRDKGGHFRDLKDMVGQKAKRLYVTGEAAGII T P CLEAGGYDKGSDFQEWVDLFPNRVKFVAVIGAVKDNVV NIILIGGGREKDTDFSLLKEKAVKQKVKLIVAFGEAKIRIVE PIIUI VGGVDKGNDYSQLDDAVSTNVKAIICLGKDNEKIK RI HWI VGGKVKGDGDDACIP HLGNVVRAYTLGEGGPRFA GVHLLAGGKDKGDDYSELKQY DDRVKTCYAFGQDEHVFE RTILFLGGTDKGNDYEEIKPLVEAKCKALIYLTTDSAKLH NDILVCGGKDRGDDFKELVPFFPRIKAMVVVGESKEDLA
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 K WA DSAVKVVDNLHDATMYANSKALSGDVI LLS PACAS WD
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K K3


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| PIO | N |
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| Unif | ERGKEFKA |
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 GVRHRLQYVMTAQGRKDYNDSKATDDEACEVALQGFN Q GVKHRLEFVGVINGRYDYNDSKATNDLATKKALAAFNGK
 GLARLEYLGKKDGVHYTNDSKATTVTAVEKALNMAVGK GLPARSMYVRTLSGIVDYNDSKGTNVDSSVKALESFGTDG GVEHRLEWVRDVKGVPYYNDSKGTNTDASEKALEAFS G GEPHRVESAVVNDVEYFDDSKGTNVGATAAALAGLGAER
 GEAHRTEFVRAVAGVDFTNDSKGTNVGATVAALDGMGA GVPHRLELVKTINGVDYINDSKATNYDAAQVGLESVK GLPHRMERIREKDGVLFVNDSKATNPTATAPALAAF GIPHRMEYLGDFKGAGFYNDSKATNNGATSFALKSFN GLPHRLQUIURKKGDDWUNDSKSTNVNSTKVALNSGNTSG GLAHRCEWVANVRGVDYINDSKGTNVGATLAAIEGMPASG GLPHRVELVAERDGVRFYDDSKGTNVGATVAALAGMDC GEPHRTQFVLTASGVDFTDDSKGTDAGATAAGLKGLGEAG GLEHRCEFAAEVNGVEYVNDSKGTNLHSTLTALKGLP GVKHRLQSLGKVHGLSFYNDSKSTNVLATQKALSGFD NT GLAHRCQKVAEHQGVIWVNDSKATNVASTLAADDGLEVSG


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UniRef90 E2ZDD UniRef90-B2JHG2 UniRef90-O12EL7 UniReffo- ${ }^{-17 K H 28}$ UniRef90-E4KP65 UniRet90-K9YPK9 UniRef90-UP10004257C42 UniRef90-UP1000363D56B UniRef90 B6CM22 UniRef90 O8DMN8 UniRef90-UPIOOO3671C8C UniRef90-C4KCS5 UniRef90-D4H2U2 UniRef90-M1SL10 UniRef90-O3K2P4 UniRef90-A9U7U5 UniRef90-UPIOOO395CC1A UniRef90-UP10003B6220C UniRef90_A3GZA8
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 PIILIAGGLDRGHSFEEMREYMGNVKVIVTFGETAERLI VVLIAGGYDKNLDYTPIVKPUIDNVKALILMGQTSGKIF NIRWI AGGMGKEGGDTSLVP HDGNVVKAYFDGHSARDFA PVILLAGGLDRGHSFEELRPSMN HVKGVVAFGETGLRFV KLVLI LGGDGKGQDFTPLAAPTARYARAVALIGRDAALIE PVVIAGGKNKGLDMTEFLQEARDRVKSLILVGMAAPELE TLHLIMGGDSKCADLITPLIPWLKNTKIHLYCFGQDRKRLS HLILI AGGLDRGNEFDELVPDIVG LKKMIVLGESAEKMK KIILIAGGYDKK ${ }^{\prime}$ PYDGLGPVICDKVKYLILMGATAPK NI VIGGGRNKGGDFKSLLPELAHTTKHIVAMGECREEIT ILLLGVGNYDKKSDFAPLFEAFDGKVKAVIASGLNVPAIK PVILIAGGLDRGDDFSRLATVFKDHVKALITVGETKERLS KVVLIMCGI GKKENYSLFVEKASPKLKHLIMFGEDSKELA NVVLLAGGLDRGNTFEELIPYL HHVKAMVVFGETAGKLK KIVLVAGGDGKGADFVELQKPVEKYVKAAVLLGQDAAKME RVVLI AGGEGKGQDFSPLAAPVAQYARAVVLIGKAAAEDR PII WLCGGLDRGNEFDELDPYMENVRAMVVFGQTKAKFA DVIVI LGGKDKGGDFPALASVLSQTTKHVIAMGECRQTTA PLVLIAGGQGKGQDFSPLADYVPGKVRGVVLLGEDAPLIA PILII AGGYDKHIDDYTDFVKAFRKNGKLMVIMGATKEKLK HLILIAGGHDKMTDLTSFMKLAARKVDTLILVGEAADRFE RVVLI AGGDGKGQAFDPLAEPVTRWCRCVMLIGRDAPQTR KLVVI LGGEGKGQDFSPLAEPVSHHARAVVLI GKDAPLIR PVILIAGGQAKKGDDTEWIKLIKAKVATVLLIGEAASTFA DVY GGGLDRGNEFDDLIPHLGHIKQAFLYGETKEKMA PR AGGLAKGDFSPLAAARAHARAVVLTGQDAGLIG PVILI AGGQAKEGDNQAWIDNVIKQKCKAVLLI GEASDLFA RIRW CGGQAKTDNDDECAPHF GHVAKAYTIGEAGEMFA P IWI AGGLDRGQSVDELIPET EPVRTIITFGETAEKFA TI RLLDGGDSKSANFNDKDDFEKFK】KIYCFGKDGKNDS PVILIAGGQAKKGDDRPWLNLIQEKAAWVLLIGEAAPQFA KLVVLDGGVAKDGDFTALIPALEKNAKAVVVYGRDAEVIT PVVLIAGGDGKGQDFSPLAPVLAGKARALLLIGRDADRIIE KIVVLLGGDGKGQDFSPLEPAIRTYARGAVTYGRDGGKI A GIVIILGGKDKNGNFAALKDVINEKCAGVITYGQAGEKI Y KVILIAGGLDRGNEFDELIPDDTG LKHMVVLGESASRVK PLILIAGGLDRGSDYMELLPLFSPKIKGLVLLGETRGKLA YL HLLVGGEGKGADFSVLQPALAKLPVRLYCFGKDQAQLA RLVVILGGKHKGESYAKLMPLLEKRAKAVVVYGEDRKKIL

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| UniRef90-Q8ER5 | T |
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## 1

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$\qquad$ GGMERGQDFNE LTPYM DHVKA LLA IGTCRN RVQ PVVA VGGRAKGT DLIAELVEVASEHCKAVVCYGEAGPRFL PVILI AGGEAKAGDDTSWLQTIQEKAAAVLAI GDAAPRFA PVVWI A GGGLSKGVDYNELVSEHAKRDTAVVLIGADSEEDA PIVWLCGGLERGADLSSLAPALSNVKAVVAYGETKERFK $R V I L L L G G H D K G T P L E D F S R I V C Q H V V A V V C F G E A A E R F E$ NIYWI A GGVPKSDGIGPLASYFPRINKA YLIGEAEEAFT
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 $R P V F I L C G R D K H L P F D G L A R A L Y D R A G G V V V S G E A M P V I R$ $K \vee R W I C G G L Q K E G G L D G L L P$ HLDDHVAKAYVI GREAEDFA $R V I L I \quad F G G L M K G V D V S G I V D R F Y E T I V A V V V I G K N Q S E V G$
 $P \vee R L L A G G V F K G G D L G A V L P V L R E K V R A V Y L F G Q S R E I$ FE $R V W L I A G G L G K G Q D F E P L A M A A K H S V A E V F L I G Q D A R L D A$

 $T V V W \operatorname{A} G G L A K G A T V D D L V S S R A D R M R A A V V I G A E P G L L A$ $R L I L L A G G V G K G A D F S A L A A P L A R Y A R A V V L F G R D R H L L E$ $N V R W I C G G L M K E G G V D A L Q D D A K T S V K K A Y V I G R E A A E A A$

 $N L I L I A G G L D R G N S F D E L V P D \square K G$ I $A$ KKMILIGETAGKME $R V V L I A G G G D G K G Q D F S P L R E A V A R H A R A V M L I G R D A A L I D D$
 $R$ R R WV C G GLLMKE G GLAA A LEPGLN HVAKA YVI GREPE GFA

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 P Y L K E N Y K R F S N DE E A $V$ V




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 $R Q L M G A A E V C G T M D V A V S Q A A A D A Q A G E V V L L A P A A A S F D$ $N D K C K K D V C D P M S E A V A A A D L L A T P G D T V L L S P G G S S F D$ K QLGGGEFEVIE S LKK AVAAA S SIA N D G D NV L L S P G C A S F D EA WS DCGKWDATLEEAVFRAAADARSGECVLLSPATAS FD AVLQA HD DFCEGLEAAVQAAAGQARSGDVVLLSPACASMD
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 LQ L G GVA ELCGGTMDQAVARAAEDAQPGDVVLAAPAAA S F D RQLEGVTGU CTTIQEAVAAAYQDAEAGDTVLLAPAAASFD GT L GA DVVE IS GTLEVAVESSAARDAAASPVVLLSPACASFD A ALGDVVGRRFGTLEEAVAWLWSLKRPGDVLLLSPACASWD TAFA GVVP YAPTLAA AVARIV A DAAPGDAVLLSPGTSS F D UniRef90_C4XK71 UniRef90_A3YVI1
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LP HRMQLIGEAQGVAFFDDSKGTNVDAVVAGLAGFP R GEPHRVQSTATVRDVEYVDDSKGTNVGATVAALNGLGNNK EHRIQLVAKADDVLWINDSKATNPHAADASLAAFTD GLAHRMEQVGRRDHVLFVNDSKATNADASAPALSSFS GLPHRMELVAEIGGAAYVNDSKATNADAAEKALLSYE D GLPHRVEVMGEHAGVRYINDSKGTNVGASLAALEGGAATG GVPYRLEFIGEFKGIKFYNDTCATTPEATLAALKSFPHO HR1AELATVKGVRFVNDSKATNPHAAAAASRSF H D

G ${ }^{1} \mathrm{P}$
$\qquad$ HRNTVVERFDGVTFVDDS HRMELIVSKDEINWIDDSKATNPHAATASLLS GVVHRLELVRELLNGVRWYDDSUATAPERSLAALIRSFENE GLAHRMEQVGQKGEVLFVNDSKGTNADAAARALSSFT

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UniRet90-D6SUH9
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UniRef90-UPIO004027082
UniRef90_K9TIY3
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UniRef90 C8XOT9
UniRef90_C8XOT9
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UniRef90-E1R3L9
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UniRef90-S3DKS8
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ロエトロ《のロ๙すZ


70
80 HIL AGGDDKLTDDGEFMELVHARVDELILVGDAAERFA
 AKVII LGGQGKGEDYAPLAEAVRENTRAAVLLGSEKEKIA SVVWI A GGLDNKGLAFDELVELAAGRDRAVVLI GRCADEIAA PAILIAGGAAKAGNDKPWIDQUKQKAAAVLLI GDAADVFA

 KVILLAGGVGKGADFSPLATPLAKCAKAALLEGADAHRLE $N L V V 1$ LGGEGKGQDFTPLYESLRNRLKGVVLDGKDKNILSS
 PLVMILGGDAKGADLSPLREACRGQ RGAIVLGKDGPHDA PLVLLAGGRAKQGDAHGWLQADAAKAAAVI CYGEAGDGFA $P A L L A G G E A K A G D D R A W I A E I K A K V A T V L C I G D A A A D F A$ $P A V A G G L A K S N G \square D D L V P F F S$ RIKLALLI GEDAQLLA

 $R L L L L A G G Q G K G Q D F G P V Q A L L G H Q D D H M Y C F G Q D A D \| L$
 KIVLI A GGRDKNMDGSVVNPLISKYVKEVFSYGECKENLK $R 1$ WLI A GGDGKGQDFSPLREPALRFVKGAFVIGKDGVAIA
 KI RWI AGGAPKAGGISPLKPLFGRIVKSYLIGEAAQDFAA $P L I L I L G G Q G K G Q D F T A L G P A L R A R A R A A V V L G E D A Q R L A$ RI I WL GGGVGKGADFSPLAPALAAHAKAALLFGRDAALLE PII LILGGKDKKLDYEKLGKFINKEIKKIIPDYDASSKIL SVVWVAGGLLKGADVDSLVEEMASRLRGVVLDGADRDQIA PLVLI LGG DAKGADLS PLREADRGQRGAVLLGKDAEADLAA $K V \frac{1}{1}$ WGGLLAKGASMGELVTRCASRIKAVILI GQDRELIA PIVLLAGGRDKKLPWGEFADETVRRVRQLI AFGEAGPMIA $P V I L I A G G Q A K S G D D Q A W D S Q D K N Q A S C V L L I G E A A A D F A$ NIYWI AGGKPKTGGDES LREFFRARARKAYLI GEAAQEFA

 $T V V W I V G G L F K G V D I D G L V E R F G P D V R A V V V I G T D R E A F A$ RVVWI A GGLLKGADVDPLVADAAPRLAGAVLLGRDRAVVA NLLLIAWGSDKWDDFEYLAPLLKEKVKHGELI WETSSKLW $\frac{\mathrm{V}}{\mathrm{P}}$ $P$ FVVL L A G G R Y K G G D F S L L A G T L Q E K K A A K V Y Y L F G D S R E I F E FWI A GGRAKD DGIDALAPYFSS IIKKAYLIGHAMSDFS
 V 1 A GGV
 S VV V W $N \mathrm{I}, ~ V W V$ A G G Q L K G V $K V V W V A G G L L K G A D V D E L V A A A A D R L R G A V L I G R D R E Q I A$ PAI LI AGGEAK GGDDLA WLQTDQAQAAAVLLIGDAAPAFA $P V L L L A G G H Y K G G D L A S L A D L L K K H V R A V G L Y G D S R D V F E$ RVHWI LGGKPKEGGIASSLAPYF PRIAHAYLIGAASDAFA DI HWI L G GKPKEGGIDDLAPLF DRVAHAYLI GAASDAFA
 $P V I L I$ A GGEAKEGDDTGWLQTIEAKVA QVLLI GDAADAFA



 $P$ V VLLA G G QFK GGDPS LVADLIDRTRVVEVVLVGDNRDVFE






 NVVWI A GGKSK DGGDESSLLGGLYANHDARKAFLVVGEAAANEFA


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

 VLIA A G L DKGGDYRLLLPADKEKVRAVVLI GSAREKMR $P \vee V W D A G G L S K G D V Y D D L V E R N A G R L K A V V V I G T D B A C D A$ $|$| $I$ | $V$ | $W$ | $V$ | $A$ | $G$ | $G$ | $Q$ | $L$ | $K$ | $G$ | $A$ | $E$ | $V$ | $D$ | $D$ | $L$ | $V$ | $A$ | $R$ | $V$ | $A$ | $D$ | $R$ | $L$ | $R$ | $G$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $I$ | $V$ | $V$ | $L$ | $L$ | $G$ | $A$ | $D$ | $R$ | $A$ | $Q$ | $A$ | $A$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## UniRef90_AOYQR6 UniRef90-E0NZ53 UniRef90-U1R5K9 UniRef90-B8HW13 UniRef90_G9PWX8 UniRef90-E3JOC8 UniRef90 K9REV2

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UniRef90-K2GQC3
UniRef90-UPI0004652F99 UniRef90_UPIO0036EBA14 UniRef90-B8H096 UniRef90-B6WQP2 UniRef90-K7SIJ9 UniRef90-C8X0T9 UniRef90-V2Z3N9 UniRef90-UPIO003630A1B UniRef90-E1R3L9 UniRef90-IOIED7 UniRef90-S3DKS8 UniRef90-R5Z4X5
UniRef90 A3W8D0 UniRef90-Q16316 UniRef90_B6WAW6 UniRef90-D1ASS6 UniRef90-E5ALG4 UniRef90_UPIO00466E2EB UniRef90_G8RP00 UniRef90_UPIOOO1744974 UniRef90_E4RIG1 UniRef90_C6D556 UniRef90-UPI0002DAB51C UniRef90_UPI0003B5282D
UniRef90_Q6A9Q4

R $\quad$ K $\quad 90$
100
110
A A AR AG PEETMEKA PKAAELASSAK VVLSPACASFD A A A RDAGVPEEHMEKAVHLARELAVEGQUVLLSPACASFD RAADVPAVYVDVMAEAVAAARRMAEPGDTVLLAPACASMD
QRLQEVGEIVETMANAVPRAAELAKKANIVLLSPACASFD A ALSAAGVSVNDMEEAVKTAYSLASEGDTVLLSPACTSWD AA ALARAERAAGMDDAVEAAARLARAGDTVLLAPAAASMD KRFEEEGEDMGTMEKAVTHGLKLAKQHDVVLGSPACASFD
 $R G D K D V V D K S G D M E T A V A R A L A D A R P D P V V L K S P G C A S F D$
$D A F D G S G V R V E H M E D A F D A A L G L A V P G D T V V L S P A C S S F A$ AALSSPVHLVDDLDQAMEVAWEKAEPGDCVLLSPACAS D HYLN $\square P V V V V N T \square D E A V V E S F K L A Q S G D L V L L S P A C A S D D$ ALLSAAGAYEGDFKRAVKLAASRAEKGDAVLLSPAAASFD DAWGDIIP WDNTLEQAVKRLSNLAHNGEVILLAPATSSFD $A L L A D V V H A A N S M P A A V R A A A Q M A Q S G D Q V L L S P A C A S T D$
$A Q V Q Q T C P Q V V C Q R E A V P R S H A L A L E Q G V V L L S P A C A S F D$ RRLQSAGECVETMDRAVQRAAELAKEAKVVLLSPACASFD KTLQAHHVIVRTLEHAVPEAFGYAQTHNTVLLSPACASFD GQIE G LAERVADLPAAVTLAAQEAKPGDVVLLSPGCASFD EALARHAPHTGTMDUVVAEAARLARPGDTVLLAPAGASFD ERLQENVE VVTLENAIPRAAQLASQAKAVLLSPACASFD
 QSLA GSAFPVATLDDAVAAAVADACQPGDAVVVLSPACASFD
 GA IVRHAPDVRAMDAAVREADAVARPGDVVLMAPAAASMD ATLGEAVEISGTLSAAVEHAAHDAADDDVVLLSPACASFD TLGDHPHEIAGTLEAALRRARAEAQPGETVLLSPACASFD SALGGVVERAVDLSAAVAGAARLARAGDDVLLSPACASFD A ALGHAVACFATMEEALARGAELAQAGDAVLLSPACASDD TALKKHI I QTSNLKVGVKVALQQAQVNDVILLSPAAASFG RALSRHAPDVGVMDRVVREAARLAQPGDVVLLAPAAASMD GSLDTMRDGEGGMSRAVRAAAAMAQPGDQVLLSPACASMD NCGKKHVKICKDYRQAVKLCYRAMLPGGTVLMSNACASFD SAFAEHSAATEDMSDVVKVADKLAKPGDTVLLAPACASMD $R V V Q E G V T R V G T L E E A V A V A A R L A R P A E V V L L S P G G T S F D$ RRLTENYERVETLDNAVVRSSELAKENKAVLSSPACASFD RTLEGVPEISGTLDEAVPHAARDAAASGVVLLSPACASFD VLAVTP GETDNVMPEAVRLAARLAQDGDTVLLAPAAASMD
AT I GEATETSGTIDRAVVDAARDAAPEAVVLFSPACASFD KTLKQPYKIVHTLECAVPEAYKFAQQYQTILLSPACASFD ETLRAHGVPHTDADNAVTMAAALVKESGIVLLSPACASFD RHASETTDTDQVMREAVRHAASVARPGDTVLLAPAAASFD KT T GGAAVCTQSRHTAVAQAYAEAEKEEDVLLSPACASQD HSLARHAPSVPVVEVAVAAAAGLARPGDTVLLAPAAASMD LLFNKNSHYAISMNDAVKKAYK AETWDIILLSPGCASFW
 D A WKNSAEHFADLEQAAARAVQEAGPGDNVLLSPGTSSFD
KDLGELVHVESSFPEVMARARALAGPGEAVLLSPACSSFD NTLKGKTPNCGTDDVAVAAAYKDADKDPVILESPACASFD EA LARHAPDVEPMTAAVKAARTDARPGDSVLLAPAAASDD AALAGPLIHAADMQDAVQDAAK $\mathcal{L} A Q Y G D A V L L S P A C A S F D$ QAFAAHAPGVTVFEAVVRYAASVAQDGDTVLLAPAAASMD A A LARHAVSLPVVEEVVTAAAALAQPGDTVLLAPAAASLD AAI ARHAPDVPVIDVAVRHAGALAQPGDVVLLAPAAASMD SRLSQVGEIVETMARAVSRAAELAPQYQVVLLSPACASFD A AWDGIVVWHESMEDAARALMHKAHDGDVMLLSPATSSFD ATLEGRVSYTRCTKQAAAAEDAAHEPEAVVLLSPACASYD VTLADTPHVVHTMERAVEDAAADAAAA QVVLLSSPACASFD KRLEQVGEIVYGMERAVIRGAEDAEEAQVVLLSPACASFD KCGEESIDEVVDSMESAVLAAKKIAEVNSVVLLSPGAASFG
 WTLAGKAECVGTDEKAVQQAYADAAEEAGVLLSPACASFD A A WQ GVVP WHERMEDAVLALDQ KVGEGDVVLLAPATSSFD ETLSRLAPEVEVMAEAVRTAATMARPGDTVLMAPGCASDD SAWQGLAPWFPTLEDAVDHGATTTQSGDVLLDSPATASFD
 $D \| E P F S G P F A S L K E A V Q C A E K E A S P G D V V L E S P G A T S F G$
$D A A G G V V R R C G T L A G A V D A D R G D A R P G D V V L E S P G C A S W D$ MLLHSSAK LY S SI NS II STIITRDKKGDIVMLSPACSSSD D ML SENLYMCNNLVEATNKAKEDTKSGQACVLSPAAASYD RALGTVSEVCTTMAKAVASAMSDAESGDVVLLAPAAASFD
 DLCKQRA HVTVCHDMYDAVVRAAFVEAVASDGVVLLSSASCASWG AALADTGVEHPSLQAATRAAAAVAQPGDAVLLSPACASLD DQi EHKVYVLEDLESALLKVKEQARKGDTILESPACASFD
 $N A L S R H A P D V A V M A T V I D A A S R L A G P G D T V L D A P A G A S F D$
$A L F S D L V P C A P S V V A A V E A T A L A A P R Q S I V F S P G T S S F B$ A AVGESI FKAENMEKAAEIAAEKLSENNCLLLSPACPSWD KVAERLVEPEEDAERAVREAAGLAEPGDVVLLSPACASWD AALAPAVPVTEAADSAVRDATQLAAAGEAVLLSPACASFD RLAPEVPVHHATMRHAVRLAHGIAAPGDTVLMAPAAASMD TSLARHAPEVPVHDDVVSSAAAMARPGHVVLDSPAAASDD

| UniRef90 AOYOR6 |  |
| :---: | :---: |
| UniRef90－EONZ53 |  |
| UniRef90－U1R5K9 | QFASYAERGEAFAAAVRSL |
| UniRef90－B8HW13 | Q |
| UniRet90－G9PV | MYP SYNVRGDHFCAIVKED |
|  | MFRDYA |
| UniRef90－K9 | QYANFE |
| UniRef90＿UPIOOO412AB9C | QYDN |
| UniRef90 C91 | MFDGFEERGEDFKR |
| ef90＿UPI0003A448DD |  |
| eet90 J4X9S1 | S |
| UiRef90＿F7SJT5 |  |
| Uni | KNYHERGV |
| UniRef90 R7P | N |
| $\begin{aligned} & \text { UniRef90-Q1MPC1 } \\ & \text { UniRefono } \end{aligned}$ | Q |
| UniRef90－UPI0004712447 | QYPDFEARGEHFRALVQAL |
| UniRef90－B0JRM9 | QYPSFEHRGTHFRQLSLQL |
| UniRet90－W7DT59 | QFSSFEERGDHFAELVMQLSS |
| UniRet90＿E1Q | GYaM |
| UniRef90－D1A－ | SYGARGEAFAAAV |
| UniRef90－D4ZX | QYRSFEHRGDRFRELCWE |
| UniRef90－A4S5154 | QFKSFEARGDHFTKMV |
| UniRef90－K2MB15 | QFKSFEARGDAFRDL |
| UniRef90 L7VZ81 | MFRDYA |
| UniRef90－A6DNR2 UniRef90 B1XT0 | LIFKSFEERGKKFKSL |
| UniRef90 UPIO0025 | QFTSYADRGN |
| UniRef90－UPIO002 | QFKNFEVRG |
| UniRet90－UPIod | QFKDYEARGAAF |
| 隹 |  |
| UniRef90＿UP100047 | Q |
|  | MFTNYGARGDAFEEA |
|  | MFRDYRDRGR |
| UniRef90 ${ }^{\text {R }}$－ | ENYARRGEYFCRIVGELHRE |
| UniRef90－UPIO003635B1B | QFDSYVQRGELIFAEAVKA |
|  |  |
| 俍e90＿L8M6 |  |
| Ref90－B6JC | QFPNFEVRGDYFRKLVLALGG |
| UP10 |  |
| UniRef90 15 SQ | QFRNFEVRGDAFREAVRSLAG |
|  |  |
| － |  |
| UniRet90＿A0AO22L | S |
| Ret90＿V40KW6 |  |
| H6RT | RDYGHRGRAFADA |
| UniRef90 K2BD | LIFKDY旨DRADKFREAV |
| Ref90－D6SUH9 | F KVA |
| UniRef90－W | ， |
| UniRef90－C6XMF0 0 |  |
| UniRef90＿H5XDW7 | V |
|  | QFQNFEKRGDAFRNAV |
| UniRef90＿DgSJ |  |
|  | QFADYAERGRRFADAV |
| UniRef90 ${ }^{\text {K1ESJ5 }}$ |  |
| UniRef9 | RYQNFEQRGDDFRQLC |
| UniRef90－UPIO0036C7E50 | QYANYKARGDDFRRI |
|  |  |
| UniRef90 UPIO003826235 | QFKSFEDRGDQFRAL |
| UniRef90－UPIO004027082 | QFPDFEVRGEAFRAAV |
| UniRef90＿K9TIY3 | QYQNFEQRGDHF |
| $\begin{aligned} & \text { UniRef90-K2GC3 } \\ & \text { UniRefo-UPOOO465 } \end{aligned}$ | QYRNFEDRGARFRD |
| UniRef90－UPIO0036EBA14 |  |
| UniRef90－88H096 | QFSDFEARGEAFRAA |
| UniRef90－${ }^{\text {B6 }}$ | QYRNYVERGNDFKR |
| UniRef90－K75 | PGYAAR |
| UniRef90－C8x | FTDYKR |
| UniRef90－2Z3N9 | OYANYKARGEDFRR1VEED |
| UniRef90 E1R3L9 | MFANEFDRGDQFRALVGSL |
| 101 D7 |  |
| 3 DK | NFMKRGDLFVEDAKK |
| UniRef90 R524 | N |
| UniRef90 A3W8D0 | QYDN |
| UniReef90－Q16316 | QYDNEQRGDDFMQEVAK |
|  | MYNNYMQRGDD |
| UniRef90－D1ASS6 | QWRNFEERGEAFCAAVSEL |
| UniRef90－E5ALG4 UniRef90 B4U609 | M |
| UniRef90－UPIO00466E2EB | \FKNFEERGDAFKKL |
| UniRef90－G8R | QFSGYGHRGDAFAAAVR |
| UniRef90－UP10001744974 | MFSGYAERGNVFRDAV |
| 俍俍90－E4RIG1 | MFESYKIDRG |
| Ret90 C6D556 | MFTSFEDRGR |
| ef90＿D6Z30 | MFAGYAQRGE |
| UPI0002DAB51C | QFTDYA |
| D | MFPSYGSRGDEFADAVRRLAGE |
| UniRef90－C6A9Q4 | ПWPGYAARGEDFANA $\overline{\text { R }}$ |



UniRef90_UP10003B6CD3F UniRef90-G5HSQ2
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UniRef90-UPI00047 UniRef90_UPIO00470ED45 UniRef90-B6IRG4
UniRef90_M1WVZ7 UniRef90-H6RD14 UniRef90_UPIO003610D3F UniRef90-G6XIK9 UniRef90_UPI00037A0137 UniRef90_UPIO00462E826 UniRef90_UPI00036
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UniRef90_EOMJG8 UniRef90-EOMJG8 UniRef90_G9PI62 UniRef90_UPI0001D2F208 UniRef90-E1X248 UniRef90_S3UTY1
UniRef90_Q46JA8 UniRef90-S5NFD3 UniRef90_Q4FQ21 UniRef90-E8RRX9
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UniRef90 J1B9944 UniRef90-K6IVI0 UniRef90-C1A8A8 UniRef90-IOKOY7 UniRef90-E6JA71 UniRef90_E34242
UniRef90_-BWPM99 UniRef90_UPI00035ED7B2 UniRef90-S3BN66 UniRef90_UPI0003FA9935 UniRef90-D8QPH8 UniRef90_UPIO00369CBD0 UniRef90_W5SN03 Uniref90_A4CR98
UniRef90-Q7VAM1 UniRef90-B8DP81 UniRef90_UPI00035CFF60 UniRef90-LODZ16 UniRef90-E1JTW1 UniRef90-B3DZW5 UniRet90_B9KEZ4
UniRef90-E1IHH7 UniRef90-N6X6B9 UniRef90-X7F3X4 UniRef90-R7KA94
UniRef90-M5W8J2 UniRef90-S3Y2L6 UniRef90-M4V770 UniRef90_V4S358 UniRef90_Q2JHP5
UniRef90_UPI0003B5ABE3 UniRef90-C5ATY9 UniRef90_UPIOOO475B8FA UniRef90-E6KPT1 UniRef90-K9PAR2 UniRef90-D3UG08 UniRef90_UPIO0046FF024 UniRef90-H2CDU3 UniRef90-UPI00035FEC74 UniRef90-V8ACY2 UniRef90-R5CER2 UniRef90_UPIO00409B09B UniRef90-Q1NKJ3 UniRef90-K2F7L2 UniRef90_Q1GRX7 UniRef90_R4VLX2
UniRef90_J0X6P2
FA9935
5ED7B2
$\qquad$


P|I । $\mathrm{W} \mid$ |A 50 60 70

 4
 Al HWI LGGGPKEGGLEGLDAFMPRVRHAFL DGAATEEFA $P \vee R L L M G G V W K G G D V E A F A E S V K D T V V K \square G L F G S S R D I L E$ $H V V W V A G G Q L K G A G V E D L D E E V A D R L V G A V L I G T D A E V I A$ $P$ A 1 $R V M W I A G G M A K A G G D E S L A P$ WF GHVAHAFLI GRDAS LLA $H V V W V A G G Q L K G A S I D E L I D E T G Q R L R G A V L L G Q D A Q L I V$ $P V V W I A G G L L K G L D V D D L V R S C A G R L R G V V L M G R D R H R I A$ PVVLLLGGSDKGTPLEAFAERVAASVRTVICCGDARARLL
 AVTVLAGGHDRGLDWSEFVAAEAHPPHAIVCSGANGPRDA PVVWI A GGLSKGVSYDDLVRDHARRLKAVVLIGKDTASLE ADCVI LGGMERNI PYDKLADFLNGYVKNVILLPDSGYRIG R DHWI LGGVAKSDNDDECVPHF GNVAHAYTIGEAGHMFA SVVWI A GGLLPKGVTYEELVGAHAHRLRAVVLLGTDASADR IVWI GGGLAKGAAFDEMVKAAAKRLRGAVLMGADRALI R



## 



V



| $S$ | $V$ | $V$ | $W$ | $A$ |
| :--- | :--- | :--- | :--- | :--- |
| $A$ | $V$ | $L$ | $A$ |  |
| $R$ | $V$ | $W$ | $A$ |  |


 $P$ V I L I A G G L S K Q G I Y L D W I






 $S I V W I A G G Q A K G T S F D D L I A A H A G K L R G A I V L G A D R V M I A$





 $P$ LVV L A G G Q S K Q GE A R A WL E Q L R Q R A A A V V L Y G A A R Q E FA

 $N$ H HWIV G G L P K A K D K I M M V H K Y K K S I L R A Y I I G R N I N F F L


 $R$ R H WIA G G Q A K G D GLLA A CRP WF GHVVRAAYL IGEAMAA FA



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UniRef90-G5HSQ2
UniRef90 K2C1L6
UniRef90_F8KU10 UniRef90-M9WQT9 UniRef90_UPIO00470ED45
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F T

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 A DLLAS A GTK CQTL E QAVVNAWQDQPT FPVLLLLS PACA S F D




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|  | 140 |
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| :--- |
| $R M A E A G V G G V R Y D D S K A T N P A A S A S L A A A S I V$ | PHRDAEAGDVGGVRYRDDSKATNPHAASASLAAFASIVV

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$D T V L I A G G S Y K G Y E Y E L I A G L P S S Y K V V A G A V G K K I K$ VLIAGGGADKGYEDPALAAGLASRVKYAVVADGAVGPRLK PVVLITGGTDKNLDFSCLAKAAVKAKALVLLAGTGSEKLR
 PVVWLAGGLDRGAPMDALTPLVKKHVKSMVVFGQTAPLMA RIYWI AGGLPKEGGDTSLSPFFPKIVKA YLDGEAAPAFA PIHLVCGGTDKNGEAHSLAEPFRQAASDTLLDGSTEKII RVVWVAGGLLKGASVDEMVAATAHRLAGAVLIGQDRADIG
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$P V V L I G G D D K G T L A P L V A A H A H A G A V V C G D A G E R F Q$ R YWI AGGDPKEGGIASLAPLFRRTVKA YLIGEAASAFA DTLLILGGSDKGECFDELFEKMPGSVKRILVTGANGDKII WVAGGL LKGAEVDELVREHADRLRGVVLDGQDRAKI A PIVWIAGGLAKGAVFDELVGQSADRLRAVVLMGADRALIR RVVWI AGGLLKGASVDDLVRNVANRLAGAVLIGRDRRMVA

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$Y W I L G G G P K K G D K F K S K K C K N L K A F F I F G S H S K K L ~$ $R \prod A L L V G G H D R G L D W Q D F A A H M R E A P L E T V T L G A N G P R \| H$ VTL AGGQDRGLDYTDLDABMASAAAVVARGGTVQVLA
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RDLGKAETGDESMDRAVRAGWEALGGAGGGLAPVGTSFD
 $K T L K D H H V A V E N C S T V A G L A A A K A L A A P V V L L S P A C A S F D$
$R H A P E V P V E V D H T E V V E L A G G A Q D G D T V L L A P A A A S F D$ AALARHAPEVPVIEEAVMAAAGLARAGDTVLLAPAAASLD EALSRHVVQVVTGEDAGMAVAQMAKPGDTVLLAPAGASFD KEFDATGLPVSYFPDLSALIKDLKTKDDSVIFSPAGASFD SEFDKTGLPVRYFSDLPTLVTDLKNKIDSTIESPAGASFD A A FEDHVETEDVMARVVEDAAGVARDGDVVLLAPAAASFD EALDRHAPDVAVMDRAVAEAARLAGNGDTVLLAPAAASMD DAMTRHAPLVPTEDGAVNTAVADPDTPDAVLLAPAAASLD EALADVVRLC
a ALAENAPTVGAMEEVAAAARRHAVAGDTVLLAPAAASDD KQLRKKVVVVNNDKNAFLKVNSLTKNKYTILESPAAASFD A RQLPFTAVRGEGGDEVMANAARAGLEAGTVLLAPGGTSFD EFLEKNEVSCQTMKDATHQAEALCYKEAVVLCSPGCPSFD DAFSRHCFEAANLEDAVNCARSVARYGDAVLLSPGCASFD RALAETAEPFAAMHAAVEAALQHADAGDTVLLAPAAASLD TLLSDDAHTCESMDEAVRDCAEDGGENSSVLESPGFSSFG ETLAGRTEGVQAVRDAAGDAAADDREAPVVLKSPACASFD QAI QGMIQHADTLKAAVELAQTVTRVEDVVLLSPACASFD RHAPE GGETGTVMTRAVAEAYRVARAPVTVLLAPACASWD E L KNKVKSFKNMEETLKVIFSEITEKNIIFFSPAGASFD ALLAPLAAATGFAEAVALARAALGEQGGVVLLSPGAPSFG AGVAAPVTETGSLADAVAEALRTARPGGLVLLSPGAPSYN EALSRHVVHVVTGEDTGMDARDLAKPGDTVLLAPAAASFD GLIRDFGYTHSTMTDAVTAAVENGKNGNAASLSPACASFD VS I ERAHLFSTGEEVMLALEPDLHKDVYILFSPACSSYD NCA

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DAARKAGПKDNTपQEAVPKAYELTDEG
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EA LREAAQAADLEAAVAAARAALGPGGGVLLLSPGAPSFG KSAKKNDRKHDDLQSAITASAFELAKKFKTILFSPASKSFD NY【YKNQDKH DVCENLEDADLKA LKDYETI LESPMAPSYD RHAPEHAETSDVMTDAVALAAAAARPGDVVLLAPAAASMD SNDAEIIYT DTIHDLKEKDRSLVNVNQVFLFSCGGSSFS DAFARHAEGARPVDQAWRLLAESDRQPVDAVLLAPAAASLD T $\square$ AETQGMEVINCKKADSSAKQTASEND\IMYSPGSSNDD RHAPDVTVTEQVMRSAVRLAAGVAREGDTVLLAPAAASMD ARGGMAARRTGDLEEAVGIAKEAARPGDAILLSPACPGF RHAPEVPTVVAVMDRAVHVAWSLAAAHDAILLAPAAASLD QALSRHVVSVVTGDDSGMQATAGAPPGDTVLLAPAGASFD RRFAAARPASVHPVDSLQAAVQVAAAVPAVLLSPGAASYD RHAPEVAVMDRAVAEAWELAAASDPTPDAVLLAPAAASLD RHAPEVPVEVVSDTDPVSAMRAVVADGDRVILAPAAASLD PG\|PVLVTDETEPEKAMTELVDFAHRQDTVLLAPAAASLD AA D SRHAPEVPTMDRAVAEAWALATAGDAVLLAPAAASLD EAAREAGHRVSSMKEAVLLGQKLSRPGDVVILSPACSSFD KALSRHAPDVRVMTAVVAAARGLARPGDTVLLAPAGASFD NLFNCEVEVIESIFELEDIVKKDFQTFETVLFSCGGSSFN
 ELNKKLKTKTFLLNTMFSDFKKYKDDKYIILFSPAAASFD PDVPVSVIDAEPNDTVMARAVDAAKPGDVVLMAPACASMD $R A A Q K A G V Y S$

| UniRef90 UPI0003495C16 | $\text { QFRDYQQRGE }{ }^{130} \text { SFRRA\|V\|QA } \frac{140}{L L A}$ |
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| UniRef90-Q6NGC6 | MYTGMGQRGDMFATAI AQ |
| UniRef90-UPIO004791977 | MFTDYRQRGDRFVEAVESLVA |
| UniRef90-R6GX08 | DYSGYDKRGDHFKRL |
| UniRef90-B8G5X8 | MFRNEFHRGEAFRRIVRDLAA |
| UniRef90-F5YHD5 | MFLNEFDRGRRWKEAALR |
| UniRef90-F8F2L | MFL L EFDRGRKWKEAVQ |
| UniRef90-G0CT23 |  |
| UniRef90-W4JDE4 |  |
| UniRef90-W813A0 | QYKNFEIRGDAFVTHVKAL |
| UniRef90-F4GLF9 | LFKHEFDRGDQFCREVQEL |
| UniRef90-UPI000467CE11 | QFTSYGHRGDTFAAAVR |
| UniRef90-UPI00035C6028 |  |
| UniRef90_UPI00037A934B |  |
| UniRef90-Q0EY60 | VYKDYTARGEHFRECDKSLA |
| UniRef90-UPI000463 | QFKNFEVRGEAFRSA |
| UniRef90_UPI00036E37BE | MYS GMGQRGDLDFAKYA |
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| UniRef90-K2PEX4 | QYKNFEVRGDAFVSH |
| UniRef90-R5FIE7 | KFSDYVDRGNTFNKYFSEL |
| UniRef90-N0E1Z7 | MFDNYGARGDA |
| UniRef90-B5GXP5 | MFVNYTKRGEAFADADRALDAE |
| UniRef90-X5KW60 | QFSGYGQRGD |
| UniRef90-UPI0002DD1A04 | QFVDYRARGERFGEAV |
| UniRef90-UPI00037FCDA4 | QFSSYAHRGESF $\square$ A AVVAD |
| UniRef90_UPI0004030660 | QFVSYADRGERFAEQARR |
| UniRef90-F0SPJ3 | EFLHYEQRG |
| UniRef90-F5XRS8 | MYS |
| UniRef90-X5H3A1 | EFKNFEERGDYFK GMVRSLLGQ |
| UniRef90-UPI00040FF63C | QFKNFEVRGDHFREL |
| UniRef90-UPI0003792688 | QF $\square$ S Y A DRGDRFAKAVKKVIN H |
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| UniRef90_K5C778 | LYKNFEERGNHFESLI KQL |
| UniRef90-J6LK74 | QFKNFEVRGDVFRKLVRAL |
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| UniRef90-R7L9H1 | MFNGYAERGKSFENAVLCL |
| UniRef90_UPI0004644431 | QFGSFEKRGDAFVSAV |
| UniRef90-G7GBP5 | MFKSYNDRGHQFVACVNALNEN |
| UniRef90_UPI0003792FD9 | MFKNEFDRGQKF |
| UniRef90-UPI000363 | QFRSYAQRGE |
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| UniRef90-UPI000379AF44 | A Y R C V ARGRHFAALA |
| UniRef90-D2S4M7 | RFRNYEELDARTYEQ\\|LLDAGAQ |
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| UniRef90-E0TG10 | P Y A |
| UniRef90-R7DQE3 | QF E N M M ${ }^{\text {R G T Y F R Q L I K R L }}$ |
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| UniRef90-R7GC74 | QFKSFEERGKYFNELIKK |
| UniRef90_UPI0003B4F778 | QFADYADRGERFAAAVR |
| UniRef90-S5DK88 | DFNNYEERGDFFKELVISL |
| UniRef90_UPI0003F650BE | MF S S Y GQRGDS |
| UniRef90-K1YKP5 | NFSTAEECGEYFK |
| UniRef90-A5CS53 | QF T D Y A R GRRFRTAV |
| UniRef90-T1AM56 |  |
| UniRef90-H6MSM9 | MFAGYGRRGDAFADAARSLAGE |
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| UniRef90_UPI00035D373F | $\square Y$ A N Y VA K A A A F CELID A V S |
| UniRef90-L7KU17 | MFAGYGRRGDAFAHAARDIA G |
| UniRef90_W5WXJ7 | MYTGMSQRGDLLAEFANAL |
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| UniRef90-L7KLE6 | MFPGYGRRGD |
| UniRef90-R6ACA1 | MYK N M E ERGMDFKKNVK S L |
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| UniRef90-UPI00036370CA | DFENY $\square$ ERGKFFKS 1 |
| UniRef90-B7AAS7 | QFQDYKDRARAFREAVYALGGE |
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| UniRef90_D1NSX0 | QFVS Y A D R G N F A Q E A Q R |

 PRLEYVVSIDDIQFINDSKATNYDAAAMGL ISVES PHRNHRVASVGGVDFIDDSK ATNAHAAAASMSGYD AHRGEIVARVDDVAYI DDSKATNPHAAQAA $\square$ G GGHR GLKYRFEMVYHTNDLIIINDSKSTTPYAS LAGAKSDKNNF GIDDHRLQYFHSWKNIKFYNDSCATVPEAAAAASQAFG HRGEVVAESAGI RFVDDSKATNPHAAQAA DAGF D
PHRGQVVAATDGVTWIDDSKATNPHAARPALLA HD GVSYRLQKRPSREGLYIFNDAKSTNWEASLTALKACEFSY GLPHRFQDAGEKFGI SFINDSKSTNDHSMLAGMTNWKNLD HRDQTVAVHGDI RFVDDSKATNAHAAAASLSSYGDAS LPFRNQTVANNTSHTKFVDDSKATNAAAAAASLASFANN

 LP FRLEFIVKTMDGUTFYNDSKATNVDSVVKALEESFBDQ
 L PHRQE VVSTRAGRTWVDDS DST TPEAAMAA DAAFAPGP LPYRFEHLSE R IINDSKSTNYHSLKYAMKKAKRCF

## YRQE IIIFKSEDLI I IDNSKSTTGESTNACLKRFSDY

AHRMEYVRAFGEWLFVDDSKGTNTDATLQATMRYK DR HR】ETVAVADGDSWVDDSKATNAHAAAASLGAFAPGS LPYRFEFITKN IVNDSKSTNSNSLLYAIKEFFQED
 VPHRDQLINPGTGVIVIDDSFNSNPDSSKAADSQFKEGGR AHRMEVVDRADGVTVVNDAYNANPESVKAALKSLATIR ERRMEVTTRADGVTFVNDSYNANPDSVRAALKTLATMR PHRMDVVDRPDGVTII DDSYNANPDSMRAALRALATRQ PHRMQVTERPDGITVI DDSYNANPDSTRAALKALAVMR PGRMER RE $\square G G V V F L N D A Y N A N P D S V K A G L A W L A A Q P$ VPARLELKKRSTGNITII DDSFNSNPVGSKMAVDVLGSME


VPHRLQLDKGNGLTFTDDAYNSNPSGCRAALAVLELFD IPHRLEKKDGADIFI DDAFNSNPDGSKMALEVLEKUR IPHRLQLTNPGGVITIDDAFNSNPVGAKAALEQFKEGR
 RMETVTRADGVTTVNDAYNANPTSVRHALETLASMQ RFQLVQGDNGVSVINDTYNASPTSMIASIEVMKQME GSPHRMDVWERNGTTIIDDSYNANPDSMKAALAHLGTHR RMERTERADGVTVVNDAYNANPQSMRAALQTLAQLG GMAMROELHEGIKNDDAYANPLSMEMALRSLKQNN GVEHRLQRI EAGGKVII DDSFNGNLEGMDASYELVKNYR RMEVTERPDGVTVVNDAYNANDESTKAALRALVAMG
 VEHRLNVVNSNSGVIVIDDAFNSNPDGFRAALSEFKDGR


[^0]$\begin{array}{lllllllllllllllllllllllllllllllllllllll}9 & 9 & 7 & 4 & 2 & 2 & 8 & 8 & 7 & 3 & 0 & 8 & 8 & 6 & 1 & 7 & 8 & 7 & 4 & 4 & 7 & 7 & 6 & 6 & 3 & 7 & 8 & 9 & 9 & 9 & 9 & 9 & 9 & 8 & 2 & 2 & 4 & 8 & 8 \\ \mathrm{~B} & & \mathrm{~B} & \mathrm{~B} & \end{array}$


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| :---: | :---: |
|  |  |
| UniRef90 D3ENM | PAILA AGGQSKEGNDSEWVKLIKSQVSKVLLIGESASF：A |
| UniRef90－K6WDZ0 | RVVLVAGGLLKGAEVDDLVRDTRSRLAGVVAIGRDRDAI A |
| UniRef90－R6XR | NKVLIVGGITMKE |
| UniRet90－UPIooo3b5B66B | PVILMTGGTEKGLELTPLIKTVKYPVKD |
| UniRef90－DOLAT4 | RVVLTAGGLLKGASVDRMI DAVRHRLAGVVA |
| UniRet90 | RVVWVGGGQLKGAAVDALVAEVGPRLAGAVLIGVDAAKI A |
| UniRef90 E1X45 | PISLILGGKLRGHGLESKLDAHKESISKVFLYGESGKVLL |
| $\begin{aligned} & \text { UniRef90_M6TAG4 } \\ & \text { UniRef90_USFOB } \end{aligned}$ | QTCLI AGGRPKQEDPKLLVAL |
| UniRef90 | SVVWI AGGLAKGGHFEDLVARQRHVMKAAVVIGVDQRPIV |
| UniRef90－J9Z181 | K I DGGNPKKSN |
|  |  |
|  | RALATGRVPTGAVGEPLAEVRUAGVVTLPGTGEAGRTLP |
|  | RIALLVGGHDRGLDWQDFAAHMRGAPLEIVTLGANGPR |
| UniRef90－W1 | SVILLAGGHDKM |
| UniRef90－UPIO0022 | NYTLIMCGDPSK |
| UniRet90＿R6R8N8 | RUVLILGGNHKSSS |
| UniRef90＿UP100047AA8A6 | $V \vee L L A G G V D R D Q E Y$ |
|  |  |
| R7F | FE凹A\｜LGGK】K S N |
|  |  |
| UniRef90－V8CL52 |  |
| niRef90－F7ZZ81 | VVWVAGG LAKGARFDELVQARRDRLRGVVLVGVD |
|  | NYSLIVCGNPAKELFAKITIEGPQ EEI VVGHHRKDIK |
|  |  |
|  | RKTWAVLGEMAELGDESVVEAVRLDVNRLIVVGTGRPAHA |
| $27 Z 89$ |  |
|  |  |
|  | D |
| P100 | LGVMA ELGPDSVREAVRLD |
|  |  |
| 178 |  |
|  |  |
| UniRef90－K0A |  |
| UniRef90－UPIO002EB9F05 | K】IUTPGMVELGAMEEEENRK口GEV |
|  |  |
| UniRef90＿UPI0001C |  |
| UniRef90＿K2EQM8 | K |
| VE9 | K |
|  |  |
|  |  |
| UniRef90－A0A024Q | G |
|  |  |
|  |  |
|  |  |
| GovPK8 | RKI AVLIGGMGELGDWAKREHEA GRLVALI TMGNLAKD A |
| A6Q3z3 |  |
| Q9S2W8 |  |
| R5AY03 | RIVITPGMDELGDRQSELNREFKNVDVALVVGEYNRDALV |
|  |  |
| ， | RTVLVLGGQWAEEGHRQVGDYARGKVDALYAVGTNMAHAV |
|  | RYVVTQGGREQFEVNFGLGKELAAVSDALVTLGQNCKALA |
|  |  |
|  | R |
|  |  |
|  |  |
|  |  |
| 42616 | RRTWAVLGEMLELGDESTHDAVGRVVVRVI GMGANGAVLE |
|  |  |
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| UniRef90＿G4D371 |  |




[^1]

| UniRef90_S5DLE3 |  |
| :---: | :---: |
| UniRef90-D3ENM3 |  |
| UniRef90_UPI0003B744D1 | M Y S S Y S A R GKAFA D A VA A L N E Q |
| UniRef90-K6WDZ0 | MFA GYGQRGD |
| UniRef90_R6XRI2 | QY S S Y $\square$ E R G S E F N ELIK R |
| UniRef90_UPI0003B5B66B | MFSNEFDRGNKYMAAVKK $\square$ |
| UniRef90_D0LAT4 | M F A G Y |
| UniRef90_R7WVE8 | MFRS Y GHR G D A F A A AVT A |
| UniRef90_E1X457 | LY E N Y VK R G E H F |
| UniRef90_M6TAG4 |  |
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| UniRef90_S4HR06 | QFVVSYADRGNRFAQ |
| UniRef90-J9Z181 | Q F K D S HR GK VF N N Y $\square \mathrm{K}$ K F |
| UniRef90 X1NTU2 |  |
| UniRef90_H0E8B0 | LF R D F E D R G D F A A A VA G L G |
| UniRef90_UPI00037B5D24 |  |
| UniRef90_W1Y9J2 |  |
| UniRef90_UPI0002893D3E | D Y K NFEKR G A HFNHLVKE |
| UniRef90_R6R8N8 | QYS S Y LER GKHFNQLVEK |
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| UniRef90_UPI000376B889 | DFKDFNERGK $\square$ F |
| UniRef90_C0F818 | QWKNFEERGEAFCRMFENL |
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| UniRef90_R5QSC6 | EF S G Y E ERGRQVFKNIVNKL |
| UniRef90_W7SNG3 | MFTDYGHRGRAFAEAV |
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| UniRef90 F2ZZ89 |  |
| UniRef90-R1AUB7 | LP D T Y N E |
| UniRef90_C6WDE6 | L WR |
| UniRef90_UPI0003693295 | L W R |
| UniRef90_C7R3J0 |  |
| UniRef90_U1YYR9 | $\square \mathrm{W}$ |
| UniRef90 B7AAS4 |  |
| UniRef90_E6U1T3 | LP D T F N E |
| UniRef90-K0AW55 | LP D N Y N E |
| UniRef90_UPI0002EB9F05 | L P D N N E |
| UniRef90_K2D877 | L F Q NEFDRGRKFNEA\VQK $\square$ |
| UniRef90_UPI0001C36EA7 | LP D N Y |
| UniRef90-K2EQM8 | L P D N Y N E |
| UniRef90-UPI00047DEBDC | L P D NYNE |
| UniRef90_D0YVE9 | LA Q S $\square$ E E R G R V |
| UniRef90_D3PTH3 |  |
| UniRef90_V4IWX6 | $R G V Q L Q R L A E E L$ |
| UniRef90-A0A024Q0F1 | $R \mathrm{GL} \mathrm{L}$ F E T I V N QLT K |
| UniRef90_D7BNA5 |  |
| UniRef90_UPI00037E9468 |  |
| UniRef90_E4L7G9 | M Y T |
| UniRef90-G0VPK8 | M E K P Y F R |
| UniRef90_A6Q3Z3 |  |
| UniRef90 Q9S2W8 |  |
| UniRef90_R5AY03 | LP D T F K |
| UniRef90-F5T5R7 |  |
| UniRef90_D7N7U7 | LP D N Y S E |
| UniRef90_Q1I5B4 |  |
| UniRef90_R7K522 |  |
| UniRef90_UPI000425C058 | $R \mathrm{G}$ VK F E E \VK A L |
| UniRef90_A8KZA5 | L |
| UniRef90_UPI0003B46532 |  |
| UniRef90-K0UQN5 |  |
| UniRef90-X4QWQ6 |  |
| UniRef90_S7X916 |  |
| UniRef90_UPI000426160F |  |
| UniRef90 W7JAD7 |  |
| UniRef90_D8HVT0 |  |
| UniRef90_G4D371 | LP D N Y S E |

[^2]
[^0]:    lupas 21
    lupas_14
    lupas_28
    jnet
    conf
    sol25
    sol5
    jhmm

[^1]:    lupas_21
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[^2]:    lupas 21
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    ssm
    

