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UniRef90-C3Y2L2
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SCATGPRNCKDLLDRGYFDSGWHT TY LDPDCRPLTVLCDMD SCATGPRTCTELLTRGHFLSGWHTIYLPDCRPLTVLCDMD
 CDTGPRSCREMRTRGHTLS GWHTI Y L P P DCQPLTVLCDMD CHTGPRSCKEMLTR GHTMLS GWH TI F L P DCRRPLTVVLCDMH
 NAPRDCLDLENTGHNTSDVYAI YPGGKDPI HVYCDMD PGVKNCQELLARGNLLSGWYTI YPHDCNALTVLCDMD


## $S C Q T G A$

QDCT DILQSSGFNLLS GVYTLRINNTEPKKAFCDME

CRRGP



 SCHPNSSCQELLSLGHSLS GWHTVYLPDCRPLTVLCDMD


K D C S QAL L N GDT TS GFYTI Y L R GS QPLQVYCDMT RNCKELLDQGEVLSDWY I YPDGVQPMKVLCDMH GAQNCKELLDQGNYMSGWYTVRDAGGKALQVFCDME K DCAAAYK LGFSTSGVYNLQLPNTTTVVQLCDME K NCMELRTYGVLFS GWYTI YPDGNKPLNVLCDMH
PQGARNCKELLDQGNY GSGWYTVRTEGDKDIRVFCDME
P H D C Q D L L D D D E T TS S GVV MV Y P D N L G G F L V F C D M D
QDCAEIQHSGINVSGVYTIHVANTEPLKVFCDME
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$P$ T D C G QVV A N GETEESGP F TVVYP D G GEP I EVVWCDME
T GLRACKELLNNGHNTSGVYMIVPDGGSPIHVYCDMD
K DCTEAFKSGLT TS GIVTLTTVPNGEEKKAYCDME
K DCADAYKAGHSASGLY LI YI GNTEPVQVYCDME
DCAELFHAGFNKSGIYAIHIDPLQDNKKVYCNME
Y P T DCF C E Q M Q GF N V S GI Y K I K P D D M D S F Y V L C D L S

PGTA

P QDCA QHLMNGDTLSGI YTI SLNSNQRDQVYCDMN
P YPKDCSQALLNGEADSGLYTIVVNGSQPMEVYCDMS
P T TYMDCAAVYKSGNDKSGVYTLTMPNTTTVKAFCDME

S F P LDD C E D I Y D Q G S E T D GVVY L I F P A G P N P V P V Y Y C D M T

K GVVKNCKELLLAKGYVLS GWYTIYPQDSKAMTVMCDMH
SSPVLSTTCAEAIE QA GTKS GIYHLY LPD GKPFYAYCLLD K DCAEAYHA GFNTS GVVYSM HI SNSEPKKVYCNME
P H P M D C S Q T L L N GE DT S GL Y TIVFLN G S T P V QVVYCDMT APGPRDCLEARRSGHEASGVYEVQPAGGQSLQVWCEQE RDCAD L L R S GVTASGLYGI RDPNSTQKVVFCDMK RDCYDLYQR GYRLDNGVYT I PEDTPAIPVVCDMK PS GPRDCLHALEDGNTASGMYLVRPDNSRLMQVWCNQR CTKGAKNCKELLARGNXLSDWYTI YPRDCNPMTVLCDMD

SEGPRDCLAAQEAGHSTSGMYLI RPDEARPVQAWCEQD
 SPA DMAS D
$P$ R D CA QIRLNGEAVS GLFSIVVGGNQPLQVWCDMT RDCQHAKESGFSNSGI Y LI KPDNASPMQLWCENS
$P$ RDCAEDY T L G $\quad$ KKENGI YTI QP DN GPALEAKCDME P Y P A D C S Q TQQQN G NA A S GMY T 1

 SCRNGAKNCKQLRARGNVLS GWYTMYPDDCTRMTVLCDME
 D C S S L Y Q K N Y R DS GVY K L P P D G S P E $\square E V Y$ Y D M E
 LP R D C S D HLL LR GKTKS G L Y L V T P D R T S S F S VVYC M M
D C A E N F E K H P Y T N GVVY N
PKGPQDCDKIHRSGVNVDGIYTILVPNQEPKRVFCVMD

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CS LDP PVDCS QVYAS GHGQNGVYTIYPAGTSPVQVVFCDMS
$P E L P E D C Q Q L F L A G Q Q S S G I F Q V Q P S G S Q P F K V V C D M T$
PRDCEDVRDA GNTESGVYTI Y IN RKNAVRVWCDME
S P A S GP Q D C Q HV LNS GE T TS G I Y L L R L Q S T R L L Q A WC E Q S

## QUERY

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TDGGGWIVFQRRVDGSVDFFRDWNSYQRGFGSRLADFWLGG
PNGGPWTVIQRRQDGSINFHRTWEEYQAGFGNWNGEFF I G
TAGGGWTVIQHRKDGSVDFQRTWKEYKMGFGSLAGEHWLG
TDGGGWMVFLRRQNGNLQFYRNWKNYTLGFGNPDDEFWLG LIGGGWTVIQRRQDGSVSFFTTWHDYKHGFGTLDGEHWLG TGGGGWTVLQHRSNGSVSFHRGWREYKMGFGEPSGEHWLG HDP G GWTVIQRRRMDGSVVNFFWDWETYK Q GF GNI NGE Y WL G $T D G G G W Q V F Q R R V D G S M D F L R D W N S Y K S G F G S R L S E F W L G G$ TDNGGWTVIQSRRDGSVNFFRNWDNYKSGFGNIDGEYWL G KAGGGWLVFQRRQDGTVDFFRSWSSYKAGFGSQESEFWLG AEGGQTVVQRRQDGSVDFDQPWQAYKNGFGSLDGEFWL
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$A E G G W T V I Q R T D G S V D F D Q L W D A Y K N G F G D L H G D F W L G$ AEGGGWTVIQRRTDGSVDFDQLWDAYKNGFGDLHGDFWLGG HSQGGWTVIQRRQDGSVYFYRNWEQYKQGFGNLDGEYWLG

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UniRef90 F6Y6E2

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 ND HALTAQGTSELRVDLMDFEGNHRFAKYQSFRMADEA

 NDNI HALTARQGPSELRVVLVDFQGNYQFAKYSSFQMAGEE NEVI HQLTSRAAYSLYVELKDWEGNTAYAQYKTFRVGSEE NDNV Hall N E V MH L L | $N$ | $D$ | $K$ | $I$ | $H$ |
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UniRef90-M9T1P5 UniRef90-Q9WTS8 UniRef90-M4A0U8 UniRef90-H3BES6 UniRef90-UPI000388B680 UniRef90 H0Y234 UniRef90-UPIO0021A4F2B UniRef90_-Q0P4P2 UniRef90- Q90484 UniRef90-UPI0003500E38 UniRef90-W5N1E0 UniRef90-UPI0004422AD9 UniRef90-UPI00034F6036 UniRef90_UPI0003EAB7EF UniRef90-C3ZFG5 UniRef90-H2M323 UniRef90-UPIO0033327E2 UniRef90_K7G7G2 UniRef90-C3Y2L2 UniRef90_C3YH84 UniRef90_M7B8B4
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160 EKYKLVLGAFVEGNAGDSLTDHGNHFFSTKDRDNDESPSN DKYKLTLGAFVGGSAGDSLTYHNDRFFSTKDQDNDDSPFN
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EKYRLVLGAFVGGSAGDSLLTHHNDQPFSTKDQDNDSNSEN ENYQMNVGGYSGTAGDDMTWSSTAFFSTDDASNYVHPGH EKYKLILGGFVDGTAGDSLSYHKDMPFSTRDRDNDQHSSN ETYRLIIGPFVNGTAGDSLMAQNGMMFSTHDRDNDWSSTN ENYTLAVGSYVDGDMGDSFTGHRGFAFSTRDRDNDVYPGS QRYRLFLKGYKGSAGEQSGLPLQGTSFSTRDSDNDNCMCK QRYRLSLSGYNGTAGRQSSLFLQGDNFSTRDADNDNCDCK QKYRLMVGSYLDGNMGDSFSGHNNQAFSTKDRDNDDYDGN EKYKLTLGQFLEGTAGDSLTKHNNMAFSTHDQDNDTNGGK $D G Y P L T V V G Y S G T A G D S S L L K H S G M R F T T K D R D Q D Q S E N N$
$Q N Y R L H V R G Y S G T A G R T S S F S S S G T D F S T K D V D N D K C G C K$ ENYKLLLGDFLNGTAGDALTYHRDMMFSTKDRNNGLNSVN DKYKLVLGAFVEGSAEWGLGSRDNLALCPKDQDNDLSSSS TEYDLTVGGYSGTAGDSLI DQHNGMKFTTRDNDNDFRPNR EDGYPITISSDYGTAGDSLGKHSGMKFTTKDMDNDHSENN AKFKLLI GAMKGGNDEDAMKVHNTMPFSTK DKYKLLLGNFMGGTAGDSLTSHNNQAFSTKEQDNDSYGGG QNYRLYARRYGGTAGRTSSLSPSGTDFSTKDADNDRCACK QKYTLRLGAFTGGTAGDSLSSHNNKAFASKDADYDESVNS EKYKLLVGRFEAGSAGDSLSGHNNLLFSTKDHDNDDDDRV QNYKLHMGTYTGTAGD SLSSLHDGKPFSTKDRDNDESSGS QMYSLSLRGNKDSATQKNSLAPQGTKFSTRDTDNDNCVCK ENYKLALGDMVGGDAGDSLAAYKDMKFSATDRDNDLNPDN DLYKLNIGEYSGTSGDSLTYHNNRPFSTRDKDNDVALSH NLYRLTVEGYSGTAGDGMAVH SAMDFSTKDDVHDIHD EKYTLII GPFVNGTAGDSLMEHNGMMFSTHDNDNDWS
QKYRINLKGLTGTAGK DSSISQPGNGFSTKDADNDKCDCK QQYRLYLRGYSGTAGRQSSLITHGAGFSTRDHDNDNCDHC HNYRLFLKDHSGTAGRQSSLVINGADFSTKDMDNDNCVCK EGYRISTLGTYYGTAGDSLSYHAGQKFSTFDVDNDEWDGS DKYKLLLGNDKEGNDGNSMDVHDNMPFST LDDNDVSPGK QKYTLRFGEFTGGTAGDSLSTHRNLPFSTKGVHNNAGTAN QNYTLSLGGFTGGDAGDSLSGHNGYSFSSKDRDNDVHTGS LNYR YYVKGYTGTAGKYSSFAQSGDDFSTKDMDNDNCACK SRFRLKVEGYSGTAGD SMTYHNGRSFSTFDKDNDSAITN QNYRIHLKGYSGTAGKDSSDGQPGSDFSTKDADNDKCVCK F NYRIHLTGLTGTAGKISSISQPGSDFSTKDSDNDKCICK DGYTLHVSGFTDGGAGDSLSYHSGQKFSTFDRDQDLYVQN EAYALQLLGPVTGELENALSDFQQLQFSTRDRDQDKKSDF ENYRVHFDAYVTGNIGDSFSSHNNQAFTTNDKDNDAYGQN DKYKLTVGNMTAGDAGDSLTYHNNMMFSSKDQDNDLDPSN EAYALHLLGSYEGNAGDSLRVSQGQMFSTKDADHDMWDRN QNYRLFLKGYSGTAGRQSSLVLHGASFSTKDLDHDNCDCK GRFKLQ LGTYSGTAGDS LSYHQGRPFSTYDKDNDVAVTN NNYSLHAEGFSGTAGRTSSLSHTGTQFSTKDRDNDRCTCK EDFMLKLGGYSGTAGD SMSMNNGRAFTTKDRDNDAMEGN DFYRLRLGRYHG NAKDSLTWHNGKQFTTGDRDHDVFPGN EKYKLILGAFVNGTAGDSLTEHNGMMFTTRDRDNDLSDTN EGYRLRLGTYQGNAGDSLSSHNGKQFTTLDRDKDAFSGN NHYAI DLSGYSGTAGD SMKYHKGRPFSTKDKDPDTDSDH EHYKLVLGKFLKGTAGDSLSLHNGTPFTTKDADHDTSDGN NYSLHLQERPLGSVESALSSEPSGLPFSTQDRDNDSKLDM RTRYKLYDGAYSGTAGDSMTYHQGRPFSTYDNDND DAVTN EFYKLRLGTYQGNAGDSMDWHNGKQFTTDDRDKDMYSGN QRYRLTAREYSGDASYSKRYNHDGRSFSTADRDYDRYVSG KKYSLHARGFSGTAGRTSSLTHSGTQFSTKDQDNDQCSCK DKYKLSVGNYRGTAGD A LTYHNGWKFTTWDRDNDVALSN DKYELVLGTFLGGSAGDSLGVHNRKPFSTYDRDNDSGTQN QNYRISLNGYSGTAGRTSSMGQTGGDFSAKDLDNDKCVCK DKYKLILGDMVAGNAGDSLSYHNNSKFSTHNQNNDPSYKN NSYRLFLGNYTGNTGRDSLRYHNNTAFSTKDKDNDKCVDH DKYRLSVGGYSGTAGDSFAARHNNAVFSTKDRDNDSWNPS
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DGYR YFSGYGTDSMTLGHSLNRQRFSTVDRDNDAWSST KHFRLRDGAYRGNAGDSLSYHNNMDFSTRDRDAEKR\|LP EEYRVSYDRRVSNMDGDFLIN GAKFSTWDKDQDTHAYE EGYSLKVLGGYSGDAGDSLSYHAGSKFSTKDLDQDEWEGS TRNYKLSVGGYSGTAGDSLSYHNNCVFSTKDRDPAPWDTR EGYKLQVSGFTDGGAGDSLIFHNGMKFTTYDKDQDNTEKN EGYPLTLGFTDGGAGDSLTHHSGQKF
 DGYRLFVTGYTGDAGDALLVG SGNRFSTRDRDHDKADTN DGYRLF


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 C S VMYK G G WWY S S C H S S N L N GL Y L K G E H T S Y A N GI N WS A G $C A Q M L S G G W W F D A C G V S N L N G U Y Y$ QK GH H I R K N GII R WQ Y F CAVSFK GA WWY SKCHSSNLNGLYHKGEHTSYADGI NWSAG NCALLFHGAWWYHDCHQSNLNGRYLPGSHESYADGIXWLSG CAAYYQGAWWYRNCHTSNLNGQYLRGGHASYADGVEWSSW CAQMATGGWWFDACGPSN L NG $\quad$ GYYSSSTTTTMKNGGIKWHYW C V S HE GA WWF K D CLQ S NL N GRYLP GEHKTPHHGVFWSTG N Y Q G A WWY TECHS S NLNGQYLLSGAHESYANGI NWKTG CAS C Y H GA WWY R N C H T S N CALDS YK GAFWYKNCHRDNIMMGYY GDNSHSKGVNWFHW CADRYK G GWWYNGCHHSNLNGLYLLGSHSNTAEGINWYGG NCATYS GA WWY NVCHDSNNLNGGYYLKGHHDSFANGINWHS G CAQMASGGWWFDACGPSNLNG』YYPPPAT@RYNGMKWHYW NCAEYK GA WWY VKCY DACLNGEY LRRGPLGQNYGGDAWK T F C T N L Y K G S WWY GK C H T S N L N G L Y L G G D H K S F A D G I N WY S G
 CA QMMS G GWWF DA C GLLSNLNGDYYPARHHMRKNGIRWHYF CASTFHGAWWFRTCHEAHLNGEYLQGAHDRADHGVLDWKKG


CS QMLTTG GWWF DACGPSNLNGVYFPMRQNTNRKGDKWYYW KCALMT G G WWF DAC GFSNLNGlYYTVGHNDRKNG\|IWHHF CALLLTGGWWF DACGPSNLNGMYYSYGNTGKFNGIKWHYF

 CA QSYK GA WWY SKCH GSNLNGGY LGGNHTSYANGVNWSA G CA QMAT G GWWF DACGPSNLNGMYYT GQNTGKFNGI KWHYW AMSYK GA WWYKNCHRTNLNGKYGESRHS QGI NWYHW C L S Y K GAFWYKNCHRVNLMGRY GDTNHSQGVNWFHW S QLT T G GWWF DAC GPSNLNGMYYQNGQNSNRNGIIKWYYW C QMLT GG WWF DAC GPSNLNGQYYP QQNTN K F NGGI K WY Y W CA ALSSSGA WWFK SCHFSNLNGFY LGGPHLSYANGIINWF QW CKHLS G GWWFSSCGHSNLNGKYFPRARHERKQGIIFWKTW A V L YK GA WWY K DCHHS N L N G LYYHK GT H S S Y A D GI NWSTG CASTVHGGWWFN ACLKSNLNGEY L H GAHDRPNHGVDWVQG I T G A WWYKACHDSNLNGQYLRGKYDKYGKGIIDWTHW CA QMLLT G GWWF DACGPSNLNGMYYSA GQNGKLNGIJWHYF CA L S YK GAFWYKNCHRVNLMGTYGDNRHSS GVVNWFHW AAHYHKGGWWYNA CAHCNLLNGVWYKGGHYRYQDGVVWA EF A QLAS GGWWFA AC GPSNLNGIVYPSSSSVRYNGIWWYYW A QRDGGGWWYGSCSHS LL NGKYQRRGESASWQGIVVWDDW A HY HK G GWWYNACAHSNLNGVWYRGGHYNHQNGIVWS E F HAF GA A H F H K G G WWY N A C GQA N AVIVHGAWWYKACYSSNLNGRYAMSQATAHTYGIDDASG NCKHLTGGWWFSNCGRSNLNGRYFPRQRHERKQGMFWKTW $A L S Y K G A F W Y K N C H R V N L M G K Y \quad G D K S H S K G D N W F H W$ A HFHK G GWWYNACAHANLNGVWYRGGHYRHQDGIYWAEY CGQYY G GWWF DACLAA ALLNGRYYRGRYSGVTNGIIYWGTW
 A R S HH G A WWY K N C H L A N L N GKY GE NK H S E $\quad$ G G A MLS G GWWF DACGLSNLNGUYYPARHHVRKNGIIRWHF AVTVHGAWWYVNCYHANLNGGYAVGEQKKQRYGIDWVSG S QMLS G GWWFDAC GPSNLNGDYYQQQNTNRFNGI KWYY W
 A ELLRKGGYWYNCCTDSNLLNGVYYRKGHTKNMDGIITWYGW CAVRFK GA WWYT GCHHDSNNLN GYYYGGP CPPHAEGGVTWKA W CATAYK GA WWY N D CHY S N L N N H M Y WL L G A H G S Y A D GI N WK T G CATTLYR ST GWF DHCYHANN NGQYT DSED CAVSYRGGWWYRNCHYANLNGLY G SIIDHQGVIWYAW CAVTMS G GWWF DACGASNLNGIYYPAGRHLYKNGIRWPHS CAELYY GA WWYKTCHASNLHGRYLGGNHDSTTNGINWMSG HCSQQQ G GWWFAAC GNSVLNGRYLGNCSCPYRQGVLWAHW
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 E D Y A L NL L G E Y E G DA G D S L T Y H A G S K F S T F D N D N D GCD C S SHYMILHLTPDLS GNLPDAMSNHTGMMFTTKKDKDNDNLDEDS K GYTLHVSHFSGDLADAMANRTGTRFSTKDRNDVNHRNSN
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 $E G Y K L H V G G Y K G D A G D G M \square K H N N Q K F S T R D V D N D Q F G G S$ Y S LR T APVASK LGATTVMPTGLS TP F

E Q Y PL T KL G S Y T G TA G D ALL N Y HKDMK

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 A Y L

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 DMK TKK LVVYCDMT T D GRGLTAKY
CA QSHK GA WWY NWCDK S NLLMGPY HAT DYDK $\square E Q Y \square Y$ WHE W CATTYYKSGWWYNNCPNSNLNGLFLGGPHVEFAVGI NWYHW CASYYQGGWWYHFCHYANLNGQYLKGPTGSRSMGVVWDGW CAS LLRKGGYWYNCCTDSNLNGVFYRYQHTKNSDGUTWYGW AEEDKGGWWFNKCHSAHLNGKYYPS GYYNTDDGVVWYTW AS SRE GA WWY GQCTE SNLNG DYLNGSYS GEFR GVYWS YW CNRSYT G G WWVN AC GE TH L N GRYQ WLRAK GRARGGMHRPA CAVLMTSAWWYNSCRHSDLNGNYRQGEDPLDYNGI I WYT W CARSYMGGWWYKNCYKTNLNGDYGANHDN QGIVWDDW NCAHFTGGWWFKDCLRSNLNGLYLNEQDLNRDKGVVWQQW CAVQFK GA WWYAKCHSANPNGLYLNGTHTSYADGIVWSPW CAQRKS GA WWYWDCERANLNGLYYTTQVNS GKAI TWQHW CAKSLS G GWWF GTCGHSNLNGQYFPRQRQQRKKGIIFWKTW PESYSGGWWFSDMCGENNLNGKYNKPRAKSRRRGIISWRPR CAKSLSGGWWF GTCSHSNLNGQYFHRQRQERKKGIIFWKTW NCAYHHGAWWYDFCSRSNLNGKYFKDEVDNV QGI YWEPW CAVA Y G GA WWY R N CHYANLNGRYGTPRDH QGIHWFP W NCAK QYA GWWYNSCHHANPNGVYワWGKDTFFA $\quad$ TG NVVWYHW NCAFSRGAWWYSSCHNSNLNGLYLAGHHPSNGNGVNWSSW LAVEFTGAWWYNTTHFSNLNGGYGGGEYDQYGRGITWYFS PESSYS G GWWCHDVVCGENNLNGUYKKPKAK DKRRGI CWK S Q PERYSGGWWHRACGETNLNGKYIKPRSEGRRRGISWKTQ
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R G WD Y NLIK R A Q M M I R P K G Y D Y S L K H T E M KI R P | $K$ | $R$ | $Q$ | $A$ | $K$ | $S$ | $T$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $K$ | $M M$ | $R$ | $P$ |  |  |  | HGYHYSSI Q FTEMKI R P V RGPS Y S L R A VRMMIRRV RGNSSY T L K F T K $\backslash$ S M R P

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$P G N S W T L I Q H R T D G S Q D F E T W E N Y K G F G N L D E F W L G$
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## S


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 T DNGGWMVIQRRRTDGSENFFRTWAEYQEKF GNLLSNE F WLL G S Y GN G WTVLQRR LD GSEDFSKNWVQYKEGFGDDTTEFWL G TGLGGWLLI QQRSDGS LNFNRTWQDYKRGFGKVNGKEFWL
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 $R F G N G W T V L Q R R R D G S V N F F R N W D Q Y K E G F G Y L T P D D D T S E$ $\begin{array}{lll}E S G N G W T V & L & R R R D D G S E N F N R N W D Q F K E G F G H\end{array}$
 $N S G G G W T L L Q R R Q D G S V D F A K N W A D Y E G G F G N L D G E H W L G$
 $\square D N G G W V F Q R R V D G T T N F Y R G W T E Y E N G F G D L A N N F Y M G$ AFGRGFTV TQRRRDGSVDFKK DWDQYREGFGYLSPDDTTE $\begin{array}{llll}T & D N G G W D L & Q R R D S G D V D F L R G W A D Y R N G F G D L S E N F W L G \\ T & D G G G W T V & Q R R F D G S T D F Q K S W Q K Y A E G F G H P G H E Y W F G\end{array}$ E DHGETVV,IQRRMGGLVNFDQTWETYENGFGDLQGEFWLG T D GGGWTVFQGRQDGSVYFYRNWTDYENGFGDLTGEFWLG



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 S L S GHNKLP
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 A S MLKG GWWWKSCGR GLNGLYLNDPQDTARQGIVWFRW
 AVNF E GA WWY GGCFESHLNGRYHVSSSNALYHGIDWRHW SEGYS GGWWWHDVSDENTLNGKYKKPRAKSKRRGI CWRS Q AVNHKA GWWY GGCHASNLNGLYHA GNDTSYADGVNWKS W A QV Y G G G WWY NS CQA A NL NGIYYPGGAYDPRNNVVWAPF CPQSHLGGWWHSECEETNLNGKYVTPRSRGRGKGLYWKPK CAEVVYGGGWWYNSCQAANVLNGVYYPGGAYDPRDNVVWAPB
 NCAELS GGWWFSSCGESNLNGKFPQRHGGRRA T F CAQLYH GGWWYNNCHFTNLNGLYVPSALDNPKN DIGRYW CAVVFK GAWWYEACHSSNLNGVYYHGHHDEYATGIDDWYTG NCDFGQGGWWY GSCSHTDLNGEYLGNCYCAYGKGVYWSKW CAKLYF GA WWYRACHVT NL N GLLYAP SVLDMS P KYYI T WS T W


 SHLYFGGWWYDKCHLANLNGKYVKGAVSDYATMMCWSSF SASALIGGAWWHGYCTRANLNGLYLRGSYSGNWRGVFWTHW CALTYEGGFWFDNCHHANPNGVYKWGSGVPAATGVYWYHW NCAYHHGAWWYDFCSRSNLNGKYFKTQTDS EQGIIFWD QW A VEFT GA WWYKDCHRSNLNGRYDKGGNTTFAQGVDWYPW

 SKEDGGGWWYNRCHSANPNGRYYWGGHYTPDDGAVWMNW

 CSIVYK GA WWY GKCHSSNLNGLYLKGQHSTAANGIINWSAG CAEYWK GA WWYNKCFS STLNGLRKGKVHAGTMEWLSYNPS
 CATSYY GA WWYKN CHLSNLLNGLY LVGSHSSYANGVVNWYH CAEQD GS GWWMNKCHATHLNGKYY Q G GVVYYDNGI TWVT W CAEQDGSGWWMNRCHAGHLNGKYYPGGNSGTDNGIIDWTW CAQENKA GWWYNRCHAANLNGKFYRRGKYKYDDGIVVGTW CAAIT K S GWWHRSCNCANPNGLY LAGGETLFNQGVTYHPW NCAVNHGAWWYENCYHSNLNGGYQLNCQTTTTSQAANWRTMF CAEQDGSGWWMNRCHAGHLNGKYYVGGVYTFDNGIIDWATW CAEMY G G GWWYNNCQ GANLN G IYYP GGPYDPRDNVVWIPG

 CAE QYR GA WWYSDCHACNPNGLNDNGFHESYGDGIDWNTG
 CA QTFKGGWWYAACHRAN L NGLY LDRGTHTTHADGVNWGTW
 CSKED GGGGWWYN R CHAANPN GRYYWGGAY TWHDGGIVWMNW CAEVHGGGWWYNNCQAANLNGMYYLGGQYDPRNNIVWQPG CAQQDGSGWWMNRCHAAHLNGKYYTGGRYTFDNGII WTTW CASMLLK G GWWWKSCGR GLN GLY L H DP QDLTAPPIV WVR W NCAEQD GS GWWMNCHAGNLNGIYYQGGNYAKSST\|IWATW CASSWF GA WWYRNCHQSNLNGRYMQGFNHT GMDWRTF CAKKFRGGWWYRACHACNPNGLNLNGYHQSYADG■EWSVQ CANYNH GA WWYNSCHYVNLNGKWGDAGSMG MN WK SV NCRYNGGGWWYPSCGYAHLNGQY_NGSGAAMGLNWERW S QRYGQG GWWF NKCGYSYLNGRYLGNCENSCPQGVLWHHW CALY QR G GWWYHACAHSNLNGVWHRGGHYRYQDGVYWAEF CAVSYNGAWWHKS CHFSNLN GQYGDDSPGG CAQQDGSGWWMNRCHAAHLNGKYYSGGRYSFDNGII WVTW NCAEDHGAWWYRNCHRVNFNGEW GSSGGGDGLI WDSVV CAAANGNGWWFNACHHSNLNG $\square Y Y K K E T S T S A G M T W F Y W$
 CA QERNSAWWYSECECANLNGPYIGKGYNDDA I TWQ


210
RGHNYGYRVT QMM\| R P K GS GYSLKATTMMIRPA K GHEFSI P Y VEDLKI R P K G H D Y S L RGRYY P L R AT TVLL Q P A

 HTDRTTTLKTVTAVVRP QK H N Y S L T F T Q M M I R P R GYRYS L P F F E M K I R P

 $G N N Y Y S F K F T E \square K F R$
$P \square R Y Y S L K S S E M K L R$
TGRNASLKKARMLI R
NGKLYSSKSTKMLI HPT D K G GVVSMKNARMMIR
TGRKYSFRSVEMKVRPA NGFKHSFKRAKMMIRP K G S WY S LK A $\square$ S M K I R P R GWD Y T L K RALDMMIK P K S D Y Y S L K K V S M M I R P K G H N Y S L K A I S FMMR P V HE Y EYSSLKK S E $\square K V R$ R NGKLYSIK S TKMLI H P
K GYHYSLKKETTMMI R P
RGTD Y S L R A VR LK K R P K G R Y Y L L K S T K I M I H P T RGADYSLRAVRMKI R P RGYNYSLKKTRMMLR

 HGYHYSMKTAMMMI R K GWEYSLK ETAMKI RP
 RGRYYPL R A T TVL L Q Q P K N $\square \mathrm{F}$ Q GL S F S R M M I R RDHF Y GLLKRTRMMI RAV R GFNYGLK T S R $\square M V R$ R G R R Y S L R H T EMKMR K G Y Y Y S L K S V M K M R Y S F K S S K S S V M Q K GHYY SLLK FVVEMLRPT K G P R Y S Y K T MK MLV RP $K G H Y Y S L K T T N M M I R$ K G S WY S L K Q DC L K L R P V PGSTSSLRTSRMMMRP K N N Y VT L K F S E M K
$K G Y R Y S Y K Y$ V D MK I R P S G WY L L Y TRMM RET K S R WY S M K K T T M K
T T Y T K S A T F S T TY T K SAT F S E M K M
K GY HY S L K T T E MK L
 $\begin{array}{lllllllllll}H & D R W Y & S & L & K & K & T & S & M & K & I \\ K & I & P \\ R & L & W & S \\ R & H & T & T & M & K & V & R & P\end{array}$ R D K F Y S L K S T R L M V V R H GH Q Y S L K F $\square E M K F R P$
$R$ D R WY S M K K S A M K I I P R G S D Y S L R T VRMKI R P

 | $R K T S H S$ |  |
| :--- | :--- |
| $N G K D$ | $T$ | N G K L Q S

K L Y Y S S S K M F PGP Y Y S L R F TE MK TH K GY F Y S L R S D Y Y SLLRKVS MMI R P SNPRI I ESEMKI R K G S WY SMKRMSMKI RPS
 $R G W G F T L K$
K S RWY S MKETTMK I IP $R P D G Y S Q R M S R M M$ R Q GYHYSYPSMEMMVRPA TGWTK SVTSCEMKI RP RGFMYSLKMTSLKI RP RGGSYSLKSVSMKI R RGGA Y S L K K A A MLI R P R G Y H H S L VR A Q MMVR HSRWYSLGKTTMKLDP



E GY T Y C L K S F R $\quad$ MM $T G L H E G L \mid R F T E M K \| R P$
P Q D C A ${ }^{10}$ T F A L G L Q T ${ }^{20}$ Q $Q V Y S \| G H P$
 DCGKYHSSGWTTS GVYPIVLGLPADVEAYCDMD


 $\begin{array}{lllll}V & Y & C & D & Q \\ V & K & C\end{array}$ SCAE $\square$ QS N GAY $\square$ S G $\square Y$ K $\ A L T$ P S R R LDVVY C D L S
 RKAEANGVVTVK円PGHQSFEVLCDAE
TVYS S C Q D
$R R \| V K T G V Y K V S T N L T E S T Y V L C S L D$
 K DCQEVANK GA RDS GL Y Y I K P K A K Q Q F L VY CE I E

 DCKSLLFEDGNTTSGVYTVNPDRGTPFEVYCDMK H F I N N D R S K P V PRSCRDVNSTDDR VVVTMLS GLK VMCDTK SCKDEPSK $\quad$ VSGVVYI RVNNSTP FNAYCE QA
 K DCVEANQKHLKTN GLEKI K P G GT QVVVEVYCQQE
 PFPRDCGEEMQN GAGASRTT TLI L N GN R P L LNVFCDME

KECEEDIRNGGETSEMY LIQPEKSKPYRVYCDMD $R$ D C A DLY QA G $\square H K N G L Y T I H \square S$

D C V G V L
NSNNVHMIKVSGYQPFQVLCNKS CVGVLTT HAS GVYGITI GGNSKLVYCSFE
DCAEAFNAGRVRSGYYRVHPRSAPAFTAYCDMS
DCEDVYKA GHTTS GVYTI QPDA GASFRVYCEME
YPKSCAEYSEEYCDDDICRIVKVPSSEEFVVACDDN


DCSEI F ND GYKRSGFYK IK P L L Q S P T F SVVYCDMS
DCSTLYAS GQTTS GVY T LD S S LRRGQAYCDMK
CSSSLYYNG\|DRSGワY T R L P GVSAF EAPCR
LP Y DCA ELY A R GVRRS GVYDI RPGTKVTWTVVCDMD
P S D C T S L Y H N G V R R S G V Y T I VM S P GTT F PVVYC DME QYPKSCAEA A A GSRRSNVYQIVVPSYSPFIVSCDEK


$P K D C V Q V S L N G E K S D D V Y E \square F P Y N G D K L K V F C D L T$
PPDCKTVLEMGANESKVYPISPDGTNVVLVYCDME HPGPKDCRELKSRGASLSGWYQVCLANGKLLSVFCEMT

TSCC LQ S Y LA V V G $\quad$ L LK L QL P Q S D A F Y V P C Q D D
K DCA Q I K H R P L S R D GVVYT Y Y T P GTNKTVVFCDMT LP T S CKEALRFGLNESGIQQSIMPGNQQLEVYCDQT



D C S DVF A D G NV VA S GVYVIIRPNGSTALKVFCDMN A T R QLP S S C S Y S F L S N H $\quad$ G G I L K V Q T S C LDD E Y L A $\quad$ DN G L L K L Q L P P S E S F Y V $L P T S C A E A F S G R K P S S G I Y Q L R A Q G D \square L F Y V Y C L L D$
 $P Q S C A S A K G L G P L P$


RSCKE N RKS G $\square Y S$ FNI N
NPSKRSGKY L L L T NDQPFLGYCEQT
K D C S EII Y A T GER $\square \mathrm{S}$ GVY TIICPGDK SCAEV TACTGSSGYYY I R LDP SNESFLVVCDA H NENGIQRI YPGNQQTLEVYCD QT
 P K T C A D

DCGD DMDADGP $\square$ S GVYK $\$ QPK GSAPFNVYCEMT K S CA DVHGAGLTKS GVYSVQLSNSEPTQVWCDME



UniRef90_C3YIG8 UniRef90-I1FBV4 UniRef90-E5KXF3 UniRef90-Q9VME7 UniRef90-J9JKY9 UniRef90-H3CXW4 UniRef90-W5JSK2 UniRef90_A7RSN7 UniRef90-B4MUQ0 UniRef90 A7RF71 UniRef90-P14480 UniRef90-R7TUA1 UniRef90-B4MUR2 UniRef90-W5JPL5
UniRef90-F6UN45 UniRef90 ${ }^{-T 1 J H V 0}$ UniRef90-P17634 UniRef90-Q7Q248 UniRef90-R7USH9 UniRef90_C3ZK15 UniRef90_11FME0 UniRef90-H2SOW1 UniRef90-G3LHGO UniRef90-X1XUA2 UniRef90_K1QDU2 UniRef90-K1PRI2 UniRef90_UPI0002A4AB32 UniRef90-C3ZVM2 UniRef90-B4P0X5 UniRef90_UPIO0045E280A UniRef90-UPI0002651C40 UniRef90-UPI0003318AA6 UniRef90_Q4RKJ4 UniRef90-B4JWE7 UniRef90-K1PXR3 UniRef90-S4RM23 UniRef90-C3ZP32 UniRef90-D3TNX3 UniRef90-IOBWT1 UniRef90_UPI00021A6082 UniRef90-W5MQK4 UniRef90-UPI0003F1AD5B UniRef90-C3ZXC9 UniRef90-B3MUX1 UniRef90-F6TY34 UniRef90-H2XMV3 UniRef90-M3ZG79 UniRef90-H2XZP0 UniRef90-P02678 UniRef90-C3ZHJO UniRef90_V8P165 UniRef90_UPI0003C3A34C UniRef90-H2YMC1 UniRef90-I1G1C0 UniRef90-F7FKU9 UniRef90_B4KYB9 UniRef90-K1QNY5 UniRef90-H2Z963 UniRef90_B4GZX2 UniRef90-W5JUA4
UniRef90 - X1Y2T9 UniRef90-S9X4K3 UniRef90-H2TEC8 UniRef90-B7Z0B2 UniRef90-B4N575 UniRef90_A0A034WX59 UniRef90_V4ACJ9 UniRef90_UPI00035A1F67 UniRef90-B4GFL0 UniRef90_UPIO003C3652A UniRef90-U5ET44 UniRef90-Q7QHN9 UniRef90_D6WBL4 UniRef90-W4ZIV0 UniRef90_UPIOO03C35678 UniRef90_H2YU28 UniRef90_C3YP70 UniRef90-V8PGY2 UniRef90-A0A034WQBO UniRef90_B4JZW9 UniRef90_R7VJH4
UniRef90_UPIO00440AE01 UniRef90-D1LX12 UniRef90-S4RRC5 UniRef90-H2Y141 UniRef90-X1YJU8 UniRef90_N6TWG4 UniRef90-A7TOL1 UniRef90-H2Z1G0

TDGGGWTVIVRRQDGSVPFDKLWAEYEQGFGNFSGEYWLIG NGGG WTVFQRRMNGKTDFYLNWDDYQYGFGDDDKEFWLG TSGHDWTVIQQRFDGSVNFFRKWQNYKTGFGQPFGEYWLG TAEGGWTVIQRRQDGSVPFDRTWEEYKVGFGNKNGEYWLG $\square A G T G W T V M A R R T S N K L N F F R S W A E Y K N G F G Q L D G D F F I G G$
 $\begin{array}{ll}\text { SEGG WTVIQRRHDGSQNFNQPWERYKRGFGSLSGEFWL } \\ K & \text { GEGGWIVVQNRFDGSVDFYRNWDEYRDGFGEVDKEFWLG }\end{array}$ TLGGGWTVFQRRQDGSVDFYQNWTEYKNGFGDLQGEHWLG VAGAGYLVDASRSNSSVSFYRNWQEYKNGFGDLLDDFF TSGGGWTVIQKRMDGSVDFYRSWDEYKMGFGDKNGEFWLG TENGGWTVIQNRQDGSVDFGRKWDPYKKGFGNDATNYWLG $\begin{array}{cc}T A D K Q W L V F Q R R Q D G S L D F Y R G W Q S Y V Q G F G D M Q K E F W L & G \\ L A G Y G W T V Y A R R T N S S L N F F T N W R E Y K E G F G N L S G D F F & G\end{array}$ FGQNAWTVIANRFNGYENFFRRWSDYQRGFGYFGYEYWL G TGGGGWTVFQRRQDGSVDFNRTWQDYKQGFGNDQGEHWL G T D G G GWTVVQRRGDFHENFTRDWADYKRGFGHVSREFWLG
$P S G S A W T V I Q R R L D G S V N F H K N W V Q Y R E G F G Y L S P N D K T E$ AFAGGWLVFQHRYDGSVGFYRNWTEYRDGFGS DGEFWLG TADDQWLVFQRRMDGSVDFYRGWQSYAQGFGDLQAEFWLG TDGGGWTVIQKRFEGRLNFNRRWADYKDGFGRVEGEHWLG $T D G G G W T V F Q R R Q D G S V D F F R G W A D Y E N G F G D L T G E F W L G$
$T D S G G W L V L Q R R T S G K L D F D K R W R Q Y D A G F G N M T D E F W M G$ $T D S G G W L V L Q R R T S G K L D F D K R W R Q Y D A G F G N M T D E F W M G$
$T D G G G W I I D Q R R D N G S V D F Y R G W Q E Y R D G F G D Y N D E F Y L G$ SFGGGWLVVQHRFDGSVDFYRNWDQYREGFGEVDNEFWLGG $\begin{array}{cc}T D G G G W T V F Q H R R D G S V N F Y R D W D S Y K N G F G E A S G E H W I & G \\ K D D G G W T V F Q R R Q D G S E D F Y R T W T E Y R N G F G N L S S E F W L & G\end{array}$ GVMGGWLLVQQRESGALSFNRSWADYRGGFGSVDAQFWLG TADGGWTVI QRRFNGSLNFDRYWADYRDGFGDVDGEYWLG

 WS DY

VAGHGWTVIQRRTNGTVDFYRNPQETKKGFGTVTAEHWLGG
 DGGGWTVLQRRTDGSVDFNRAWKEYKDGFGNFNSEYWLGG AGAGGWTVLQKRFDGSVDFVNDWETYKNGFGDWNGEFWLG KEGKGWTI 1 QKRQDGTVNFQRNWVDYKSGFGNVNGEYWI G
 DGAGWTVFQQRRSGRVDFNREWSDYKEGFGHFNDEYWLGG D G G G WTVIQRRSDGSENFNSPDEKMV
KAGGGWTVI QRRQDGSVPFNRTWEEYRRGFGNLSREYWLG GTGLMVI QRRMDGSVKFNRNWAEYRDGFGNLTGEFFLG TDGGGWTII QSRQDGSVGFNRTWAEYKEGFGHLNGEFWLG
 $\begin{array}{cc}T D G G G W T V F Q H R R D G S V S F N R G W A E Y R D G F G E A R G E H W L & G \\ T Q G G G W T T V L R R Q D G S V D F F L F W E D Y K K G F G T L T G E F F & G\end{array}$ TDGGGWMII QRRIDGSEEFYRNWNDYVTGFGKINSEYWI G SHGGGWTVVQNRVDGSSNFARDWNTYKAEFGN AFEYWLGG TDGGGWTVIQNRFDGT $\square H F D R R F N D Y K Y G F G S A S G E H W L A A$ TDGGGWTGWVYGG
NFGDGWlTlQRRLNGDENFDRPWADYKNGFGDSSDEFFDG TDGGGWIVFQRRRDGSVSFDRSWEDYTTGFGNLTSEFWIGG TDGGGWTVLLRRQDGSVEFHRNLAQYESGFGDLTGEHWLG SADGGWL VSGTGEPRACDSPTWPQEGGRAPR G WTVVMNRSSDDVSFERSWDDYKEGFGNDAGDFFIG TDGGGWTVIQRRDDGEIDFYRNWKDYKNGFGHADHEYWLG TDSGGWMVFQRRKDGSVNFYRTWVEYQGMFGNLSNEFWLG QMDA WVVVLRRTNGDQLDFHRNWESYRNGFGDLSGDHFLGG GEWTTVQRRQDGSVDFNRSWEEYAQGFGTPAGEFWIGG KFEGGWIVVQHRFDGSVDFYRNWNEYREGFGQLDSEFWLGG NGGG WTVFQRRRDGKENFDRAWVEYKHGFGDMEGEFWLG
 PNGGEWTVIQRRQDGSIHFNRNWTEYKNGFGNLNRNFFIGG $N N T G Y T V L Q R R D D G L D S F N R R W M E Y K Y G F G N P Y G E F W L G$
$M D E G G W I V I Q R R A S A D V D F F R G W E E Y K N G F G D L S G N F W L G$ MDEGGWIVVQRRASADVDFFRGWEEYKNGFGDLSGNFWLGG
 EDVWTVI QRRNNFSSLQNFNLSWNDYKYGFGDLTKDFWFG EAGG WLVFQRRQDGTVDFYQNWAAYKNGFGDLEAEFWLG
 SEGGGWTVIQRRQDGSVPFNRTWEEYKQGFGNKNGEYWLG $E G G N Y T G R I D G S D F M D E E Q R F A Q Y E K F R V A D E Q V V E V A S$
$A D G G C W T V V$
$H$ GAGTGWIVIQHRFDGSDNFYRDWNAYRNGFGFYNGEFFI G
 DSGAWTVI QRRQDGSVSFDRTWAAYKAGFGNDDGEYWI G
 KFGGGWLVVQHRFDGSVDFYRNWKQYREGFGELDSEDWLG TDGGGWTVFQRRQDGSEDFYRGWADYKSGFGNGTGEFWLG

UniRef90_C3YIG8 UniRef90_11FBV4
UniRef90_E5KXF3 UniRef90-C3ZQ42 UniRef90_Q9VME7 UniRef90--99KK9
UniRef90-H3CXW4 UniRef90-W5JSK2 UniRef90-A7RSN7 UniRef90-B4MUQO UniRef90-A7RF71 UniRef90-P14480 UniRef90 R7TUA1 UniRef90-W5JPL5 UniRef90-F6UN45 UniRef90-T1 JHVO UniRef90-P17634 UniRef90-07Q248 UniRef90-R7USH9 UniRef90_C3ZK15 UniRef90-11FMEO
UniRef90 H2SOW UniRef90-G3LLHGO UniRef90-×1XUA2 UniRef90-K1QDU2 UniRef90-K1PRI2 UniRef90-UPI0002A4AB32 UniRet90_C3ZVM2 UniRef90-B4POX5 UniRet90-UPIO0045E280A UniRef90-UPIO002651C40 UniRef90-UPIO003318AA6 UniRef90-Q4RKJ4 UniRef90-B4JWE7 UniRef90-K1PXR3 UniRef90_S4RM23
UniRef90 C3ZP32 UniRef90-D3TNX3 UniRef90-10BWT1 UniRef90-UPIO0021A6082 UniRef90-W5MQK4

## N

90
100
110
120
LLDN| HSLLTTQKQNELYVVYLIEDWEQNTKYAKYSTFSIVGNSS LYYiNRLTAGKSNSLRVDLEDFDGNKKYATYSTFKVGNAD NDVIHELTTGANHALRIEEXDFNGTSKYAEYENFSVSSEP NDKLHATTKSQPHELYUHLEDFEGQTRYAHYDEDFIVESEN

 LDKLHAMTKSQTHELYIHMEDFDGNTRFARYSEFYIVENEN LDRMRLTMQTRNELRVDLEDTTGAKAHAQYAYFAVSAED NDKSQMTRDGPTELLIEMEDWKGDKVKAHYGGFTVQTEA LNKLHALTKSEVHELYI HLEDFEGETRYAQYDEFLIGSEK LENGYQMTLGRECELLELEDFDGKFVYAKYKYFRILEGEK
 LEQLHRLTSARVYELLVELKDFSGNYMYARYDEFAGGSEA
 GSK HRLTNEGSNTLRVDLEDFEGNTTYASYSTFNVSDGS NENHYMLTSTGQYDLRIDLKGYKNNSAFAQYDNFQ|ASSK
 L
L
$N$
$N$
$N$
$N$ NKYTHQLTAEGHSVLMLELEDFSGNKRYAEYSSFSLADVA





## UniRef90_C3YIG8

 UniRef90-11FBV4 UniRef90-EEKXF3 UniRef90 Q9VME7 UniRef90-J9JKYg UniRet90-H3CXW4 UniRef90 A A ASN 7 UniRef90-B4MUQ0 UniRef90_A7SLX6 UniRe990 A7RF7 UniRef90-P14480UniRef90 R7TUA1 UniRef90-B4MUR2 UniRet90-W5JPL5 UniRef90-F6UN445 UniRef90-T1JHVO UniRef90_P17634 UniRet90_O7Q248 UniRef90-R7USH9 UniRef90_C3ZK15 UniRef90-11FMEO
UniRef90 H2SOW UniRef90-G3LHG0 UniRef90-X1XUA2 UniRef90-K1QDU2 UniRef90-K1PRI2 UniRef90-UPI0002A4AB32 UniRet90-C3ZVM2 UniRef90-B4POX5 UniRef90-UPI00045E280A UniRef90 UPIOOO2651C40 UniRef90-UPIO003318AA6 UniRef90-Q4RKJ4 UniRef90_B4JWE7 UniRef90_K1PXR3 UniRef90_S4RM23
UniRef90 C3ZP32 UniRef90-D3TNX3 UniRef90- IOBWT1 UniRef90-UPIOOO21A6082 UniRef90-W5MQK4 UniRef90-UPI0003F1AD5B UniRef90-C3ZXC9 UniRef90-B3MUX1 UniRef90-F6TY34 UniRef90-H2XMV3
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UniRef90 - V8P165 UniRef90-UP10003C3A34C UniRef90-H2YMC1 UniRef90-11G1C0 UniRef90-F7FKU9 UniRef90-B4KYB9 UniRef90-H2Z963 UniRef90-B4GZX2 UniRef90-W5JUA4
UniRef90 - X1Y2T9 UniRef90-s9X4K3 UniRef90-H2TEC8 UniRef90-B7ZOB2
UniRef90
U4N5575 UniRef90-A0A034WX59 UniRef90-V4ACJ9 UniRef90_UP100035A1F67 UniRef90-B4GFLO UniRef90-UPIO003C3652A UniRef90-U5ET44 UniRef90-Q7QHN9 UniRef90-D6WBL4 UniRet90_W4ZIVO UniRef90-UPIOOO3C35678 UniRet90-H2YU28 UniRef90_V8PGY2 UniRef90-A0A034WQBO UniRef90-B4JZW9 UniRef90-R7VJH4
UniRet90-UPIOO0440AE01 UniRet90_D1LX12 UniRef90-S4RRC5 UniRef90-H2Y141 UniRef90-X1YJU8
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UniRef90-H2Z1GO

130

SKYTATIIDGYSGDDNPTARHSUIUHRRFSTTDQDNANSNCA TEYKLTVSGYAG NAGDSLSYHNGAEFSTKDQDNDDSSGN NKYRLLVNGYSG NSGDAFSGLNGQSFSTYDQDNDDWPSN DGYRLHISGYSGTA GDSMAYHNRQKFSTVDRDNDDWSSG KFYAMTKLGEFTGDAGDSMIHNRNQNFSTFDRDNDGWHKN DGYRMDUSGYRGTNATDALSFQNGHRFSTADRDQDASTAN DKYRLSVGGYSG GSYKLSTLGAYTGDAGDSLDYQKNGLFSTYDKDNDSKPDM SNYQLSLGAYKGTAGDSLSDHRGAPFSTKDRDNDSAGAS NKYQLMEGASQLVGENRTMTDHNGMFFSTYDRDNDGWRKQ EKYRMSCSGYSGTSGDSLFFSDGTQFTTFDADNDQRSDAN QFYAMSSLGKFTGDAGDSLRHQLGMNFTTYDQDNDDNSDN DNYKISKLHGYVGTAGNSLQSSDGMAFSTYDMDNDRSDEN NKYRLTAREYQGNASYSRNYNHDNKHFTTHDSDNDNYPSG DFYRLTVGNFTGDVEDCFSSYHNGVLFSTDDSNNAGHKSR QQYQHTKLGSYSGTAGDSUTYHKDAKFSTRDRDNDDNQGG DN Y MLCSDYSGTAGDSLAFSNGAQFTTFDADHDDYSAN TDYTLHIGGYSGDAGDSLNSHHNGMKFSTRDRDHDTSSTT TEY ILTVGGYSGTA GDSLAYHNGRKFSTVDNDNDWSRGS QKFKLTI GKYSGTA GDAMTYHQGQSWTTDDSDNDDALSN EKYKLNI GVYSG NAGDSFSRHNNSFFTTFDRDNDENSSN EEYELTLGLDSGRAGDGFDGFHNGVKFSTKDRDNDETPDE SEYRLYGGNAGDGMDNHGSTDPSGMKFSTMDRDNDNAPALL EGFPLHVSGYTGDAEKASEVTHDGMKFSAFDKDNDNWGEN GNYRLAIGGYSGDASDCMVQHHNLNGMQFSTRDRDNDMSH ELYKLERVGQYSGTAGDSLKYHDNKRFSTFDRDNDESSKN EYYRLHLEGYHGTA GDSMSYHSGSVFSARDRDPNNLLIS ANYTLALGSYFGDAGD SMWHHAGYPFSTRDRDHDGLPEH NKYQISVNKYKGTAENRTMTПHNGMYFSTYDRDNDGWQNQ QNYRLFLKSHSGTAGRQSSLVDHGADFSTKDLDNDNCMCK
ESYALKSLGNYDGDVENAMRNKGOKFSTSDRDNDNDEV DNYRI QVTGYTGDAGDSFSKCNNGMPFSTYDRENDMYYGH AKYQLTFGAYSGHPETRWWADLNGMSFSTRDRDGDRYEGQ AKYRLHVGAYTAGDGGAGLSYHDGSRFSTHDQDNDDDSGV QRYKLKLGSYKGDA GDSLSYHENAGFHTKNNDG TRK EKYKLILGSYLDGNMGDSLTVQNGYAFSTKDRDNDASRTN
 NSYELNTGEYSGNPEVQWWASHQRMKFSTRDRDNDNYEGN DGYRLHVSGYSGTAMTGRFVSQNGQMFSTMDRDNDANSGS
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YYQL
SLGGSYGNAGDSLAYSNGAKFSAKDRDQDTRSCA LMVGRMEGWRDGDSLLKHNGMKF保 ENYLLKLLGYSGTAGDSLGYHKGAQFSTLDRDNDAHASL
 RIPLISGSFREGNTRDSLTGHGGRAFSTYDADNDTSTGN ELYALSLLGRYQEHLHPSLSYHAGAKFSTFDSDNDNCECS EKYTLKATGYTGTAGNSDGYHNGRPFSTKDVDNDANAGS EKYKLKTLGGYSGDAGQAMGYHDGNEFTTFDMDNDWSEGN AGFREELGGYSGNASDAFEYQNRMQFSADDVDRDDSNTH KQYELTVGSHSGTAGDGWASYHNGTKF EDGYPLTVADYSGTAGDSLLKHSGMRF DEYQLHLGEYSGNAGNEENRIFPGVKFSTFDHLNDTESRC ELYPLVLGGKFQDNGTPSMSYHAGAKFSTVDQDNDNCECN EKYALIVLGGYSGSAGDSLTGMHGRKFSTYDQDNSERGVN QQYRLHVGGYHGDA GDSLSYHDKMAFSTEDVDNDRHTRH ENYKIQI SGFSGNVSEDSMAYHNGMAFTTKDRDNDDSSRN YNYQLVIDGYQG SMPDALEYHNKMDFSTCDRRNDQSPRP EKYKLKVLGKYSGNAGDSLSYSLGAAFTTFDEDNDNHTQN FNYNLNIGDYSGNASDSMRYHNNLDFSTFDRRHDKSGTN ENNYRVIIGKYRGNSSDSFSSHNGSFFSTFDRKNDPDCCP EGYRLKYLTYNSSNAGDAMIFHNGHQFTTLDRDRDGNADE EKYVLKRTGRYTGTAGDSLKGHDGLKFTTKDQDNDNYGTN EKYTLKVTGYSGNAYVDSLLYHNGRPFSTKDVDNDNSGGN DGYRLHLSGYTGDDSMAGSHSLNGQRFSTVDRDNDAYSSY DS LGGFHPEVKWWANHQGMKF DQYALKKVGKFTGNAADELTKLIGYKFRT RDRVGYC EKYMLKSLGTYTGNAGDSLKYNLYDKFSTYDNDNDWSRGN DRYRLHVSGYSGDA GDSLSYQSGSQFSTADADNDSHASH GYSLRLLSPPAGPLESSLSSPSSGLAFSTRDKDNDQKNDN OHYRTNGGREVGWGGEGFSPRNNGQPFSTYDVDNDQNPYS DKYSUNVSDYFGTAGGDSMTYHHGHPFTTKDVDNDSSSGN EQYTLKTVGSYSGTAGDSLSYYKGRKF QGFK LTVSHYHG NASDAMDYQNRMEFSTMDNDRDUSNTH


UniRef90＿C3YIG8 UniRef90－I1FBV4 UniRef90－E5KXF3 UniRef90＿Q9VME7 UniRef90－J9JKY9 UniRef90－H3CXW4 UniRef90－W5JSK2 UniRef90＿A7RSN7 UniRef90－B4MUQ0
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UniRef90－X1YJU8 UniRef90－X1YJU8 UniRef90－A7T0L1 UniRef90＿H2Z1G0

VSFGQGGWWYTPSCGYALLNGRYПTPGTCSSADGTVWYTW CATAYDGAWWYKNRHLDNLNGLYLVGSHSSYANGVN
CAETFKGAWWYSKCHSSNLNGLYWGGAHTEYASGINWGSY CAEEYVGAWWH LINCTYSNLFGDYVKGDEGQYFQWIVWHSW CAANYEGGWWYSRCQHANLNGKY
 CAVTFKGAWWYGGCHHSNLNGFYFVNSQSPYGQGLNWLDW NCAQHYGAWWYKSCHHSNLFGMYFTFSSSLDNKGMVWRHW CAERYEGAWWYDNCYNSNLNGKWT $\mathbb{C}$ SH SHAGITWEAW CSKEDGGGWWYNRCHAANPNGRYYWGGDYSWDDGVVWMNW CASRFRGAFWYSDCHHANPNGAY LGGASTAFGEGINWQAF CADKYMGSWWHNNCTESHLFGLYLDAENEGTENGMITWKTW CAKENHGGWWYKDCGDSNLNGAYRKEYSHDRMGLYWEEF NCGMYYGSWWFDTCDAANLNGKYYRGRYSGVTNGIYWGTW ECARHQGEWWYDNCYMVKLNSDFYPQGDVDRGQGVQWRCW CAEQDGSGWWMNRCHAAHLNGKYYQGGTYSYDNGIIWATW NCARCSGAWWYKNCADSNLNGVYMR ENGAKAMSWYHY CAVRHHGAFWHVSCFQASPNGLY乌GGEYSGDDRGVIWMGF HCAQSRGGWWYYDCAGSSLNGPYFQLEDYHGADTI WWGRW CALYYTGAWWYNSCYHSSLNDRYFNT STSANQGIKWWSW CALSHRGAWWYKNCHLDANLNG NWGDNRHSMGVNWKPW CAVVYTGAWWYKRCHHSNLNGKW GSSDHGKGVNWHVV CTLARRGVWWYNVCTLTNLNGTYGNGDCLTTETCNFWYLI NCARTNAGWWHKSCSCANPNGLYVRGDNSLGNQGVTYVPW
CAEAYGGGWWYNSGAANGUGVYKGEYYKTENGVVWSSF CAQYHSSGWWHNYCSWGDLNGPYFKPENYRGADTLYWSYW CAAHHGGGWWFHSCDSSSLNGRYFREGETVILNGIHWGRW CAVSYRGAWWYRNCHYANLNGLY
CAGYYKGGWWYNDCHRANLNGLY LKGPTTEHAMGVVWSKW CSKEDGGGWWYNRCHAANPNGRYYWGGQYSWDDGVVWMNW CALMLTGGWWFDACGPSNLNGMYFTQQHDGKLNGIKWHYF CAQWAKGGWWFNACHRSNLNGWY GDSSYAQGI TWEAW CAREDTAGWWFNRCHGANLNGVYHLGGPYSTDNG｜VWYTW DCASNRAGWWYNRCDRVNLNQPYGGGGTFTHGNGI EWAAW CVRDYKGGWWYKNCDRTNPNGDYYRSEKAAFGSGUYWKSF CAMNFKGAWGYRSCPHFHL
CADVYNGAWWFNNCHQSHLNGRYYTNPYEPPWQGIIWHDW CAKENKGGWWYNRCHAANLNGKYYRGGEYRYDNGVVWMTW CAEEDQSGWWFNRCHSANLNGLYHKGPYAAKTDNVVWLTW CSQRFQAGWWYGLCSRSFLNGHYLGSCHCPKYQGVLWYRW CAEMYSGGWWFDACAKSSPNGRFYKDGKRRDKYGULWGSW CGRYYRSGWWFNACFAANLNGNYYRGGGYMRGDGMVMGWGGW
 CAVLYRGAWWHDACHGANPNGDYYTAGQTTRARGII WYSW CSREDAGGWWYNRCHAANPNGRYYWGGDYGTDDGVVWMNW TEYSYTGAWWWNNCGHSSLNGPYLRPRTSHSGYGIRWTHF CAAFYHGAWWYRNCHTSNLNGQYLKGHHSSYADGIEWSSW HCAEFGGGWWYQACHESNLNGHYVKSDHESFASG』HWKTF CAKEYKGAWWFKNCHRSSLNGQYGNSR
HCNRNNGGWWYHGCYHANLTGRYGTHQYGFDWMSSRDPKA CAIIVKGAWWYVACYRSNLNGLYASTEAKAYKYG川DWATG CAQRHKAGGWFNACGTSNLMGVHYSKDYQRAGETLYWDTF
$H C Q K Y K S P G W M N G C F S A N L N G V Y K T X G K D Y T E L H W Q N W ~$ CAVIQRHGAWWYYDCSDSNLNAEYLNCQTNTHH
CADFYQGAWWYGWDANSNLMGQYYRYERDDRT SIUWWYTW CAGNYEGGWWFSHCQHANLNGRY NLGLTWFDAS HHAYEGGWWYGSGGGYSNLNGPYRN DNDGKAIWWNYF CAAFYRGAWWYRNCHTSNLNGQYLRGAHASYADGIEWSSW DRHSKSGW WFSRCDSGNLNGHYYKGPYQAMTDDVVWHTW CADRHKGAGWFNNCAKSNLFGEYTTONQPGETGIWWDTF CAEDYKGGWWFDKCLNSQLNGYYKDSSAADDGKGLIWSSW CAAENKGGWWFNSCYSSHLNGLYHTAWYSQYADGI SWYTW CANRYHGAWWYNDCHHVNLNGLWGSKG RGWTGLRWGSV CATAHKGGWWYKSCARTVPTGFYHQAKYKGFADGIYWRDW YSCSYGSGWWFDNCCESNLNGTYFNNPKGHKYRGU LWESW RAVTYQGAWWYYLYHTSNLNGIY NNSDNAQNIVWDTF CAVSYGGGWWFNSCFESNLNGVYHRAGDNGHFGGIIWEKW NCADYKGGWWYNACHWANLNGGW SYSDLRGMNW
 HCQRGQGGWWFRYCSWSYLNGRYLGNCGSS
CAEEDQAGWWFNRCHTANLNGLYYNGPYSARTDNIVWYTW KGKEKVGGWWKEGCAKSKLNGMYAPTKWEEKQQDII WDTV CANYYASGWWFNWDANSNLNGRYFKSGEQNVKGI WLYT CANVYPGAWWYKGCDKSLLNGEYFPDGTPSKAHTIYWRDW CAKHLSGGWWFSNCGKSNLNGRYFPKQRHQRKQG｜FWKTW CANSNYAGWWFESCTAGNLNGFYYTNEESSYQGGLYWYSW CSQFATGGWWFDACGPSNLNGMYYMSGHTGKFNGVKW CAVRYH GAWWYNNCRDSNLNNGEYLKKCQTTSVVQAASWRNF

CVVLHK GA WWYR N CHSANLNGMYHGGG

LG Y A Y S LLK K S $\square$ M M I I R P
GYHYS LQATT $\square \mathrm{M}$ DRAT RGYHYSLK SVSMKI RP RTESYSYKVMQMMVRP

 K GYDYS LK RTEMKI R P RGGDYSYKS $\square$ KMMVRP KGYHYSDKHTEMKIRP RQYK ALLRKE $\square$ KI RP K GSWYS MRRMSMKI RPV RGFTYS LK S IDEMKLR RGKNYSYKRMQMMLRP RGYYYSLKRTRIVMIR TNQKYSFKKVEMKTR S GYWY S LKK HVEMKVRP RRRWYSMKSVTMKI MP R L S RFGLAYSRGMI R K GSQYSLK S DQMK L R GQLYSLKKSTMMVRP
 SNFDSSVSFTEDKI R KGDLRALSFTRMMIR
 $\begin{array}{cl}R G S L Y S M K A T Q M M V & R \\ K P V N Y S L L K T V R M L I & R S A\end{array}$ K GYYYSLKATKMMVRPA K FHSLTF VQMMLRP

LGNTYSLKKTEMK LRPT K G S WY SLRK R M KI RP
 HKKGYSLK SVQ $\quad$ MMIRP K GFYDSLKS STMKI R RGWWYSYRAARMKVRPA
SAHPYS $\quad$ RKVSVMK I R PA


KGEHYS LRFTEMK
S GLDWYSLRHTTMKVRP H GWWY SLK SVVMKI RP RGDRYSLK SV SMKI RP H N Y K Y N I T F V EMMMI R RNDYYSLKRVSMKI R
 K
 K GSWYSMRQMAMKLRP SPSTYSLKKSKMMIRPT TGWQYSLKFTEMKI RPV $R P N W Y S L K F S Q \square M V R P$

GPQFDE $\square$ K F A EMKMR
QGKDYS L R R $\square K M L I R_{R}$
GKVGPLRSAKMMIRP
K G Y A A L K S VEMMDRPS RNEWDAVVKS SHMMI RP KNDIRGLSFTRMMI R T GWQYSLKFSEMKI RPV H GWWYSI K S VVMMVHAA $S G Q N S L K R V R W M I R P$ Q GLDE Y S L F K V R MLI R P HGRDTSLKYVHMAIKP
 RSGNYTLKTARMMI RPV LELDN S MK HVVMMI R LG DYSLK S SKMMI RP NQVNEGMAYSRMLI R G D Y S L K K T L M M V K P V NQRSLRGSTMEIK SGHYNSLTYSKMMLR HGRKYSQKF $\square E M K$ FRP

RGWWYSLKTVVMKVRPS
MGMNYSLSYVHMAIRP
LK R Y Y SLK SVKMLIRP
RGSSYSLKA SRMMFKPT
RGRYYPLK STVMMDAPA
NLDEPLKTVTMKI
HYYSLRTTTMKIRPA HGRKYSMKF $\quad$ EMKFR
KAPYHGLSFTRMMDR
$R N E W \square A V A Q S E M R V K$
$L G G H D Y S L K R T E M K T R P A$

 P $\quad$ P R S Q D I P H S S L Y A D G I H L M K I G N L PA F QV P


DCSD $\square L K$ N DPN QDGVYTMYPD HTHAKKVMFCDMT K Q S GK Y L L Q P TN GE LL L L GYYCE QV
$T$ N GVHDDK P $\square$ G D S P $\square$ SVVYCDME KECED $\square$ RKGGETSEMY LI QPD S STPYRVYCDMN HQLT I R Q N GVYTL NEANRDFNRRYCYFA RDCADVYQAGFNKSGIYTMYDNNMEPKKVFCNMD



K S C R DVNSTDER VVVTLTSGLKVMCDTK K NCNELLSRGKTHSGVYSI QRDTSHDMRVYCDME Y T I Y L N G S R L M QV Y C D
 DCSELIFNNGYKRSGFYKIKPLDQSPEFSVVYCDMS DCSDYNVLETKKNGVYRVTPPRNRTGEVGCDME

 SCRDEPSK MSGKY LLRASNDEPFPAYCEQT SCRDV R P P Q S S G L F RI RPQDPAPFSVYCE DT


 NNRNKTYHEKLQE LGAFEGRC $G L E P A F P V V C D D A B$ P S GPRDCLQA L E D GHDTSS $\square Y$ LVK PENTR L MQVWCD QR


A A LP E DCSE $\square Q R Q S Q A S S G V Y E \square Q P A G G N A F K V Y C E \square R$ WY R GCHQNS GUQLI HP QP GEP F GVVCD QE $P$ VGPQDCAEARQAGHEQSGVYELRV GRHVVSAWV D G $V$ Y T $\square Y$ P D MK T RK L V Y C D M T

ACPPD NRDCK S LFED GNDIS GVYTVNPDGGTPFEVYCDME CVTGPCTCKDLRDRGHFLSNWHDVYLPDCQPLTVLRDMD SPT GRDCSHI WESPRARSGVYTI QPEGSTPFKVLCDMR

RSCAD ULNAGSNTSGVYT DFPDDGEP TKVFCDME NYPRDCFEI FQRGNCRDGLYII QPKE EPIVVSCNMQ
$P$ Q D C K G V K D S GVVST S GYYV I D P F G G R Q I TVVY C DME
 R D CS D $\square K D S L L S P S G I Y \| V H P E N T S S F E V F C E M D$

T DCTQ $\square$ K T L S PRSS G $\ Y T \square Q P N G A N K F K V Y C E M R$


S LP GNCEE RDGLT LLAPGPGAPLLASCRAG SAPPDCHGVMETGERTSGLYVIDPFGGRPVTVYCDME
 YP T D C S QV QQ NRNASSGMYTI Y LD GSSRLLHMYCCDMS



## VYCDME

WPKDCSE $\square P S \quad G S P S G \square Y L I Q P T G L H Q L V V Y C D M E$
CANGPRDCLDVLLS GQQEDGVYSVFPTDPAGFQVYCDMR SWPKDCSEVYYGSPSGUYQIQPPGLHPVVYCEMN
$\mathrm{P} V \mathrm{H} N \square \mathrm{SH}$
QAF CDMR RDCS Q $\square$ QDNPSASSGVY VIQPEGAHPFQAFCDMR

## UniRef90_B4GS79 UniRef90 F1P5A6 UniRef90_UPI0003940E62 UniRef90-W4YNM8 UniRef90_B4MWW6 UniRef90-W8C1S5 UniRef90-HOVYU1 UniRef90-K1RGQ9 UniRef90-R7UK81 UniRef90-Q7QHK6 UniRef90_UPI00046BEFD8

 UniRef90_I1EDH0 UniRef90_C3XSZ5 UniRef90-HOX499 UniRef90-B0WFH1 UniRef90-G5AZ90 UniRef90-K1QLC8 UniRef90_UPI0003F0CA7F UniRef90-H2ZOZ5 UniRef90_K1PDE8 UniRef90-W4XN66 UniRef90-UPI0003299086 UniRef90- Q7QIS4UniRef90_UPIO003C377D5
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UniRef90_H2ZAF8


PDGGWWVFQRRSGPVVSFAEKWDSYKDGFGSLAHDHWLG YEGGGWIVIQNRFNGSVHFYRDWNDYERGFGNLNGEFWLG RAEVDGYMLXKRDTGKMDFMKRWRQYTQGFGELTEEFWLG LEGGGWTVIQRRQDGSVNFFTTWQHYKVGFGRPDGEYWLG
 FPQDWNDYKNGFGNFNGEYWLG
$T D G V T V V D$
VF QRRVXXXXGVGG
TDGGGWTV VFQRRVXXXXGVGGLNWTDYENG TDGGWTVIQSRDRGRRLDFERCWQEYKQGFGDVRGDHWLG $Y R G G G W T M I Q K R D N G V I D F Q R L W C D Y D D G F G D L D G E F W L G G$
$T D N G G W T V I Q R R V N G S V D F Y R N W T E Y K N G F G F A D H E Y W I ~ G ~$ TSGGGWTLFQRRFNGSLDFQRSWREYKAGFGDTDGEHWLG TSGGGWIVFQRRQDGSVDFYRNWTNYEHGFGDFAGEFWLG

 YMGGGWTVMQRRSDGLADFKRAWADYVDGFGNLAVGEHWK ENFNRSWSEYRNGFGSLQHDFWFG
DGGWTVIQRRQDGSVPFNRTWEEYKLGFGNKNGEYWLG PDGG WTVFQKRSGGAVSFRRKWAAYKTGFGNLTQDHWL G TAGPGWTVIQQRDNGKEDFYRDWKTYRAGFGNFDGDFF
$M Q R M D G S E N F Y R N W T E Y K M G F G D P C G E F W I$
$G$

## DGGGWL

 QRRKGSQDFWIVVA RRIDDGAVDF DRNWTEYAAGFGDMNGEFWL G TDDGGWTAI QRRLRGTMKFDKTWTEYKNGFGDPPNAYWI G VT NGGWTVIQRNQKDTVTWAESWSTYKYGFGNVRSEYWLG TDNGGWTLIQNRQDGSVNFGRAWDEYKRGFGNIAKEYWLG
 TDGGGWI IFRRRDNGNVDFYRGWKEYRDGFGSFS DGEFYD F GGRWLVVQNRSDGQENFNRSWVDYKSGFGVIGNEFWLG TIQRRMDGSENFFRNWEDYKNGFGDPCKEFWI G TDGGGWTVFQRRQDGSVDFYRYWTDYENGFGNLTGEFWLGG TAGGWTVLQRNRRDTQITWAESWSTYKYGFGNVQDDYWLG GGGWLVFQHRFNGSVDFYRNWDEYRNGFGSVDGEFWLG TDGGGWTVFQRREDGSVNFFRGWEAYRDGFGKLTGEHWLG TDGGWTVIQRNRQSTEITWAESWSTYKYGFGNVHSEFWLG $L Q N G G W T I D Q R R Q D G S V D F N Q P W E A Y K A G F G D P Q G E F W L G$
$D D G G W T V I Q R R D T E Q S L D F E R C W Q E Y K K G F G A V R G N H W L$ UniRef90 H2ZAF8



UniRef90 B4GS79
UniRef90－F1P5A6 UniRef90－UPIO003940E62 UniRef90－W4YNM8 UniRef90－B4MWW6 UniRef90－W8C1S5 UniRef90－H0VYU1 UniRef90－K1RGQ9 UniRef90＿R7UK81 UniRef90－Q7QHK6 UniRef90＿UPI00046BEFD8 UniRef90－I1EDH0 UniRef90＿C3XSZ5 UniRef90－HOX4J9 UniRef90－B0WFH1 UniRef90＿G5AZ90 UniRef90－K1QLC8 UniRef90－UPI0003F0CA7F UniRef90－H2ZOZ5 UniRef90＿K1PDE8 UniRef90－W4XN66 UniRef90＿UPI0003299086 UniRef90－Q7QIS4
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UniRef90-G3U2L5
UniRef90_H2ZAF8
 CALESSGGWWFNRCHAVNLNGQYYKTGRYSHDNGIVWSTW CAKLY LGAFWYNNCHHANPNGVYRWGADT IHGVGVEWSRW C NGGWWHDKCNYFHDNGIRHKHFQRPVGRSAFGLD CAKNKGGGWWYRDCLYSNLNAEYHDDGFDPNRYGDSWGSW CAEDWKGAWWYKDCWWSNLNGSYNKTLL
CAVTMSGGWWFDACGASNLNGDYYPGQHLNK DNGDRWHHS CAQHFYGGWWYRKCHDVNINGLYAPGSALNDPKYANWSYW CADYYKGAWWY LNCHDSNLNGLY LNGTFTGQGRGVVWSKW NCARPRGGWWFNECYTANLNGRYENDKNT NTINWYGF CATDLK GGWWYRKCHDSNLNGMYWLGAHNSTGDGMNWHAR CAQTYTGAWWYYSCYHSNLNGRYFNTATNNH QSDNWYHW CSNHPSGGWWYNNCCQSALNGPY $\square R P R T S Y S G Y G I D W Y P F$ CSKEDGGGWWYNRCHAANPNGRYYWGGQYSWDDGVVWMNW CA LTYGSGWWFNSCAESNDNGDYYADDPKLHKTGLLWETW ClLQTHGRC
CSKMFKGGWWYKNCHKSTLNGLYR
CASSWRGAWWFRACASSHLNGLYFPQVNNYMG $\quad$ VWKTW CAVIEHGAWWYGSCYTSNLNGAYLNCQTTTAGHASSWRTF C GLSCQGGWWFKACGYAHLNGPYLK SAKATADSDHWYAF CAYSYHGAWWYNACFHSNLNAYYVDGGSNSDANSASWYHD KCAMMTGGWWFDACGFSNLNGVYYS IGGHNDRKNGIKWHHF CPSYYHGAWWF LQCYDAHLNGRYLIGKH SYRGGI IWHTF CPRNYGGGWWF NQCVDSNLNSVYRTQGECFEMPKILWSTW CAVDYTGAWWYHSCLNCNLNGKW QGSSDFAKGVNWYDL CAKSCKGGWWYRKCHHSNLNGLY LQVNGTFKGNGLIHWGGM CADTHRAVLWYKNCHDANLNRKYGENKHSE GMNREPW CTVSLPGAWWHGSCYQTNLNGRYLMFKAPAHNYSDERASR SVQRKLSHTFDSRCHSANLNGVYHRGPYTATDNGVVWYTW CAQKFTGAWWYYNCYKSNLNGVFYPNGKADKFNGIVWKTW CGAYYSSGWWFDACMSANLNGKYYHKRYKGVRNGUFWGTW
NCAQLYGA WWYKSCHACNLNGEY LRGSTTLYGRGVIWNAF CAAEMGGGYWHYDCTRSNLNGLYDVDH $\square$ MRNGSGMWWGMF CAVTCEGAWWYNNCHHSNLNG
CAKNFRGGWWFNHCFNSHLNGEYSN EGKYHGDRWDST
CASRFHGAWWYNNCAYVNLNGAW VSEELDRGLFWFSV CAA ITSHGGWWYHQCFFSNLNGVY


CAVERDGAWWYKDCSFSNLNGDY GNK $\square$ GGPKYMTWYPF CAKFYESGWWFNHCQKANLNGRHD $\square$ GMDWFD $\square$ NTSDWDHL CEVTVRGAWCFRSCYQSNLNGRHWMSEATARNDDDDWASD SCAETYGAWWYNRCHDSNLNGRYDRGGYYDYAQGIDWYSW CAFTEGGGWWYSSCGSASLNGKWRSTGH $\square G W A S G L H W \square T W$

C A LTHRGA WWYKNCHUANLNGKFGDNRHSM$\quad G \quad V N W E P W$ ENSYSGGR
CAQFCTGAWWYNECQNSNLNGYYFNTPVNSFKGVRWYYNL CAVTHQGAWWF G ICCLSSNLNGMYQKSGIKTW KGIVWYHLL CAEEEQSGWWFNRCHSANLNGLYYQGPYTAKTDNVVWHTW CAQDYTGAWWYYKCDNSNLNGQYFNT ATLDTQGVTWLCW CAVLFQGGWWFSNCRASNPNGR
THDRSGAGWWYSACGHADLNGPW PEHTGAASGMRWATG CHFNNKTGWWFSQCGLAN N GV HQYPGKLLTSGDHWGTW CATTYRAAWWFNWCIHANPNGLYV，HSEKADPSYVTWFNY KCADMTGGWWFDACGFSNGNGUYYTVGHNDRKNGIKWHHF

CAK $\square E H G G W W Y D A C A G A N L N \quad R R N M \square Y W Q K D$ CAAYYKGGWWFNSCHDAFLNGPWPPEYWHDP WEPT NCAKH LSGGW
S I RHNRTGWWFNQCGLANLNGPEDAELDPGQRTNDVWDTW CAMGYGSGWWFDNCSEANLNGDYRFTPWGNNYNGIMWEDW CQQHGQAGWWFTGCGLSFLNGHY LGNCSCPQRQGVVWYHW CTFREGGGWWYSKCGSANLNGDWHSYGHDGWASGL HWRTW CVNNYYGGWWFTNCADSNLNGKYHNHEMD KGVAVYLDGF CAVKFAGAWWYRECHQSNLNGLYLRGHHTSYADGVNWNTF NCADYKGGWWYFNCHSANLNGLYLNGPFVGDSRGVVWSSW CAANYRGGWWFSHCQHANLINGRY
 C NCHPATLSG KHRERNHREGVNWESW CSKEDGGGWWYNRCHAANPNGRYYWGGTYSW CPETFQSGWWFDACGESNLNGPYPQDGDKNSPSNDYWYDW DCARKHGAWWYNTCQQANLNGLYFNEENYTDSRGIEWHAW CAVDYKGAWWYRSCYDSNLNGKWG CAVEMGSGYWHFDCGRHNLNGDYSDEVLRCGSGFWW GGF NCALERGAWWYVDCTRRHL
CAAYFQGAWWYNRCHLSNLNGRYDSFYNTSYANGDNWKTF AEDYSSGWWFRSGCFIVNLNGRYSNA SPQRAKGI HWSSW CTARFKGAWWYGKCHHSNLNGLYDRGAHDTYADGVNWFAF CASSHGGGWWYSACYSVRLN NCAECRGAWWYNACFNVNLNALY

NNTEDAKA $⿴ 囗 ⿱ 一 一 厶 儿 W Y M Y$
CASSYGGGWWYSACYSARLN
NCKSLS GGWWF GTCGHSNLNGQYFHQQRQQRKKGIFWKTW VDGDHGAGWWYSNCGQADLNGP RPQHEGDPVSLLWAT

210
Q N Y E F T LT F T QMM| R P H GMWYSLKFSAMKI R K G F D Y S L K T
 S GYTISSLTFT QMMI RP S NGRYNAMKYTH L A A I R P NGPTYSS LRTTMRMMI R P RHSYEALKTTQMMI RP KGTSYSMPFTEMKI RP $K$ S D Y V G L A Y S R M L I R $R G K K Y S F K L S E M K$ F R P V K G A R $\square$ S LKF SEMKTR G G S WK NLLKRSKMMDRPT K G S WY SMK K M S M K I R P LG DYS L K E S TMMMR

YSDTLKSATMK $\square Q K T$ HGTKYSLKFIEMKFRP GNDYRALKRAS $\square M \square R$ H GYNYGMMRTEMKL K GPSYSLRATSMMVRP RGSFESLQATHMMVRP $\begin{array}{llllll}\text { K GF N Y S MK F V E M K } & \text { R P } \\ \text { S RF D S S V S F T }\end{array}$ S RF D S S VVS F T E M K I R K GHE F S $\quad$ I L F F T E M K $\square$ H P Q GVGHPYHS H GWWY S LK S VVMK $\quad$ R P TGASSSLKKVEMKI RPA HNYRQAFKTLKMMIRP

RA $\square Y Y S \square K F V E \square S \prod R P$ GGTGKPLKRTRMMIK

K P
AMKFSRMMDR

T GYGNS VT F S EMK $\square$ R P
K Q F T V S L A F A E M M VR P $R G M S Y S Y K T M K M M V R P$ $K \quad D Q G L K F T E \square K T R$

S D S DE G L A F S R M M $\square R$
K
C GVGHPYHRVHDML
HGHQYSLRYVHMAIRP K P A P Y S AKATRMMIK

K G H $\square \mathrm{MS}$ S D Y TEMK $\square R \mathrm{P}$ V
SGT S LK FTEMKTR

K N N Y V T L M F S EVVK
NHQPALRASVLRVRTT
N N S WVRLK S V SMKI R
NASWISMKTMQLMM R
$R G P S Y S L R S T S M M V R P$
CNKQRVCKFAWMMTKP】S S G S N $\quad$ AA E VRMMMK P T
$R \mathrm{G}$ VP H A $\quad \mathrm{K} \mathrm{S}$ VTMK $\square \mathrm{R}$
 RGFTYSLKK VSMKI RP K P P P Y S AK A TKMMI K S V V S L K NVK L L I R P
RGFNYSLKFTEMRV
K D Y R Y S L Q F TEMKMRP TNEWMAVTSSEM
 K GHEFS $\square$ C F ME MK M P

NENNTAFKSVSMKF
K G N RESLQF TEMLIRP TGGT K S V T F S E M K I R GAEANPLKWSKMMURDT

R G F Y Y S LAA TEMR $\square$
TGFYTSLKFTEMKTR
RGYHHSLLKFTEMK!
CSGN CQASA ILIK PA
K S S Y T GLA Y T RMMIREV
CSGN CKASA $\square$ L 1 K PA RGRYYPLQATTMLI QP T D S P R Q A L R S S VLRRVRTT K GYYYSLG $\square$ A EMKLR

UniRef90 C3Y8T9 UniRef90-UPI0002651E05 UniRef90-UPI00035A0EDB UniRef90_R7TT31
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UniRef90-I1E5Y8
UniRef90-H3BH75 UniRef90 UPI00023AD77C UniRef90 UPI000359EBC3 UniRef90-S4RRB4 UniRef90_C3YY51 UniRef90 I1GDB5 UniRef90-11FAK4 UniRef90-X1WB94 UniRef90-H2Z1F4 UniRef90 K1R714 UniRef90-Q4RR19 UniRef90_UPI00035978AF UniRef90 UPIO003443086 UniRef90 ${ }^{-}$UPI0003EC18BC UniRef90_K7FUL6 UniRef90-H2LLV7 UniRef90 H2XYC UniRef90 C3ZQ37 UniRef90-11EPS7 UniRef90 R7VRX2 UniRef90-W5KXL9 UniRef90_V4ACQ3 UniRef90 A7RQ32 UniRef90 A7RHR3 UniRef90_UPIOO03C36322 UniRef90_B4MKH0 UniRef90 H3CGR9 UniRef90-W4XIQ8 UniRef90-C3YSQ5 UniRef90 X1YGB3 UniRef90-UPIO00343F46C UniRef90_K1PU62 UniRef90_C1JC95 UniRef90_K7IW58 UniRef90-A7SPD1 UniRef90-K1P8N6 UniRef90 UPI0003C35F1D UniRef90-E5KXF7 UniRef90-H3DQE3 UniRef90 R7VC74 UniRef90-UPI000359FBD8 UniRef90_U6PPG3 UniRef90-B4JP47 UniRef90 Q16TV1 UniRef90_Q5IUW6 UniRef90_Q6EEC8 UniRef90 B6RAW7 UniRef90-W4ZGN9 UniRef90-H3AUFO UniRef90_C3XTI5 UniRef90_R4GMA5 UniRef90-T1PL05 UniRef90-UPIOOO3992940 UniRef90 UPI0001DE7E7D UniRef90-B4KBZ1

1
APHPRDCQD $\$ LDNDETTSGVYTVYPDGLGGVMVYCDN ${ }^{20}$ $P Q D C A D\|Q G N G V N \square S G\| Y G \| S P G G G R P L N V M Y C D M D$ MEVVCD D M T CKELRSRGETKSGMYDILTPKSR MAVYCDMK PHPQDCAQHLGNGDTLSGVYTIFLHGGQRDQVYCDMA SGRYMITASNTT FEAYCEQE

## DCANV


KNCMELLNYGVLFTGWYTIYLDGNKPIKVLCDMD QDGGAAYKSGVTASGVYTLRFPNSTATRAFCDME QTPS SC R RNFIGSSDIHMIAVPGVDPFPVPCESR P $\square$ ARDCKAWLAA GVNKSGIYPVKPDNGTGFQVYCDME SCSQLKRKGFNVSGVYEIY YLGGNPVEVWCDMT WPKDCSEI SAGSSSGVYVI QPSGLHPIVVYCEMN
 $S C L Q Q P Q D C D D Q Y Q G Y Q A D G V Y L I Y P S G S V P V P V F C D M T$ PPLPEDCASIYQQQNRTSGVYSIQPRFNQSIYVFRDME

DCEELYVTGHTQSGTYVIRPDNSPELVVYCEMD



DCSNAYQSGHTNNALFPLSVSMLVLFTGFCEME
 SGVYVVQPSGGNLMVVFCDME SPSPGPGSCQELLSRNTTLSDWQHLCLPEGXALPVFWDGP DCHSLLMKAGYNVSGVYRLKL NLK DVSVPCEFR RDCAHARQAGVTKSGVYAVRFNSSQPVKVWCDME

P P D CRA WQE LG $\square$ NQS G VY P VK P N G GEAF QVYCDME SCPQDNRDCKS LFETGSD $\square$ S GVYTVNPDGGTPFQVYCDME

SC P $\quad$ DDCAS $\square Y$ YNGVRRSG $\square Y$ T $\square V P S A A M P \square E V Y C D M D$ RDCSH LQRPRAPSGVYTVRPEGSTPMQLVCDTE RDCSEVFEDGNVASGLYVIRPDGAAALSVYCDMN



VY CDME
PADCSEV SSGSPSGVYF $V$ QP T G $\square Q P \square M \nabla Y C E M S$
KDCSEAFDDGHKKNGVYFVRPSYAPADPVWCDMQ PPFSLLQVRCKFD S GYYW $\square$ T PSKHHSMLVYCDQT LQ $\square \mathrm{DG}$ GKPFVATYDSN HSMPADCSEDH HSSRGEYTI FPAGERSSQVMCDMD DCAD $\square R A S G M N \square S R \square Y G \| H P E G G R S F N V Y C D M D$
SCRQVPA TTSGTYRПDPPFQEPMTVYCEQT




DCEDWYKAGYRDDGEYS VVV NSKPYKVYCDMQ VQDL KVPGSESFQVACDST SNT $\square$ S SCAEEPTK $\quad$ VSGKYS L SLANEQPFEGYCEQE $S C S Q \square K M R \quad E R S S T L Y K Z N P L G G T P V D A A C D M E$

SCS Q $\square$ K M R ERSSTLYK $\square$ NP L G TPVDAVCDME YPRDCSAAYQRGRRQNGLYDIRPKGGPFLVVYCDME PADCSHL RKTSPSGVYVIQPARSPPRVVWCDMD

SPRGFPPDCSHLR RKTSPSGVYVIQPAHSPPRVVWCDMD R DCSEEL LS Q G DA T D GLLY Y I QPA DVQ IVVECDMQ



T D GGGWT VF QRRMDGTVDFY LN WADYEKGFGDLNGEFWLG
 D GK WTV I Q K RVD G SVVNFRRRWVE YKN GF GS P E GE Y WL G T A P G GWLLVQK R Y N G DLD F N R D WQ D Y K K G F G D $\square$ S A E F WL G

 HEDSSWIII QRR IDDGTVSFDRFWTDYSKGFGENKSEFWLGG TDKGGWTVVMARLDGTVNFYRPWNQYKDGFGSPLSEHWIV


 $F D Q L W Q A Y Q T G F G S L N G E F W L G$
 TD GGGWTVVQHRRRDGSVVNYLLWDNYKKGFGEPNGE YWLGG



VDFYRGWTEYKNGFGNLNGNFWF G TA G G GWVVFQRRVNGSDSFWDHSWSEYKHGFGKIGKNTTG LA GPGWSVILRRIDGSVNFNRNWRDYQQGFGDLRGEFFMG


 MK R Y D G S V N F Y R N Y S E Y V VQ G F G D VV S G E Y W L TD GGGWTVLQRNTHNSLTTWSASWTTYQYGFGNLMDDYWFG



UniRef90 C3Y8T9 UniRef90-UPIOOO2651E05 UniRef90-UP100035AOEDB UniRef90-R7TT31
UniRef90-K1QLC5 UniRef90-K7CMD1 UniRef90-K1QVLO UniRef90-H2Y5Y7 UniRef90-11G5T0 UniRef90-R7UWF5 UniRef90-UPIOOO3314532 UniRef90 T1E283 UniRef90-A0A034WR62
UniRef90-V9LHB1
UniRef90-K9J7J2 UniRef90-K7FUE0 UniRef90-B5DHC2 UniRef90-l1EDN9 UniRef90-V5HG32 UniRef90-UPIOOO3505109 UniRef90-F7B2G0 UniRef90_UPI00044333BC UniRef90_UPIO0034FD4C3 UniRef90-A1KYQ1 UniRef90-11FMD9 UniRef90-H3ATP6 UniRef90-UPIO001CBB489 UniRef90-H2MAJ4 UniRef90-Q16P18 UniRet90-T1G438 UniRef90-R7V2W9 UniRef90-UPIo0032A0097 UniRef90-Box1w9 UniRef90-11E5Y8 UniRef90-H3BH75 UniRef90-UP100023AD77C UniRef90_UP1000359EBC3 UniRef90-S4RRB4 UniRef90_C3YY51 UniRef90-I1GDB5 UniRef90_-11FAK4 UniRef90-X1WB94 UniRef90-H2Z1F4
UniRef90 K1R714 UniRef90-Q4RR19 UniRet90-UPI00035978AF UniRef90-UPIOOO3443086 UniRef90-UPI0003EC18BC UniRef90-K7FUL6 UniRef90-H2LLV7 UniRef90-H2XYC1 UniRef90-C3ZQ37 UniRef90_-11EPS7 UniRef90-R7VGE0 UniRef90-R7VRX2 UniRef90-W5KXL9 UniRef90-V4ACQ3 UniRef90-A7RQ32 UniRef90-A7RHR3 UniRef90-UPIO003C36322 UniRef90-В4МККНО UniRef90-H3CGR9 UniRef90-W4XIO8 UniRef90-C3YSQ5 UniRef90-X1YGB3 UniRef90-UPIO00343F46C UniRef90-K1PU62 UniRef90-C1JC95 UniRef90-K7lW58 UniRef90-A7SPD1 UniRef90-K1P8N6 UniRef90-K1QF37 UniRef90-UP10003C35F1D UniRef90-E5KXF7 UniRef90-H3DQE3 UniRef90-R7VC74 UniRef90-UPI000359FBD8 UniRef90-U6PPG3 UniRef90-B4JP47 UniRet90_Q16TV1 UniRef90-Q5IUW6

UniRef90 Q6EFC8 UniRef90-B6RAW7 UniRef90-W4ZGN9 UniRef90-H3AUFO UniRef90-C3XTI5 UniRef90-R4GMA5 UniRef90-T1PL05 UniRef90-UPIO003992940 UniRef90-UPIO001DE7E7D UniRef90-B4KBZ1 UniRef90_F6QXZ1 |  | E |
| :---: | :---: |
|  | E |
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NWN G W
DQYRLKLGS
DNYKIQLSGFQG NVVNDMLIHNGAAFSTKDRDNNSDTQD DKYRMQCGGYSGTAGDSLSFSNGNQFSTFDADHDNNAI IN SGYKLTVGEYEGNAGDSLEYHNGHAFYA RDRDUSN TAYSLQLTAPVAGQLGATTMPPSGLSVPFSTWDQDHDDKN TKY A VVGYSGNVDDCFLKPDNNMMFSTWDYDNDVADSH TNYKLTVGGYSGNAGDSLALHNGMRFTTKDRDHDNNRDN GKFRLAI GGYSGDAAWDIITACN S LYKLRLGAYNG
DQYKLIATEFASGT SGLSSHNGRKFSTYDKDNDSDASR QNYALNLLGPNGGSAGNSLKRSKGQKFSTYDRD NEEK RKYRIHLKGYSGTAGKDSSISQLGNDFSTKDSDNDKC\|CR QNYTLRFREFTG
QLYRPKTPGCSEDAGGTSSDSPPGTAFSTKDADNDRCGCK EAFELQSDGEFSGTAGDSLSHHLNGNFSTPDQDSNLSTTC IQYALIVQG
EKYKLTI EEYDGEGRYDALSHHKGFSVKDSKTKPDKDCWG
 LNYRLVV


EGYKLQVSGFTDGGAGDCLSGHNDLKFSTFDKDQDTHEKS EKYULKVTGYTGGNAGDSLLHHSGLPFSTKDMDNDFHPYN

ENCKDKISGYSGGNAGNQMKALNGHAFTTKDRDNDRSFQN QFYP LT L GRYS GNAGDAFRDNQEGCGFSTLDRDHDRCSPC VK L K CNAGNLNGHY
SQYR I R L G L Y K G N A Q D T E A Y L H D N Q K F T T K D R DN D N Y F Q N NFFRI HLGRYGGSAGDAFRGYDQDQNQDTAPFDMDNDGCC QKYRLIAA HLDQATADPPNGSSPDYRDWFSDYDNNYVFSN D GYRL HIS GYSGTDAMADRHYNNGQRFSTVDRDNDDWYSH TKYTLTVSG Y G GNAGDSLSLHNGMKFTTKDQDNDESSNN D F Y RLLCEGYS GTAGD SMAFQNGMKFSTKDADNDLLWDED

 QKYTLA L Q YRYQS DAGDSSLTYSNGMPFTAYDQDNDQSDNC N N Y L L E V R N Y T G T $\quad$ GG D A L S Y H D N S Y F S T K D R D E D S G S R N E N Y K L K L L K Y T G S A G D S L S Y S VG Q N F T T $\square$ D R D N D A WVG N EKYKLKSLGNYTGNSGD』MRKYEGKA
S GY QLTVDGFSDGGAGDGLS SHNQMKFTTLDRDNDLYDKN $M N Y D L K L G A Y S$ G G GAG $\quad$ GR RT $\square R D K S H \square S F R R S A A D P F A T \square$ AKYRLQVGDGTAGDGLSYHDNNRFSTHDQDNDGTGSYHCA VK Y A L L E L GQC S C S A G N S LDD IM L N ES FS TY DN DNS KA HF N


 $N$ DSAKI GCMLS GTAGDSLDFHTGMWFSTPEQDNDPVNCA D GYRMRL
DKYRIHVSGYTGTASCTTTHCNNDAQFSTHDNDNDLVSTN E QYELKVLGGVHSGNADDSLRHHEGEKFTTRDRDNDNSPKT
 FYKLRVVGRYHG NAGDSSLTWHNGKQFTTMDRDHDAYT GR
 T N Y T L E R L Y I N WK N I Q N D M T Y S SVGA K F S TV D R DN D P K P E C

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CAKEY $\square$ GGFWYGSCHNTNPNGVY LWGEDTHYA $\square G V C W S T W$ CAVNNHGAWWYGGCYYSNLNGEYLKCQTTTTR AASWRTF CADRCKGGWWYTKCHLVNLNGEYAN TNFLEGDNWHAM
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$\square T H G G R G G W W Y R A C E H S N \square N Q P Y K Q G G D G T E H Y G \square Q W N H W$ CAAKFGGAWWFYKCIVA

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EALRWRGGWWYNDGHRSSLNGEY GNNNHGEGTSWYYF NCAEFKGPWWYYQCNPSQLFGPY EGQAHGQRLRWSLN CATSFKGAWWYKDCHNSNLNGQYDGGTHTSFADGVNWKAC NCHYQKGGWWYNSCAHSNLNGVWYRGGHYRYQDGVYWAEF CASARKGAWWHVDCTYANLNGLY LRGSYSGDWRGVFWYHW CATKYHGAWWYKYCHQVHLNGVW GSTVLAKGLNWASL $\square T$ QHKMGGWWLRNCAQATLNGAYDQQSADGYDDGLLFWMN CADENSSGWWFNNCYQW
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KKYSSSCKEL NPKKSGVQK $\square$ QV GSDVDEVYCDVT DCYED DELQRADGVYKFDEPEDNERERHCAFA PKDYSNUPRD SPSGVHVI QPAGSPPRVVWCDMD DCSDGFNEGVTKTGLYLI KPAASHPFEVKCVMN PRDCMDVF VSGGTVSK VYDVDPDGSGLVRMVLCDMV SCKEPLK SGVFRLRNPK LGVYCEMD PQSCADVTGLGHR PVVSNGMEVVCDT $D N L G G F L V F C D M D$
$C D D L D T N G T Q \quad \square V S L F P P D N Q S V N V V C Q F N$ PKDCTELYEKHNRESGPHYISPDNRTVVRAFCKMT

KHFPMDCDK $\square$ PRD SPSGVYV K PESSPPLVVYCHVTD
 NCSQKKRRENSKTGEYE $\square Y$ VRDDR VNVTCDMD
 TS G $V Y \mathrm{~K} \square \mathrm{~K}$ S GPFAQTMAYCN $\square \mathrm{D}$
VT GKHLIQPTNDEPF LALLCEET



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$P \square D C S D \square Y \square N G Y R R N G \square Y D V W P Q S T G R \square Q V Y C D M E$ $S G L Y Y D G U Q Q K K \square Q N L P P F E V S F V S P$
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$K$ V L CDMR
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DCSE $\square \quad$ SN $\square$ TSSGVQT $\square$ YPNGS PVQVYCDTT

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$G$
$G W T V I V Q R Q V D A E Q L D F E R C W Q E Y K Q G F G A L E G E H W L$
$G$ $E G G W T V I Q Q R Q V D A E Q L D F E R C W Q E Y K Q G F G A L E G E H W L$
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 $K N G N G W T V L Q K R L D G S E D F K K N W D Q Y K E G F G H G T T E F W L G$

EA WGVNSGDS $\square$ FHYGS $\square D F N K K F A D Y E K G F G T P S N D Y W \square G$ YEGGGWTVVMNRFDGSVCFDRPRNKY LGGFGRFDSEFMMG $C P P \square G$
DEGG WTVFQRKSGEAVGFNRSWTDYKVGFGSFDHNFWLG DGGGWTVIQRRSNGKENFNRKWDDYKKGFGKFNDEYWLG

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 NQGKYELL
$H R L T T$
$H^{\prime}$ NDNLY HLLAVQKDY QL RV DMEDVE GNTAYAA YSTFA I SP E S $N E L L H Q I T A S K C H R L R I R L E D W E G N V A F A E Y D F F A V E G E S$ GL E N I L L L L M R K N N D K Q T I E G WD G S K A F A H Y S S F S LKT L R R L V Q S G DYELQQVDLVSNNGTSY DRNYPHFS I GP GP



LE NLHALTTSFPNNQQALRDEDLTTKGAKETTYHKFLVGGSK
 L E H L H T L T S Y P N N QQA L R I E D GQKK E TVVVQYN K F H V G S A K


 L E QL H Q L T D N G RYE LVVVEVVRK E S G L Y GYARYSSEFKVVA GE


L E KL H L LTTNA QP HE L F I Y L K T F K N EI I NARY D H I L I G D E S
 L D K
 LL K I S A MT K S K R WK L R V DL WD F E G G S A Y A E Y E DF R V G DE S
 NWELWVELEDFNGNCAFARYGSFYLLGEA

 $M E Y M H Q U A K$ Q K V Y Q V K FVI Y D S M G S M K Y S D Y N L F GV E D E
 $F W L G L E V L H Q L S M K D P D V T L R \square E M K Y W Y G E Y T K F Q Q G S E S$ TIDMAIVGNKLPFNSYMTMGQNAVCTNCAAEEAYYRVVRDEQ

 NEKMHLITT QT T DPYVL R VELDE DWN GR DA Y

 L N D HI H D L L A R G E N SLLK Q Y R K F H V G T E Q
 ND A $\square H$ Q L T R R R S S S L R V T DT P DK G G S A SFKM Y H F Y V F G E D





 YELGVELT D GDK QPNS DWAEYSTTFR L D S E A LE N MY L DS GVK NY T LQQ D LCC GTK LIDAK Q $\square Y H K F Q V G A A A$ MTRRS GCRLRVDI WDYSEDHAFAEYSEFSI GDEA LD N M N H L S G A K P Y R L Q I DLCC G T L L VA K Q $\quad$ H Y H H S F K V V G T A E

## UniRef90 E5SI57 UniRef90- T1EFJ7 UniRef90-UPIOOO3596996 UniRef90-C3Z2E4 UniRef90_11GDB7 UniRef90_C3Y8H1 UniRef90 Q8SYS3 UniRef90- T1PAV6 UniRef90-B4LX46 UniRef90-UPIoo038914B7 UniRef90-V4Al28 <br> UniRef90_R7VDL2 UniRef90-A7RQ48 UniRef90 BowS

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UniRef90-_55TPG2
UniRef90-A7SAJ6 UniRef90-I1FTD2
UniRef90-K1QNN6 UniRef90-Q7QHL5 UniRef90_Box1X3 UniRef90-R7VS39
UniRef90 B0XLL4 UniRef90_H2XQ88 UniRef90-B0XL58 UniRef90-R7U5Q0 UniRef90-K1QES
UniRef90 T1G1Y4 UniRef90-R7UA34 UniRef90-B4M9R7 UniRef90-UPIO002B8EA8B UniRe90_B1P1K3
UniRef90_B4MVH2 UniRef90-UPI000359C227 UniRef90-UPI000388BF6D UniRef90-H2MTJ7 UniRef90-UP10003340CD2 UniRet90_R7VGJ2 UniRef90-L5JT04 UniRef90_UPIOOO389116E UniRef90 B4JFL7 UniRef90_UPI0003D07F55 UniRef90 BOXHP1 1 UniRef90-A0A016VHK1 UniRef90-A9V2D6 UniRef90-B4N9S4 UniRef90-R7TEF7 UniRef90 K1PZ14 UniRef90-BOXJ60 UniRef90-L5LH50
UniRef90_UP1000359672F UniRef90-C3Z0X0 UniRef90-Q16Q47 UniRef90_11F511 UniRef90-H2XMU8 UniRef90-H0ZP60
UniRef90 - B7PYP7 UniRef90-R7VFT9 UniRef90-K1RYN7
UniRef90_V4AZO7 UniRef90-B0X1W6 UniRef90--H2XLEE UniRef90-E3NQD3 UniRef90-UPI00029B00B5 UniRef90-E4X6T6 UniRef90-K10763 UniRef90 C3ZZR1 1 UniRef90-V513 UniRef90_UPIOOOO122F13 UniRef90-F6QQU5 UniRef90_O9XXE9
UniRef9O_K1PKJ3


ENYK पDS DGKYTGNSGDS DDKHVGYMFSTRDRDHKVHTYN LLITTTPPTAAFRNVRDWMNYHNGQPFTTKDRDNDRSGDN KGYRLRLGSYTG
TNYRLSVGRYSGTAGDYPGVDQNGYGFSTSDHDSDGCNPC DLYRLHLGQYLGNAGDAFHGSGQGSPFSTLDRDLDACSSC KKYALRVKNYLGDAGEFLDP
DHYQLVLGKFSEGTAGDSLSHHSGMPFTTYDADHDTAGGN S $\square$ QYM HVSMIS GNDPDRFR SGYPLRLGRYSGDGEDYYTTYHSG

DFRAYDRN

DKYRLTVGGYSGSA GDALGTSNSMPFSTY DRRNYSPE YKMDYHLLADGYNDLGDSLNPSRGQLFTTYDVDNDKSTTN TNYLLSNLYUDWKNIWYDFSYSVGAQFSTVDRDNDPQPNC QSFTLEQPMFSYSGWTGSMWSSQGSSGSQADRGPSFSANY
SNYKVVENQUYGKFHQFVHHDNYESTYDRKNDNHDKE ANYRIVCSGYSGNAGDSLSYSNGTQFSTF DAENHSKR TNYQLHLAGPTSGNLGDSMINTNGMSFSTVDRYNDQGSVN

VNYRПQTTGFSG NARDSMAHHNGRAFSTKDRDNDDSSTN DYKLTIEGFDILSTAGDGLTDSNGVGFSANDKDNDGSKTS R TSTDSGLNLEDFSSEWSDNKDPNNTDRF
TEYILTVGGYSGTAGDGLDESHNGMKFSTSDNDNDQNGGN NYVFKSDSACRHGVFYNLCDCAVNAPFSTYDKNT YRG ENYRLWFGTYSGNAEDQWSASHRGMQFTTFDKDHDQFLAG EKYKLTRGEYDGPPGYDALSYHNDAKFTTKNWTNVYDGDS QNYTLQLVNPGNGNDTDCLYWPTGMQFSTFDVDNDNS NLYRLNFSNAKPHSTSPSLTDSKGMAFSAFDQDNDNSTSN
DGYRLFDEFRWSEGMINFLTLSHGKFSTYDKDNDKSEEN
 ANQYSTVKD\|GAPFATNSTYILPKAKAECDQFDYYDDNDA NYALVMSIHTEGTASPGMYTYHNGRPDTTRDADHDFSSNC DQYRLNSVGDFKNDGNRDLTDHESMAFSTYDRDNDGYEEG GGYRLHAASLDGNQNSGCLECANLMKFSTKDVDNDNDTGR YNYQLTVDGGFRGSLPDALELLNQVDFSTDDRWSDCSGDIG ENYKLTUADYEGPNGYDALSYHNGAFTIKKSLTOTPDKDK


UniRef90 E5SI57
UniRef90－T1EFJ7 UniRef90－UPIOOO3596996 UniRef90 C3Z2E4 UniRef90 I1GDB7 UniRef90－C3Y8H1 UniRef90－Q8SYS3 UniRef90－T1PAV6 UniRef90 B4LX46 UniRef90－UPIOOO38914B7 UniRef90－V4Al28 UniRef90 R7VDL2 UniRef90－A7RQ48 UniRef90－BOWSY4 UniRef90－11EKIO UniRef90－UPI00035A1DF0 UniRef90－UPIO003C3A02A UniRef90－C3Z344 UniRef90 C3Z1K7 UniRef90－H2UFNO UniRef90－D2JM95 UniRef90－K1PEQ9 UniRee90 UPI0002B8D795 UniRef90－K1QXQ9 UniRee90－UPI0001DE701F UniRef90 R7VH61 UniRef90－Q4PN22 UniRef90－B4G2Q3 UniRef90－V5H207 UniRef90 C3YSH1 UniRef90－C3YQJ5 UniRef90－Q5TPG2 UniRef90 A7SAJ6 UniRef90－11FTD2 UniRef90－K1QNN6 UniRef90＿Q7QHL5 UniRef90 Box1×3 UniRef90－R7VS39 UniRef90－BOXLL4 UniRef90 H2XQ88 UniRef90 B0XL58 UniRef90－R7U5Q0 UniRef90－K1QE31 UniRef90 T1G1Y4 UniRef90－R7UA34 UniRef90－B4M9R7 UniRef90 UPI0002B8EA8B UniRef90－B1P1K3 UniRef90－B4MVH2 UniRef90－UPI000359C227 UniRee90 UPI000388BF6D UniRef90－H2MTJ7
UniRef90－UPI0003340CD2 UniRef90－R7VGJ2 UniRef90－L5JT04 UniRef90－K1R1H0 UniRef90－UPIO00389116E UniRef90 B4JFL7 UniRef90＿UPI0003D07F55 UniRef90－BOXHP1 1 UniRef90－A0A016VHK1 UniRef90－A9V2D6 UniRef90－B4N9S4 UniRef90－R7TEF7 UniRef90－K1PZ14 UniRef90－B0XJ60 UniRef90－L5LH50 UniRef90＿UPI000359672F UniRef90－C3Z0X0 UniRef90－Q16Q47 UniRef90－11F511 UniRef90－H2XMU8 UniRef90－H0ZP60 UniRef90－R7VFT9 UniRef90－K1RYN7 UniRef90－V4AZ07 UniRef90＿Boxiw6 UniRef90＿H2XLE3 UniRef90－T1G4H3 UniRef90 UPIo0029B00B5 UniRef90－E4X6T6 UniRef90－K1Q763 UniRet90＿C3ZZR1 UniRef90－＿3 3 3375 UniRef90－V513J0 UniRef90－UPIO000122F13 UniRef90－F6QQU5 UniRef90－Q9XXE9 UniRef90＿K1PKJ3


1 VNGQGGWWYPPSCGYAMLNGQY LCNPSCEHAQG IVWKTW CAARYMGAWWY
CASRWKGAWWYAECYESHDTGLYRP SDNYKQPGVGWLQW RNENCAGW WFDRCQEAQSN CASSYGGW WYDKCQNVLLNGKGY $\square Y W$
AADNGSGWWYNSTCSDCNLNGRLYRENATIIGPAI


CANERKGGWWYGNCYYGNPNGLYLNGTYTGDRHGTEWYSW CAERFTGAWWFDECMSSDDNG
CDLHLSSGWWYCNCNCNLNCPSTYRNDECTK
A $\square$ NWNGAWWFNACFQSHLDGHYYTNPTGNRWDGIIWSDW
PQNFKGGWWFHDPCYSGHLHGPYRKKEQSGTW GVSWDPW CAQKYKGAWWYGECLHSNLNGLYRLGDHESYHDGVLWHHW SANNCDGGWWYVACGSSNLNGVYQQFRD
CAHYYDGGFWYGACHMVNPNGMHAPHGAVRFEKYDFWQTW CPNMGHGGFWYNDCVQVNTNGRWGVDSFEG KWWAS CADQLRGGWWYNSCSTSNLNGEYGCPDAKNTSCMTWTKN CAVKRHSGWWFESCGLSNLNGK LDPCSETTLKSVYWYGR CADARKGAWWYNVCTWANLNGMYGNETCFTLENCNFWY SKL CAASYGGW WYDNCQLVLLNAKGY
CASSRKSGWWHNTCQHSNLNGLYLKGAYTGDWRGVYWTHW ECSTLSGGWWFKRCNKANLNGRNFKHPSSTRGLGITWHKD CSKLFWGGWWYNNCYTSNLNGKYPKEMHTKCYRC｜AWTYE HCAVRDGGWWYNSCDYANLNQPYKHGGGGTHRHGUSWYAW

NCQYGGGGWWHKACFHCNDNNPYYNSAPCPDSMG\｜IWYTW CAD $\square$ AKSGWWYTNTCYAD RG【NLNKAYEKDGIKWEKD EASRWRGAWWYNDGHMSHDNGEYGNINH GQGVNWYFF

NC
CPGPHNSGWWF WECSFSN VKQFPSGWWLTSKCYETNLNLDYSK NCAH KGGWWYNHCHHANLNGLYLNGAYTSNYDGMDWNQW CAVDMFSGWWYNACTEANLNGV HRPQLVNDKRGVTWVKW CAQSF $\square G A W W Y T S C H G C N F N G F Y Y P G G N H S Y A S G V D W S P F$ CAQKYGSGWWFNSCFEANDNGKY
CASEWSSGWWFRKC
CPSTRKGGWWYDYCSHSS $\square N G \square Y D P C \quad K \square G \nabla Q Y A Y W R N W$
CADGGRGGWWF
CVDYHHGAWWYYSCSS $\square D \square N G K W$ ASTRYGKGपFWYDV
CTDSKRGGWWYSKCGSASLNGDWHPKGDNGWSSGLHWLT W SLDRMGAGWWYSNCGQADLNGPKPQHPYDPPS LLWGP
cVATVHGAWWYGSCYQSSLNRCYAVSRTTAHKYDTDWASG VCTTHHGGWWYARCTEANLNGVYFDTYYLERTG\｜YWFGF
GNDECYGGWWFDRCQDAQSN
【NAHS】】WGNN
CENYWDGGWWFNTC DRLCAPNFGVGPYWFRFTYTENTA CAVRYGAGFWFNNCAFCNPNGVIDGMTESADTKYAYWST VT KYR CCNRDSDSGAWTCARASAN
NCATYRSGWWFHKCFRVNLNA DYKKSSNKN $\square P N C \square R W A$ LLCADRGAFWYHRCHGANPNGAY
CAALGDGGWWFNRCHVAFLNGPWPPERW FYPWYPT NCAVVGGGWFTRSCMDRSVQSCNLNGKLAEQGGTGYWRVR
CAKKYHGAWWYKSCHEVNLNGAW GSTESSKGLDWKGV ECQYQSGWWFNQFCNPANLNGKYHKKGDPFDSRGIFWREW
CADYWNGAWRFNSCYQSHLNGPYYTNPTNGVWYGITWYDW
 NCASENKGGWWFN
CSGSQSGGWWFKECSKSNDNGFHSTDHP LIRAFSTTWHKD NCAENSSGWWFANC【LTDLNSPY DD【TWK
CAMMRGSGWWFNDCGPCNPNGELLN
CANQYSSGNWFNNCYMQDVNGDYGYHD $\square Y Y$ TAK
GPSVGYGGWWYGSCGN NLNGFMYP
SHNYYESAWWYGAC MSGSFWGGGDESFQDAPYWDGS NCAREDGSWWFNRCSAANLNGKHYGNRSSSFDDG\｜LWMTW NCASVKGGWWHNSCQKSNLNGEF GQVNYTDG1 NWNKF KYHKKGDPFDSRGIFWREW
CSESYGGGWWFNGCTQSNLNG HQDVHQAAIIWPGWVSG CSDRLSGGWWFKECNKANLNGRYATEFKTSKALGDTWHKD GPSNAYGGWWYGSCGN NLNGFLYP
CTDDTHGPWWFKNCYRARLNAEWG RSSANWHNNVWYGW DQSQPYGGWWYGSCGN NLNGFWYPKRNGN

| UniRef90_E5SI57 | $\mathrm{NQG} \mathrm{LK} \mathrm{~K}!\mathrm{VK} \mathrm{~T}_{\mathrm{T}}^{210} \mathrm{MRDRP}$ |
| :---: | :---: |
| UniRef90-T1EFJ7 | NVTLNTLKKTEMKI |
| UniRef90-UPIO003596996 | HSFNFWMTETTMKFRPS |
| UniRef90-C3Z2E4 |  |
| UniRef90-I1GDB7 |  |
| UniRef90-C3Y8H1 | R G Y G Y S $\square$ K K S T M M $\square$ R P T |
| UniRef90-Q8SYS3 |  |
| UniRef90-T1PAV6 | K TEYSFKYAEMK! |
| UniRef90-B4LX46 | HN EYSVKASRMLIRP |
| UniRef90-UPI00038914B7 |  |
| UniRef90-V4A128 | NPENDK LQ L EM |
| UniRef90-R7VDL2 | K G Y H S S $\downarrow$ QF T EMK $\square$ R P |
| UniRef90_A7RQ48 |  |
| UniRef90-BOWSY4 | FS Y S R M M ${ }^{\text {I }}$ |
| UniRef90-I1EKIO | K GASYSLK F T EMKIH |
| UniRef90_UPI00035A1DF0 |  |
| UniRef90_UPI0003C3A02A | RKWNVS MKY A A M M $\square$ R P |
| UniRef90_C3Z344 | K S N |
| UniRef90_C3Z1K7 |  |
| UniRef90-H2UFN0 | KGWNHS $\square$ K A $\square$ S MK $\square$ RSA |
| UniRef90-D2JM95 | VGKNFWFQQTTMKFK |
| UniRef90-K1PEQ9 | ADNLHGHEETVIMIR |
| UniRef90-UPI0002B8D795 | RE GLLVGIT F VEMKI R |
| UniRef90-K1QXQ9 | TNSFSGVKTSFMMVR |
| UniRef90-UPI0001DE701F | CS GDCS ES I M I K P T |
| UniRef90-R7VH61 | R G Y Y Y S LQ Y TEMKMRP |
| UniRef90-Q4PN22 | DSYNY I Ye SVEMK】R |
| UniRef90-B4G2Q3 | QQYR P $\mathrm{P}^{\text {P }} \mathrm{F}$ V Q $\square$ M M R P |
| UniRef90-V5H207 | KSDSYVFEKVEMK\R |
| UniRef90-C3YSH1 | A A HRYS $\square \mathrm{K}$ S S $V \mathrm{M}$ K $\downarrow$ R P A |
| UniRef90_C3YQJ5 |  |
| UniRef90-Q5TPG2 |  |
| UniRef90-A7SAJ6 | R G H Y Y SMK K VA M L VR |
| UniRef90-11FTD2 | S Y ETI Y I K RLVAAKMR |
| UniRef90-K1QNN6 | K G WA $\square$ SLS G A R M M L R |
| UniRef90-Q7QHL5 |  |
| UniRef90-B0X1X3 |  |
| UniRef90-R7VS39 |  |
| UniRef90-B0XLL4 |  |
| UniRef90-H2XQ88 | NTNNTA号KYASMKT |
| UniRef90_B0XL58 | H HKASKTRMMI R |
| UniRef90-R7U5Q0 |  |
| UniRef90-K1QE31 | K GTW SLLKETRMMI R |
| UniRef90-T1G1Y4 | K GQYES MKA T WMM |
| UniRef90-R7UA34 |  |
| UniRef90-B4M9R7 |  |
| UniRef90_UPI0002B8EA8B | S G R WE G L R F T E M K $\square$ R P A |
| UniRef90-B1P1K3 |  |
| UniRef90-B4MVH2 |  |
| UniRef90_UPI000359C227 | T G D D S V V F S E M $\quad$ DR |
| UniRef90-UPI000388BF6D |  |
| UniRef90-H2MTJ7 | K GP P Y S A K A T R M M ${ }^{\text {d }}$ T P |
| UniRef90_UPI0003340CD2 | N S H A QVLS S S VMLV ${ }^{\text {V T T }}$ |
| UniRef90-R7VGJ2 |  |
| UniRef90-L5JT04 | F GMGHPYRKVHMMF |
| UniRef90-K1R1H0 | A GTS Y T $\square \mathrm{K}$ GVRMM L R |
| UniRef90-UPI000389116E |  |
| UniRef90-B4JFL7 | G H N E Y L VKA S R M L I R P |
| UniRef90-UPI0003D07F55 |  |
| UniRef90-B0XHP1 | $N \mathrm{G} \square \mathrm{Y}$ |
| $\begin{aligned} & \text { UniRef90_V4B9U6 } \\ & \text { UniRef90_A0A016VHK1 } \end{aligned}$ | LD D $\square$ IH P R E S VMMLR P T |
| UniRef90-A9V2D6 |  |
| UniRef90-B4N9S4 | $\mathrm{G} \square \mathrm{E}$ E C $\square \mathrm{E}$ F T M M M $\square$ R P S |
| UniRef90-R7TEF7 |  |
| UniRef90-K1PZ14 | $\square \mathrm{L}$ S V S NTA E VR M M I K P T |
| UniRef90-B0XJ60 | RGSESLLKYVRMMIREA |
| UniRef90-L5LH50 |  |
| UniRef90-UPI000359672F | SGYSNSVSFSEMKDRP |
| UniRef90-C3Z0X0 | R QNKNLKKAVMML |
| UniRef90_Q16Q47 | N N N Q F Y L K S C R $~$ M $\square$ R K T |
| UniRef90-11F511 | K G S Y SL |
| UniRef90-H2XMU8 | S A NSKPVIY T EMKF |
| UniRef90-H0ZP60 |  |
| UniRef90-B7PYP7 |  |
| UniRef90-R7VFT9 | NDYK $\square$ E $\square$ Q F TEMK MRP |
| UniRef90-K1RYN7 |  |
| UniRef90-V4AZ07 |  |
| UniRef90-B0X1W6 |  |
| UniRef90-H2XLE3 |  |
| UniRef90-T1G4H3 | Y S S $\square$ T Y C R M M $\square \mathrm{K}$ |
| UniRef90-E3NQD3 |  |
| UniRef90-UPIO0029B00B5 | GTEHFNYGS $\square \mathrm{W}$ L |
| UniRef90-E4X6T6 | Q K F ESLTGTTMML |
| UniRef90-K1Q763 | TD L R Y VEMRVR |
| UniRef90-C3ZZR1 |  |
| UniRef90-B3M375 | IGGQPGP RSSRMMVRPV |
| UniRef90-V513J0 | Q S Y Y S Y HNVEMKIR |
| UniRef90-UPI0000122F13 |  |
| UniRef90-F6QQU5 | K G S S T A $\square$ K A T $\square$ M K $\square$ R |
| UniRef90-Q9XXE9 |  |
| UniRef90_K1PKJ3 | G N T WR S L K S A K M M ITR |

TCQN $\square E D C S D G F N R F R P V Q L I S Y \square K P A A S D K V L V N C H F N$ YPKSCDD $\square$ K S D KTDGPKQ $\square Y \square N N T S \square F \quad V Y C Q F G$ PKSCLDVKNDNPSQSGTYETRPAGFTTDDVYCDME PTSCR RAFGYSSEIHVI HVPGLHPFAVPCDSQ


PT F S T P T TVLCV
DCAD LQRRYHSVSGLFK LDKPEDCPFMAHCEMN



WD GMTYVQYRFSKCLE EDFNRTWTEYVNGFGHNHGEHWDG


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| :---: | :---: |
| UniRef90_Q8T3M7 | LQKLLHKMTTHRRMELYIQLVDFDNASAYARYDNFVI GDEK MYRLTSHNAYELYVELEDWGGVVKYARYSSFSVGAAS |
| UniRef90-V3ZRT3 | LQ N M Y I LQ ${ }^{\text {L }}$ Y |
| UniRef90-I1FCB2 | HRLTKEESVTLRVDLGDIE G NMKYASYSTFNA |
| UniRef90-T1G4G9 | LEKMHKLTTSADYRLRFEVLMASGWVSDEY DHFKV |
| UniRef90-W2SJ28 | DNMVALTADGGYDLLIELLCCSGKSIQQQFYHNFTISAGD |
| UniRef90-B7QB88 |  |
| UniRef90-F2UP69 | LWF NTQPTTQ MLIHYAGGGGAAYGAGEHVRITWGDDP |
| UniRef90-B5DHL6 | KLLHMTKASPQELYLYA NESGKEFFGKWFDFRLGNED |
| UniRef90-Q95UW0 | GNENIFMLTS GRQYELRIDMEFKTKKYFAKYSRFKVLSEA |
| UniRef90_C3ZQ31 | NENIHRLTNQKNYRLKIELLDWNNGSRHAEYSTFRVSGES |
| UniRef90-UPI0002B8E0 | LEKI HCMTYMKGCKLRVDLWSFHDDHAFAEYSSFSVEAEG |
| UniRef90-K1PQG8 | LKHINKFSAAGWSVMRVEMED IVGYYGYAQYSTFHVGDAS |
| UniRef90-B4NL96 | QEGQQA |
| UniRef90-F8U8S0 | MGPTEVLIE MQD WT GAKVHAQYS |
| UniRef90-T1F8C1 | LYQLTNSASYRL |
| UniRef90-I1F3E7 | GNTAYSNYSTFSVSDGS |
| UniRef90-A0A044R241 | LERMYRLT NRPQCTNELLLRLLTASNGR\\|IT |
|  |  |

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UniRef90_Q8T3M7 UniRef90-C3XSX3 UniRef90_V3ZRT3 UniRef90-I1FCB2 UniRef90-T1G4G9 UniRef90-W2SJ28 UniRef90-B7QB88 UniRef90 F2UP69 UniRef90 B5DHL6 UniRef90_Q95UW0 UniRef90-C3ZQ31 UniRef90 UPI0002B8E0CD
UniRef90-K1PQG8 UniRef90-B4NL96 UniRef90-F8U8S0 UniRef90 T1F8C1
UniRef90-I1F3E7
UniRef90-A0A044R24 UniRef90-T1G5H2 SAFRFSKSR $\square K G H S E F P A G D S L T N G S Y S F S T Y D R D Q S N N D$ TKYMLTVGEYSGDTDPKYGYSHSGMTFTTRDNDNXXWWCD QMYSLVVFGYSGDNPYNALMDQNGMQFTTFDKDNDLAAPTE Y ILS AEAEVPK GGLDF DSSNTGEKD SNATFATYDNLKNDM CDMETDGGGWTVSVDWDGDSPHAAMGFSTPDVDNDQWEGS MTYGVYNNHRLQDCRNLEQNVAWSSCQYSSHQDATWQSCS EGFNLKSDTYLNGTIY DYFQGQVNVTFSTYDRENYVDEYY NNYQLKIESFSGNAGDSLTYHNDQFFSTF
DGYRLYI A GYSGTA GDSMAENNGMQFSTVDRDND
DLYRLHVGGYSGTAGDS LSRGHDNMAFSTIDRDND
SGYRLTVSGYSGTAGYDALS IUNGRKFSTKDVDNDLSADN YNYQLTIDEFQG TLPDALEYHNKMYFSTFDHGTSKGVSC SNYQMAVDEGYGNALDDALEYHNKMYFSTFDHGTSKGVSC LSYTIHVFGYSGNNDDVMNRNGDRYQNAARFSTPDHDTGN TEY LLTVGGYSSTAGD SLGGYHNGRRFSTRDNDNDLLSED


[^1]| UniRef90_Q8T3M7 |  |
| :---: | :---: |
| UniRef90 C3XSX3 | CSSYFSGGWWFNWCGNSALNGPY\RPSDRT |
| UniRef90-V3ZRT3 | CPDRFKGGWWY LD DPVCSRGNLNGRRNATNFES |
| UniRef90-11FCB2 | CAVRYS GAWWFNSCFQSHPNGPYYTNPNGGTWFGIDWYDW |
| UniRef90-T1G4G9 | NCAASYGGNWYKNCYLINLNGVYGSSLYYFKL |
| UniRef90-W2SJ28 | L |
| UniRef90-B7QB88 | ARDQQGSWWYNQCGSSSLNGGYLQGPAQLSRQGLHWLP W |
| UniRef90-F2UP69 | FSFTWGGLLNNMYGGNQQYRVILGPTARHNGGGDC-FWHNF |
| UniRef90-B5DHL6 | R P A Y NHGGWWY |
| UniRef90-Q95UW0 |  |
| UniRef90-C3ZQ31 |  |
| UniRef90-UPI0002B8E0CD |  |
| UniRef90-K1PQG8 | CALLKYGSPWWNNDCG $\quad$ LVKFTLNDFNGLGWY NW |
| UniRef90-B4NL96 | AVNASSGW WF DSCQESNLNG DPRTGGIMWSNW |
| UniRef90-F8U8S0 | CSREDGGGWWYNRCHSANPNGRYYQMAKHGTDDGVVWMTX |
| UniRef90 ${ }^{-11 F 8 C 1}$ |  |
| UniRef90-I1F3E7 | NCAQTHTDWWYNTYYHTNLNGHYFNTETYNDQNNRGYVYL |
| UniRef90-A0A044R241 | CVG GGGWWRKGCQQKGV ${ }^{\text {V }}$ GTATNKAQGTYPGLNWNGK |
| UniRef90_T1G5H2 | CASTFSSGWWFNDCHA CNLNGLFG |

[^2]UniRef90 Q8T3M7 UniRef90_C3XSX3 UniRef90_V3ZRT3 UniRef90-I1FCB2 UniRef90 T1G4G9 UniRef90-W2SJ28 UniRef90-B7QB88 UniRef90-F2UP69 UniRef90 B5DHL6 UniRef90_Q95UW0 UniRef90-C3ZQ31 UniRef90 UPI0002B8E0CD UniRef90_K1PQG8 UniRef90_B4NL96 UniRef90 F8U8S0 UniRef90 T1F8C1
UniRef90-11F3E7
UniRef90_A0A044R241 UniRef90-T1G5H2

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[^1]:    lupas_21
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