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 GT G G G G G K VAVVQDLT $\square$ T KY T D R G T P S I I SACAT GKHFP T G $M$ GS G G G GK A TVVE DLA F E H LVVDRA S P N L MKY C L T G G H DD Q A STGGGGAGKVDMANDADEKSSLDKSSPNLDMACATGKYYPEA M G G G S G G K V N VQ D I S V T K Y DD K S S P DLMM ACCNGK H F E T A G G G GA S GKASFQDMMLTKYYDKASPNLMSKDADGTHDKEA


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 VS SA GAARVNVQNFNFLLHHLDLA MGSGGGTKATVDDLTFEHYIDRATPNLVQYCLLGKHI K QA

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 LG S G G G GK A T DD DL Q F E H Y I D R A S P N L V QY C L L G K H I D E A

 MGS G G GDRCTV D DLTFEHYI DRATPNLLQYCVTGKHIGSA





 G G G G G S G K V A V Q D L S FTK Y V D K S TP DL I QSCCN GK HF D Q A S T T R T G GK CTANDLT DE HYVDRASP L LMLHCLKGNHIENA
 GS G S G S G K V
 GS G G G A GK A K V Y D L E F E HFVVDK S S P NL M K Y C L T T GK H I P E A G G G G G A G K V N F N D L H V V E A LI D K S V T A L L K N C A S G K H L T K I
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 A S S S G GERVNNLSEFRUQKFVVKASAKLFESCCKGQHI K EVV A G G H S S G R A E L F P L S F T K L A D DA S P V L L Q T C A T G K T I P K A A S S A G GERVVLLSEFADSKMDDKASPKL FEACCRGQBI KEV ASGHTAERCEHRSDTVTKLADLASP LLMQTCSAGKTIPKA

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140 140 150
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EKI S F S Y G R I K WT Y T R Q K R D D GT G G G N V S A G W D L T A N K A

$E Q V S L S F A K V K Q E Y T V Q N Q Q G G \quad S G G A V T A G Y D I B Q N K E A$
$E V I S L N F A R V E V S Y Q P Q N A D G G K D G G I I K Y G W N I R E N V K$


E N V T L L N F E Q F H V E Y Q P Q N A K G A K E G G V V E M K W N I V
 E QV R L S F A K V K QE Y V V Q NA Q G G S G GAVV A GY D I K L N K E A
E E I S L N F A R V E Q S Y QP Q K A D G GK D G GP I R F G WN I REND
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E




 ERVSLSFTSMKQEYILQNAQGGGSGGAVTATFDIKKNAA E TVVSLUS FAARVK QE Y TIVQNAQ G G C G C

| $S$ |
| ---: |
| $S$ |
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$\square$
$\square$ D A A
$P$ S

E EI R L S F A RV R QE Y VIDQNAGGGSAGA VVAAYDI KT GRS
E N V V $\operatorname{S}$ L $N$ F R K F TY S Y QP Q S A N G GP E G G A V K V I W S I A E N

E EVVSFA Y GKI T WT Y TVTV TK T GKA G G N $\square E G H W S V V D N$
E QVGLKFSKI KWKYTQQK $\quad$ KG GGTGGNTSGGWDLAANK
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 ASSSS G G GRAADF Q D F S VVV K E L D S A S P L L
 MS GS GA G K VNVVQDI T FTK Y V D LAA S TV L M Q K C T L G D H DK E G
 G G G S GA GKVVQFQDLSFTHYVVDKATDDLMFSCASGKHI K TA A G GHTAERCELDDIMFHKIADLASP LLMQTCATGKTIPKA G G G G GQ GKANFN DLHVLARRIDKAAPAVMKHCASGKHLGKV A T S A G G G R A S M S D F F F R K A V D K S T P K L H E A C C S G K H F K E I

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F G G G G GAKASF QDI S L TKY Y D K S S T A L WK F LTTNGK HFEK G
TGGGNGAGKVTFKDDTVVAFKDKATTALLKYCASGKHDDRM
AS GHTAER SEH GDDVVASK LISDDSTPDLLQQTCSSGKTIIPKA

G G G L G A GK A K F E D F E F TMMPTAQKA S P K I Y L A C A S G K H I G N A



A G G A T A G R $\begin{aligned} & \text { I } \\ & \text { A S S T G G G R }\end{aligned}$
Y G G G GA GKVVQYRDLSV QTKI DKATPAVMRYTSNGKHVVKVV ASSA G GARTTVVSDFTFTKNLDKSSCKLDE DSCAGDHLKEVV





A G G G GA G K V K Y D D L VI Y T NVV D K A T P T L F Q Y A A S G K HI S K V






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N
GS GS G $\square$ GKACP GVVFQFVHQYDKSAPTLKKNCAS GKHMANA




TS GRTRGRARVGDFRLRKWMDASSPYLALACMQGKSFPEM



| A S G H T A E R C E H G E MVV F T |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |



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W7NZ79 UniRef90-X2H654 UniRet90-F9RXU4 UniRef90-UPIO0035DCCB2 UniRef90-A5W297 UniRef90 Q7N6J8 UniRef90_S2F237 UniRef90-J2MND8 UniRef90-UPIOOO4229165 UniRef90_E4PJT7
niref90_A0A023V9D4
 D $\square \mathrm{C}$ L K F G S L K G E S Q D K D H A N WI E I S S W S Q S I T QPR SAT
 DDYVKFGSI NGESQDKDHKDWVEVSSWQHSIVQPRSAT AlPAYLWLKD:KGSVDULDREGSI EVLSFSHGLLVPTDNG AFTGYLKIDG: DGESRRADHEGEDDVWGADDKAEQSSAAT A IPAYMWLKDI KGSVDVNGREDSVEVVEFLHNVRIDPDAN
 MKLGGIKGSSONDOHKDWVEALDHEMYOTDGN
 NLVLKKADIVGECTLDKHTDEVNVGGYSTGVAMPLDS





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ATPAYMSIT GEKGNDYQEGHEN QQVMVQGFSHEVVIMPRDPQ


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65

 S GQAT

 SGGGSASKAHVQDISVTKYVDGCSNALLQACCTGGRMDQA
A GGHTSERCEHGDMVFTKDIDVVSPLMYQHASGGTTFDEV
 ASGHTAERCEHGEMDFTKDMDVVSPDLYQHASGGTTFDEV ASGHTATRCEHGDMVFTKEDDSSSPLLYQHASGGTTFDEV GSGRVRGRATVSDVTLYKWYDAASPYLADACMQGKAFETM
 NSDRT $\square G R P T F S E M S F S K T T D V S T P A L L A A C A S G T N L G B V V$ TGK LTTGTRV HKPDSFVKEYDASSPYLYKAVTNGQNLKSLC GNNREASEPSUSEVSVVKMFDASSPKLFTEACTGNTGKTV
 GGGRATGRAQVQDI TVSKY LDQATPKLNGACCLATELGKI VQAGKGGANHLNLIAQASMDKSTPAMFLHASNGHKISKV
 SGGFTAERCEHGDMVFTKD DVVSPQLFQSCSGGTTFDEVV A GGHTAERTEHGEMVFTKDID KATSKLNRACSAGTVYPKVV RTERTLGRPNFQDFVVTKASDQSTPALYGACAGGTKLGDA
 NTERTMGRPSFQEFGLTKATDQATPALYSACAAGTKLGDA



 NGGS GA GKVNLGP LTVTKHADSAS GPLFLDMCKGTHIPK G






\section*{N G GATA G G VT |  | $F$ | $R$ | $V$ |
| :--- | :--- | :--- | :--- |
| $P$ | $M$ | $T$ | $L$ |}

T G L P P T S K R R
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|  | G K |  | T | G K R |
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| T K |  | T | G T | $R$ | $\mathrm{NH}_{\mathrm{H}}$ EVKS L R V E K

T GK/LTT G T R
S S GVVNK GTA DF R A I H C S S

 GS G G GAGKAS IS DL TFRHDDDRASPNDAVYAAQGRBM PEA



 K T Y E $\square$ S GRGHLTTPFYFTHMVDKATPKLQHYCMTGQKINKV A GYAAGGKANVQDISVTKYVDSCSNALLNACCTGARVDSA $K$
$S$
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GQPS GQRVN S G Q P S G Q R V
S G QP T G Q R
S G QP A G Q R V


## T

 ATSATGGGRAQQHAAL T F E
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## $T$

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UniRef90-C7R833
UniRef90-B2JVR6 UniRef90-K5BMV6 UniRef90-A3NHG9 UniRef90-W6VMY0 UniRef90-R5X6X5 UniRef90-E2Y011 UniRef90-A0A024M562 UniRef90_E8X575 UniRef90-UPI0002E7FC75 UniRef90-UPIO00382CA86 UniRef90-TOZIR1 UniRef90-E3HG87 UniRef90-B1Z0J1 UniReftol $14 K 0 T 2$ UniRef90-Q3A0Q6 UniRef90-A0A021XFG7 UniRef90-UPIO0036F185E UniRef90-S6KHX9 UniRet90-Q2T6Y4 UniRef90-M9W3G7 UniReffo-D5C905 UniRef90-J7GEU1 UniRef90-A6GR55 UniRef90-D8MOK2 UniRef90-UPIO003F565BD UniRef90-A0A011PDY1 UniRef90-E8TPX7 UniRef90-W4P1V2 UniRef90_UPIo00366458B UniRef90-K9DSF4
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UniRef90- J2MND UniRef90 UPIOOO4229165 UniRef90_E4PJTT

90
100
110
120 R|LEWYRTSSTGTQEYFT|IE|LEDA\|VIVDVQSRMPNCQDPNM SI HVFR A GDPKVKYFEI KLEEVIVSSFSLAGNGGDSFPS E L K W Y R T S A E G Q Q H Y F T I K L M D A I I V



 E I K W Y R I N D A G Q E E Y F N ML L E K K V K K V V S S C C P CMMLDDEM H N HL TVQFYRAD GEGKRQYME\|KLKYVLI,ASVNPKVVSNDSVPS



 EFKWYR DD DA GQKE YFNTVLENVKVVAVRPKMHNDKENHDL E L H V LK A G G S K P VD Y M K $\square$ KMK DVVMI T S YNTGMNDGLDDR DQ K DLLT T T G S P G A T Y C T Y T L T N A L I S S Y $\quad$ SVVS S G G D R P T EFKWYR $\square$ N DA GQEEYYND K LLMGRNEGDTFMPLMTYTLKNTMVSNDSTGGGGSEA M



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| E |
| V |

 HIIAWYRTSASGKQEFFSIDELVDAVIVEVNSRMPNCQDMNM EI R WY R IN H A GQEE YF I MLI E GVLKVTGINP GMPNAKMNHM KLTVRKAGGESQVEYMVINLEEVLVTXXXPAV
 $T L V L$ CRA G T D K L K Y Y E I V L E E V I I A D Y S Q N A S S G $T L N V A B P$ GARK
TIID F LDRAD G E G R V K K Y L L E II K WYR DD DA G E K E Y F N T K L D N V KI V A V K P K ML D E K H N H L
 E I H L V S T G NPG NTYVEYTLCNALI S
 TI RVHRA GTEKK K Y L D I V L E EVVLI STVV GNGAEHAGFPV VLEFYR ILLKE GKEEYYTVVLENAII RSWTPNCDNKQLGHM EVKCDKND G GQE QEYFNMLL E NVVKVIDSDCMMMHDCKYN HL

 $K L N D C T M F N N E L H P Y A E L E M D Q C M I S A D S E N A S K E G G Y P Q$
 KLLF MR K A G G V P H L Y F RL T L TIK WYRTSATGQEHYFT TELTTDAII VDVQAQMPNCQPDSM KLEFMRAD GQGP $\quad$ KKYFE $\square E L$ ENVLI GSIS P G $\square$ AA G
 TLLK F Y R IT K Q GTE E Y Y T DKLLE DAAIVV SMK P YMPNNP YR HM


## ,

EFQVCRS $\quad$ GGNS

 EI QWFRTSAQGTQEYYSTVLLEDALIVNLKDYMHNCQDTHL EVK WF RTNSAGKQEFFTTTLEDALVTTDHCQNPDNAD YTQL
正



 EI K WY K NDAGQE $\square E Y F N T F M D G V K V V S V K P E M H N D K D N H L$ ELKWYRTSDEGKQEFFTTKLENASIVDI QCEMPHCQDPAM ELK KFRTSSMTGQQQEYFTHVLEDAMMVDIKAHMPNCQDTHM EVVSWYRTS E E GK QEFFTTTLEDDATIVSINTVLPHADDKDN NI K WY R I D N A G Q E E Y F H I L M S G V K I V S I S P V M H N I K D N H L
 K I


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UniRef90 J2MND8 UniRef90－UPIO004229165 UniRef90－E4PJT7 Unirergo：E4PA23V9D4
UniRef90＿AOA23V
$\frac{\mathrm{V}}{\mathrm{V}}$

130
140 150

160
EDVVYTYRKIVWTHEVSGTSGSDDWRTPTAG
ELI ALNYGR｜KLLYSKQSRKSGQGAGQ【AGGWDA】SNK EDVYFTYRK DWTHEVSGTSGS
EDVDLRYEKITWKYV
EDVYFAYRKI DWTHKVCGTSGSDDWRSPVAG
ENVSVNFAEFKFEYFKQDDKGKTASAGVCA WNTEENVKS
ENVTLHFGKFKYAFQPQNDKGAADGGAKEFTYDIQA
ETFTLKYAAAQWKYTQQK■ GGSQGGNAQGAWSLTKNDK
EQVEFRYEKПTWTYK
ENVSLRYERITWKYK
ETFSLKYAAVQWKYTQQK $\square G G N Q G G N S Q G A \quad W S \square T K N D K$ EGПQLRYERITWKY
ETFSLKYAAVQWKQTQQKDGGNQGGNTQGA WSDTKNDK
EQTSLSFEKI ADKYVVQADDHSK GDEHEVEYDLMAAK
DEYAFQAPEVEFGYTPGQDDGSA GGEVTMGWNTPQNTE
DTFSLNFTKLTCVFTQQKPDGTPKGGNAQFGWDLTKSVAA
EEVELRYEKITWAYK
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EDVHFTYRKITWTHEDSNTTGS
EEVSLRYGRIT WTYV
ETFALKYAAVQWRYTQQK $\mathrm{F}_{\mathrm{G}} \mathrm{GGGQGGSSQGA} \mathrm{WS}$ LTKNDK
EHVALSFARMKKEYAVQSADGGSQGMVTADIDVKQN ETFGLKYGKUTWEYKQHRPDGSKKGTGASFGWDLAKANKA EYVELRYEKITWKY品DGDQHS

DQVELRYEKITWTYK
DQU RNFAQUEEYREQRNDGTM GAVIKAGYDLKQNA
EDVHFTYRKI DWTHEDCGTTGS
ESVSLMYDK\｜TWRYVD GNVQYSWNVRA
ETVSLRSTKVDLLYRARRPDGSFDEGR RFTFDVRTNQA ETVVLTYKSILYTYKAQAADGTGSTKAPAGWDVVSNKA EVI QLNYGRIKTTYTRQKRSDGSGGGNVTGGWDRINNKK EEVALQPAWIRFDYAEPGPGGGATGRTSSVTWDURSNK
ENVSLNFAQV
ESFSLKYAAVQWKYTQQKVG GNQGGNAQGAWSLTKNDK

EAVACRYAKI TWTYYDGNDS

EAI GLNYKTIEWTYTPYDDSGSSMGDDTKY WDCKANT
EMI TLNYGRI KFEYSQQ
EDVSFTYEKI TWTYVP
EAVSLRYEKI TWKH

ETVVERYEKITWKH
EVVTFAFTEYQEEYKPQNGDGT GGAAVTAGFNCDKCVK
 E EVSFAYKKIKFVY
ETV VALSFARMKQEY $\square M Q S A Q G G N M G \quad T \square T G L I D V K Q N R A A$
EDVYMTYRADS WTHEVSGTSGS
E DVS DTYRRVT WTHEDAGTQGS
E EVVAF T Y R K I K WT WE P
ECVEMRYEKI TWKH

ERVEFIA GKITWKVTPIKSDNTKDGA VVEASFDQTIN
ENVTLHFGKFKYSFQPQDDKGKKQGGTKDFTFNMQEVKKS


EDVVABSYRRK M M WEHTVA GTSGGS
EDVVAL NYEK I THELYK
EKVELLYEKI T WRYV



E TVVRLN R R WKVQVE YRP Q DPT G G G R G
E DVQFSYRKI TWDHVKATTTGSGRG
EDVQFSYRKI TWDHVKATTTGS
E NVVSLLRYAK I T T WK


## E

EDVEI RYEKI T



| S W O | $H$ | $E$ | $V$ | $A$ | $G$ | $T$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $S$ | $G$ | $S$ |  |  |  |  |
| $T$ | $W$ | $H$ | $D$ | $A$ | $N$ | $T$ |

T WKY

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UniRef90 UPIOOO468189D UniRef90-B9K2G8 UniRet90_S9PLQ0 UniRef90-G2HY66 UniRef90_UPI000393E692 UniRef90-J31KW8 UniRef90_UP100035F3C18 UniRef90-Q1ZUY2 UniRef90-C5C6C6 UniRef90-B8KS19 UniRef90-B7RRC8 UniRef90_Woz237 UniRef90-AOA058SXN5 UniRef90-A91N59 UniRef90-UPI00036CF715 UniRef90-A4FOY4 UniRefofo-D5RJP8 UniRef90-M5DJE3 UniRef90-H2JOI4
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1
 TDMFIKI SHVKGESKEKSYNETIAINSFSWGATQPNMGS MPCYLTLEGIEGSTKVQGHEGKILVQAVDHTDEDPKSPQ
A


A TPAYDWLKDIKGNTYVEGHEDEML ATPAYПWLKDIKGSVDVRYREGSMVQEVKHVVTVPTDPQ A $\downarrow$ PVYLWLEDIKGSVDVNGREGSIVEN

LFIKII GU GNIYVQGHEDEMLVQEFSHNVTVPTDPQ

## A A <br> A <br> \section*{A}

 ATPCY A TPVYLWLKDVKGSVEVHQREGSTEI TALAHGVSLPVDNL```
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    VDFFLELDDE: NGESKDAKHTDQI
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MNLGLDGNDTA
$T Y Y \mathrm{~L} E \mathrm{Y}$
TPAYMT

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$\qquad$
 D S T D DSVGNTYVEGHEDQMLVQEFKHVVTVPTDPQ AlAGFLKVPDVPGESHVEGHEDETEVHSTSFAMAAPVDVG ALTAYLKIGDIKGESQRVDHEEEIDVHGFYWSSTDSRTGS AFDAYFKGSDVVGETQDDAMKKEFEIDSFEDGAENNDNSM ATPAY $\square S \square K G S V G N \square Y Q E G H E D Q \mathbb{L} V Q E \square E H E L S T P T D P Q$

MVQGFNHEVIIPRDPQ
 TYMKYDGI DGNVTAKGYEKWI ELNSLQFGSGRGTS T AANMFVEVSDVEGDATEQNHKKWVIGSANWNVERAVEMT SNPMFK STKGAQDENHKDE MPDYLQIDGIGGDATHEQHRKWMDIEAIHWNVARNMNTS TPAFMTLDGSVGNDYQKGREDQTMI QALSHGIFVP SNPAYLFLKDMKGSSLVFGREGAIIELTSFTHNVSIPVDGN TYMNYDGVKGNVTAEGYKDWI RLDSFQFGVGRHITMH DDGFLKVPDITGPSVRDGHEEEDEVYGVEFEMVAPFDPN NAFLKLGDUKGKATTDKFKDQLVFQSMSYGLNQSGEWE DDGFLKVPDIGGESVAGGEDMLVQFDYNVVANP TPAYLSLEGSTGNIDQEGHENELEVQAIDHRVTIPRDPQ AYDUFLKKIDGIDGESMDDKHKNE, EVLSWRWNVHQESTMH AFTGY AFTGYLKIDPDIDGESQRAEHEEEI DIITDIMWSVEQAATAQ
 MFLYDDSTKGGLDIQGREYSVEVLGLHHSVHIPTDNH A $\square P V Y L N L E G Q Q G D A T H E T H K N W: D V S S M T W G T H R A V S G S$


UniRef90 D5C8C8 UniRef90_C4RY93 UniRef90-G8MJD2 UniRef90-Q7VJKO UniRef90_UPIO0046F35A7 UniRef90-I0IRP8 UniRef90-QOACM2 UniRef90_D8MMM6 UniRef90-A9MLW2 UniRef90_UPIO00471E3E5 UniRet90-C6AQN5 UniRef90-H7EC22 UniRef90-K9NM40 UniRef90_XoNJ97 UniRef90_UPIO0035EA604 UniRef90-UPIOOO40B0DA5 UniRef90-C7C522 UniRef90-E8WWQ5 UniRef90-LOR4M1
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GGGAEH EDAEYANDAGOEFNMFLEKVKVVGTPVMYNEKSNL
 VL BWY RTSTDGK


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 ELKFYRDNYAGQEE VKA AKKNGGDG SAF

## E

ELKWYR। NDAGKEEY
VFSFYRINYNGQKEYFNTLMENVKVVSVIPVMDDDKDNHM EVNWYRTSVEGKQEFFTTKLEDATIVDINTTLPHAQDQQL EIRFYR RNDAGREEYFTMLLKGAKVAGVHVNVAQDNHRPT EI R WYRINDAGREEYFIMTI E GVKI TGVNPGMPNVKMNHM EVKWYRTSTEGRQEFFTTKLEDATIVNINTVLPHAQDTQL EI RYYRNNAGWEVEYFRTELEGVKVVSISPIVNDTRNCPLL QI HLVTTGNPG NTYAEYTLTNALVSSY SMSSGGDRPS LI HLVQTSPNGVETYMEYTLTNTLVSGYSVSABEDNRPQ DI YFYRASGTKRVNYLKUQLKNVVVSSVSTNIVSGTELPT I HVCQTDDTISP QLVVTNAHGNHDRVF TI KFVQTGADKVVEYMRFTLTTDVLISSYQIEGDWA SNPT QI HLVQTTPNGVVEYMDYVLEDCLVSGYQUAGAEDGD PVV ELKFYRTSAQGTMEYFTMTLEDAITTDTTYMPNCQDTHL EIKWYKTNYAGQEEYFNMLLEGVKVISGCPMMHDCKHTHL VFKYYRINNNGQEEYFNVQLENVKVCHVDPVMYDTKDPHD WLYVTNATGERQTDFLLLLELEGVLLKSWSTGGSGGEDRLT EFKFYCDDGGQEKEYFRVTLENVKVISVEPFMHDDKHTHH ELKWYKปNDAGQEEYFNMLLEGVRIVSVSPTMADTNNNHL DI DYDKPMGDDQQDYYKDHMEDALITSSIQHSGSNDENPM VIHMVTTGNPG NTYDEYTLTNTLI ANY SIVDSSGDRPV TLTV AGSEDSKVFTYEMTDVVVTGVSVS AGGKGDPV ELKWYRTSYTGKPEYFSLVLEDAVIVNLDSFMDMQQVAPL TLKWYRTSTEGKQEFFTTTLENATIVNHCQNPADADFTQN EFKWYRDNEAGQEVVYTALLENVKVVNVESKMHDDKDNHL ELKWYRTSVEGKQEYFTTTLTDATVVDINTHMPHCQDSSK



 VLTVRKAGGTPHEYFKTSIEKGRITARDVDTSNSSGDLS TIKMYHILEAGEAEYFNIILENVKVTSIAPNPGNQTGTHF RVEWYRTSAQGQEHFYTMELEDAVIAGAEVLMPHCGDRPGT TI KMYQ $\square$ NEAGEQEYFN LLLEDVKI TS DTPDPGAGTGTHL LVD\VRTQADK DEKYVSYEMEDVMVSSYSVS AGAESAPA
 ELKWYRTSSEGKQEF

 ILVMRKAGG NPLEYLKYTS
$N L D F T S A T N S Q L R Y Y Q D S L S N A V V T S T Q L S G S A G S S L P F$ SLEFYRVSPKGTEEYYTVKLSNAILTNMKSWTPNALDPHM VVTVRRDSGDAHLDYMTMTMTNTIUSRYEVNGVGEGQEDQ
 ELVVVQAGE TLKWYRTSVEGKQEYFFSTI QDATIVDワDLHMPHCQDTQL ELKYYRDNDAGQEEYFT LLEENKVVNLMPVMFDDKDNHM QU HLVTTGNPG NTYMEYTLTDTLVSGYQ NTS G



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UniRef90 UniRef90-W8GM15 UniRef90_D2QZM4

$\square Y \square K Y T S V D G D V T T Q G F D K Q \prod E V N S F Q W G V G R G V G S$ STPAHLWLTDI IGECLMPTRLGSIEMRTLTHNVTDPVDAY A $\square P V Y L W L K Q L K G S V D V H R R E G S I E D T G L S H G V E I P T D D Y$

MHLELKGFT AVPAHLWLYD VCGG
 DMFLKVEGUKGESEDAERKGE
$M I Q A L S H G I F V P$ QL LA WS WGMS QS GS F G EVQSFGHGLSVPYDGN GVGSFEHVITRADFAS D $\square$ S WS WGMRAQTEMG
QVQAFKMNDMVPKDP Q
 SLPAYISITGITGASSTQGHEDEILVQEIHHEITTPTDPQ V DMFLALDGI QGESQVSGHVGEI EI A GWSWGMSQQV H I P P YMWLK DIKGSVDVQDREGSIEIDGLGHGVNLPVDNT ASPAY L W

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

SNPAYLWLT DVPGGSMVSGRLGADELKAVAHHLTDPV GN AANMFMEIDKIPGDSTEGNHKNWIVLESATFELERAVDMT S LDP A Y LFLYDI KGSCTA LGREGAI EVMNTQHGITDPTDPH A YLSI ESI TGNSYQLGHEDEI TVLSFSHSIAHDS $S \square P A Y L W L D D V G G S V V V G R V G A D E L K S V N H N V S \square P T D G N$ IY K KLT GEKGNKYQSAHEDEI FVYELMNQUTR
 AEPAFIKIIEGSTGNRYKSGHEDEIMAQEVSHIVTVPVDQQ DSVGNVYVEGHEDEILAQA IDHQITTPTDPQ
LIFMQUDGIKGTVSNKGYEGWIAVENMNFGVYCSADNA SNPAYMWLTDMTGSSLVSGRIGADELKSLTHNVNIPADSN DSIGNKFQLGHEDQIFVLQFNHGISRSQN
TTVVGNCMVTGYAAK IVLSYSHSASMPMDAS
 ANS $\square$ FMK $\square$ T GSVGNKH $\operatorname{VGGHEDEDFVYATNYDLSRDRH}$ DSIGNKCQAAHTDEDMVLSYSHNMVNDGNDN MP TIMQLDGIPGDATHETHRNWMDI ETLHWNVSRNMNTT SFSIYLKLNGRKGNRYQ GGHEDEDQVLSFVHSLTREQNSD ALNAY $\square K L T G I K G S V T Q A G R E D M I A I I A F D Q E I S S P R D A A$



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UniRef90-F2ZMYO
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UniRef90_W0BPI1
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UniRef90-B6VMT5
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UniRef90-E1VJ00
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UniRef90 UPI00046 UniRef90-W8GM15 UniRet90_D2QZM44
UniRef90-V3LYC5
 PTGSSGNRPSVSEDTVTKMLDNASGLMMMACASGTHYPEA HGKLTGTRV HTP IVFKKEFDRTTPLLFRALCQGRTLKSA SGKITAKR QHSPFVFTKAQDVSSPYLYQVVSTGSVLKSA
 TGKLLTATRV HNLMNDEKEFDKSSSPYLYRAVVATSEKLDQRA AGSETAAKPRHAPIRIDKPDDKTTPKLLEAACKGTLYKQG SGQPTGRRV HTGVTLTKVMDKSSPMIMQALATGEQIKKA
AQNREASEPVVGEVHLSKLMDGSSDKFMMACATGKHYPEA SGQPTGKAVHGPLTFTTIMTKGTPLLYQAAADGEQLRTKV S S SQLASKASVRTLSVQKSIDSSSTAIMSALKSAELLSKV

 T GKVTGSR Q H CSFNFTKEIDSSSPYLFKAVATGQTLKSA


 RATH QP I MIT K N IDDK S S PLLLA QALVAS LE QVVDCT GTGRDTSNPSFSEVTCTKSMDDASAQLMQEAACGKTLDKA E S LLK S G N A GF D DV SFTK EMD S T S G AL L I NVA E G T A I K E









306F5

SGQP S GQRVV | $S G Q P A$ | $Q$ | $R$ | $V$ |
| :---: | :---: | :---: | :---: |
| $S$ | $G Q V$ |  |  |
| $S$ | $D$ | $G$ | $V$ |


T
T GRLDTGTi,


NTERTSGR PVF
S GQPS GQRV HRP

VNHHPF

QAGSTANRPTVSEVVLTKVTDSSSTRLFAEACTGRTGKLV
 NGRALSKRQHRPFLIVEKEIDDASSVFLYKALSTGGTLRKA T GS G G GS GKVIG

VSFQP $\quad \mathrm{D} \square \mathrm{DK} \mathrm{T}$ I DKA
ATGATSGRARMSDLFFRKTVDKATPKLHEACCSGKHFKEV

 NGK $\square T G T R \quad$ QHSSMMIEKEVDSSTPYLYKAAATGQALQSA TGRMGGTR QHDPYDI HK QVV K L S P P L A D DVVCE GRRRLQKA

WES GEARGTY GGLTLTKPLDATPGL
QGEPGHKRRSYSNVRFRKVVDRASVT QQMLAQNTKVRKA S G Q IT S M P A M K P M K DT K L I D K A S P L L H N A L T S GE QL T L T



| $L$ | $G$ | $K$ | $L$ | $G$ | $T$ | $R$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $S$ | $V$ | $V$ |  |  |  |  |

HK P L CIT K DFD R A


 GQHAGTGKATHRPI EFTKEDDRSTPKLYQALCQRERLDSA G S

A

T G L P T GQR

TGLD T G Q R I H S P I I I T K N I D K S S P L A Q A L S S REEE NC I
SGQPTGQRV
V S H
SH $\square$ MRAENVVVF


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| :---: | :---: |
|  |  |
| UniRef90－F3YX70 UniRef90 UPIOOO4 | RİNYNGQEEYFTVKMQNALKVVC |
| UniRef90－U |  |
| UniRef90－UPIO0046A3D9B | E |
| UniRef90－W | RLLVRKAGGPNSLEYLVIVLKEVMVTSYDVRTDDNSDILY |
| UniReef90－K5 | ISF TRTDGNGAVVYLEVVTLTDTMISGYSL S S |
| UniRef90－J3D6 | KMYR1 |
| UniRef90－UPI000465CE | ELKFYR】NHAGQEEYFNIFMENARI TClVPY |
| UniRef90－A0A010T1H3 | RVEWYRTSA |
| UniRef90－14W0S0 | KVTLT S S M |
|  | V RWY |
| $\begin{aligned} & \text { ef90_FOSFF2 } \\ & \text { ef90_NGZSRO } \end{aligned}$ | TLTVRKA |
| UniRet90－A8U3 | IFKFFRTSSAGTQEYYTI E |
| UniRef90－UP1000 | RLVVRKAGGS PPVEYMVITL |
| e90 | TV HLVTTGSPGA TYMEYKLTNALVTGYQ VHTNGDRPS |
|  | T |
| UniRef90－A6GLL | PGGLAT DYLR VLRKARI |
| UniReet90－G7 | vTK WYRINAAGE |
| UniRef90－G2S5A6 | Vee eflh l LLK SVKV |
| UniRef90－W7P5X6 | R ${ }^{\text {a }}$（ GQEETYTITLENVKVVSFSPVMHDTGT |
|  | EFKWYHI NDAGQEEYFNMLLEGVKVVSTCPLMHNCKN |
| UniRef90－R4Y6666 UniRef90 FoECY9 | ITKMYRLLEAGEAEYFNITLENVKVTTVAPSPTGM |
| UniRe990－E3BQ67 |  |
| UniRef90－14NOJ7 | DTFYRVSAYGVQEKFFTVEATGARISRLVVDMPHSDDDAQ |
|  |  |
|  |  |
|  | ELRFYRATDAGREEYFTVSMKNVKVVGVSPKVLNQHRNHF |
| UniRef90－UP10002D8BA5F | TAVNRAGTDKDK |
|  | TIKMYQADDAGEREYFNIILENV㢈I |
| UniRef90－UP1000 | TMHWCRSGGEGLKPFA WTFKNV |
|  |  |
| 37v |  |
|  | GM |
|  | YRTSPSGGNELYFKVK |
| UniRef90 | LDYYRDKDDGTEEKYYTVKLENADIVNMRFDADNKPYHDM |
| UniRef90－H2 | TIKMYQITETGEAEYFNIILDNVKIVAMTPNPGGQTGTHF |
| UniRef90－D2MWP9 |  |
| 0004 |  |
|  |  |
| 27 | S |
| UniRef90＿S9Y7T7 | FDFYRTSQAGGQERYYSVNLRHAKLMSYPHSVNHNDRQPE |
|  |  |
| UniRef90－UPIO004008： | EVKWYRTSSTGQQEFFTTT TTDATVTEINPNADNPE |
| UniRef90－U7R351 | KLTMRKAGGE QQEFTTTTLGSVLLDSIEPHLTEG |
|  |  |
|  | LRYYRTSASGTQENYMTITLRDASI VNLSNSLLTHNMQPF |
|  | E |
| UniRef90＿O28MX3 |  |
|  |  |
|  |  |
|  | Q |
|  |  |
| UniRef90－UP10003095 | FFFYRTSGNSGLELYYKIKLTDASIVNISCSTTHNEVQPE |
| Ref90 S6LF |  |
|  |  |
| UniRef90－A3TYB1 |  |
| UniRef90－D3RDW9 | ElK |
| UniRef90－UP10000463B5E0 |  |
|  | RUEFFRYSGRGGQEFYTIELKNALI GVDLLLP Cod |
|  | NDKGAMQP |
| UniRef90－UPIO0037806F4 | TLSSLTKGGGEPLVYYTLVLKDAYFVSYKDCGEDAADLPK |
| UniRef90＿Q1N509 UniRef90－J7GA20 |  |
| UniRet90－W8UZB9 | TLKMYRINEAGEVEYFNTAMAN |
| B6 |  |
| UniRef90－AOAO14LWG0 |  |
| UniRet90＿W0H9 | EIHWYRIADGVLEHYYTTSLEDAVIVEIKDYMLSSQDPHL |
| UniRee90－W3VCG1 |  |
|  | 俍 |
| UniRef90 UPIO00375EE38 | QVKLIK S G |
|  |  |
| UniRef90－A153J3 |  |
| UniRef90 AOAO23C580 | V ${ }^{\text {d }}$ |
| UniRef90 J2N1G7 | F |
| UniReigo－ | － |
| UniRef90－Z2DN2 | EIQWYRTSAAGTQEYYTTVLEDA\｜VDI KDYMH |
| iRef90－UP10004638581 | AGT LEVFYTIKLKDAYıSDITQHCPNNDGQP |
|  | Y |
|  | FKFYRTAPTGNNELYFSLRLRNAIITDLRFSMTHNGMQPQ |
| 59 FBFE | FSFYRTGMNGCMELYYK K T EAA VSLNCSVTHNDSQPE |
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| :---: | :---: |
| UniRef90＿K8A6x0 UniRef90 F3YX70 |  |
| UniRef90－UPI000467A1E3 | ETVLFGYAKMIGQ |
| UniRef90－UPI00037A64BE | ETITLNYSKI KWWYMSQ EDTAEQKGNLAYEYDLMTATGA |
| UniRef90－UPIO0046A3D9B | EQVDLVYEKITWRY |
| UniRef90－W2DPE2 UniRef90 K5XSY | ESLALNFAKVEVSYQPQKAEGAKDGGPVKFGWNDRENT |
| UniRef90＿K5XSY9 UniRef90 J3D626 | 俍 |
| UniRef90－UP1000465CB1C | EAIEMTYEKITWKY |
| UniRef90－A0A010T1H3 | EKVHFSYRR】YWRHEDSRTMGS |
| UniRef90－14W0S0 | ENISLAFAKFEVAYSTQDDKGKVSEAGTVA |
| UniRef90－V5U469 UniRef90 FoSFF2 | ESVGGLYNKITWKYK GGTGKANTSGGWNTATN |
| UniRef90－N6ZSR0 | ERLSFSFQKISDEYVPQGPDGLGMG |
| UniRef90 A8U3W5 | EDVSMSYKKITTTHEVAGTSGA |
| eet90 UP100034B3DA5 | DSANFASVDVSYQPQKADGAKDGGPVK |
|  | K |
| UniRef90－L1LTE4 | $\checkmark$ A |
| UniRef90＿A6GLL1 | S AFKEl EVLYTPKSAANLKAGA |
| UniRef90＿G7U152 | ESISLQYKK |
| UniRef90－E8YON3 |  |
| UniReif90－W7P5 ${ }^{\text {U2S6 }}$ | EDVSLAYEKIT |
| UniReego－w | EdVsLarektiol |
| UniRef90－R4Y666 | ETLEMRYEATT WK |
| UniRet90－FOECY9 | VEVSMSYRGI EWE H Ti |
| UniRef90－E3BQ67 | EVLSFTYRAI EVTHEVMG |
| UniRef90－14NOJ7 | EQVSIRYRDI RWVHHLAGTTGYSSWGDS |
| UniRef90－C4S9U6 | EHLSFAFSSVKVTNTMQSAGGTQKHGPN GWDLVKNCK |
| UniRef90－W6WV19 | E TVEFRYEE\AWTY |
| UniRef90＿UPI0002D8 |  |
| UniRef90 L 7 GF | MTYTQQKRSDGQ |
| UniRef90－X5G | Tinetryeal |
| UniRef90 UPIO004690F4E | ETWALAYVGVKMEYHHTDQATGKLKKENEFLWNLRSGK |
| UniRef90－B7VPJo | ETVAIA A Y Dil |
| UniRef90 B0RKW7 | ETLQLRYESUT W |
| UniRet90＿EOSB37 | A |
| UniRet90－UPIO0037D7364 | DCFKUQWDQRPDGGR AAEVR |
| UniRef90－Q1NY55 | E ETSMTYSKT T WT |
| UniRef90－D2MWP9 | LKVIMSYRKVVWEHTAAGTSGSDDWREGKA |
| UniRef90－UPI00046FAB43 | ANYSLAYRKVSWSHVVAGTEAS |
| UniRef90－E8Y083 | ENLSFVFGQMTFETNMVEPDGKTSKQGPVGWNLVENTK |
| UniRet90＿F2ZMY0 | RDIT WNHVAA |
| UniRef90－S9Y7T7 | VLLRYES TWKHCEGN |
| UniRet90－D3VEZV | FSLNFTKI KCDYTQQQADSTAKG TGTWNWNLETMKA |
| UniRef90－UPIOOO4008372 | SFAYRKIEWDHESAGTKGAKG |
| UniRef90－U7R351 | FSPNDAKVVYKEQDNEG KSGAEVEFNWDTQKNDS |
| UniRef90－F3JCV9 | A |
| UniRef90＿C6DJT4 | ETLSLRYESTCQHNAGTSG |
| UniRef90＿J3E388 UniRef90＿Q28MX3 |  |
| UniRef90－C7E | ETISLAYKSTT WK H Hidag |
| UniRef90＿A7JY10 | EVLKFTYRAI EVTHENCGTAGN |
| UniRef90－M1 N124 | EHVSFCYQKI IWT W |
| UniRef90－UPIOOO472CEOF UniRef90－UPIOOO309510F | LLRYEK1 TWHY |
| UniRef90－UP10003095 UniRef90 V6MKW4 | ESVSLNFAK：EVAYQPQNADGGKEGGT\｜KYGWSUREN |
| UniRet90－V6MKW4 | ESLSURFKS\｜TWEHVTAGTS |
| UniRef90－W0BPI1 | VEVSLAYRK】GW |
| UniRef90－A3TYB1 | ETVVIQYGAMKVTYTPQKADGTA GTPTNKMWSRVLNEAS |
| UniRe990 D3RDW9 | SvSLQYEK |
| UniRet90＿UPIOO0463B5E0 | VGliryar ewh |
| UniRet90＿S6GX57 | R HFAYET T WRHE\｜AGASG |
| UniRef90－A9MS04 | ETVDLVYSHIRWD REAQDDRGLKDGA VSFADDTAS |
| UniRef90－Q1N509 | EVLHINPGAI TWTHEAAGTEGSYRFGSSQA |
| UniRef90 J7GA20 | EEQLRRYEK T WKY |
| UniRet90－W8UZB9 | ED DFRYET T WUYTEGN |
| UniRet90＿B6VMT5 | MLS SYQ T WK HYiAG |
| UniRef90－A0AO14LWG0 UniRef90－W0H9R2 | ETLEETMYEASWKYTEGNS |
| UniRef90 wohgra | QDVAL AYSKS TWSHEVMAGSSGS |
| UniRef90－EOSE71 | ENVSFKFASIEWEHVIARTSSYLTWQNVAY |
| UniRef90－UPIO00375EE38 | EALGLTFAKFDLSYNEQDGDGKKVKG GQFAWDLKA |
| UniRef90－E1VJoo | ER RLGYERITWSWGPEGS |
|  | ESMALRYRQASWEHMRASTSGSPYAPEVT |
|  | EHMALRYRQI DWTHHRASTSGYSYG |
| UniRef90－J2N1G7 | EHVALRYREITWTHHSAGTSGHSTWGN |
| UniRet90－LORBL4 | EEVSFTYSKıTWTY |
| UniRef90 UPIO004638581 | ETISLSYTSTD |
| UniRef90－W1JC47 | EIVSIKYKDI CRHHMAGTSG |
| UniRef90－DokDP6 | ESVSLKYATIEWEHVAART |
| UniRef90＿UPIO00469FBFE | ESLSI RFKSVT WEHVMAGT |
| UniRef90 W8GM15 | EQISLKYESIT WEHRVAGT |
| UniRef90 D2QZM4 | EVTLWYWK WMQYY ASTDGKNYVGKGNKGWD |
| UniRef90＿V3LYC5 | E ElV｜［ ITR Y E S I E W W Y T E G N |

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UniRef90 S9Y7T7
UniRef90 D3VEZO
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UniRef90_UPI0004008372
UniRef90 U7R35
UniRef90- F3JCV9
UniRef90_C6DJT4
UniRef90 J3E388
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UniRef90-C7BGP6
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UniRef90 A9MS04
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UniRef90-J7GA20
UniRef90 W8UZB9
UniRef90-B6VMT5
UniRef90-A0A014LWG0
UniRef90 W0H9R2
UniRef90 W3VCG1
UniRef90-EOSE71
UniRef90-UPI000375EE38
UniRef90-E1VJOC
UniRef90-A1S3J3
UniRef90-A0A023C580
UniRef90_U7R5C8
UniRef90 J2N1G7
UniRef90-LORBL
UniRef90_Z2DN23
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UniRef90 W1JC47
UniRef90-DOKDPG
UniRef90-UPI000469FBFE UniRef90 W8GM15 UniRef90-D2QZM4
UniRef90 V3LYC5

|  | $10{ }^{10} \mathrm{GNKCOLGH}$ |  |
| :---: | :---: | :---: |
| UniRef90-H2J1Y5 | LFMQTEGTTGCVISDKKYNGW | AVDYYSNSVSAATAGN |
| Ref90-A4TMD7 | IDSI GNKSQGSHIDQ | FVLSLNHAN |
| UniRef90-UP10003682D00 | AIKGDSTVEGHKDW | TLDSLQMGVATSTSGT |
| UniRef90-A0AO3 UniRef90 | DDALRGSSTVFDREGSU1 | EV L SLS CCFSVPTDSQ |
| UniRef90_UP1000 | PSATGNVTEQAHTDW\| | EVLDSQWSTSRSI RS |
| UniRef90-G9Z9Q6 | SNPAYLWLVDIVGSSLVSDRVGA | EI KStidnvNTPADGN |
| UniRef90-S61HU1 | GNKCQAGHED | MVLSFAHNMNNIGNDK |
| UniRef90-A9MQW |  | S |
|  |  |  |
| M5D | SPAGNVT | EVDSMSFGVGRSDSMQ |
| UniRef90-E8XZ | GNKCQDGHRD | ELKSLSHNVNTPVDQH |
| UniRef90-G9Y4S1 | T F MQ DGVKGTVSDKQYKDW | QGVFSSVNTD |
| UniRef90_UPI00047D1 <br> UniRef90-K8BAN9 | DIVYLRLDGUVDGESTLKGYERW | ALSSAQISSVSSSRIMF |
| UniRef90- U7D | NKYQAAHTD | MVLSYSHNMTTDGNDN |
| UniRef90-UPI0002ED89DB | VEGVKGK | SICAVSHSLMQ |
| UniRef90 B4EZ52 | GN | LVLAIRHSISRAQNSH |
| UniRef90 W1JOL6 | GNKYQSGHEDE | MVLS |
| UniRef90-UP1000469 | ANNDYMTDGGISGNKYQASHTDE | V |
| UniRef90-Q1N515 | ALPGYMKVTGMESEC | VvQGVQHSVKLPTD |
| UniRef90-Y Y1PV0 | PAHTWLTDENGEC | N |
| AOA017 | NAHLRLGPVLGSVLQKGRE | A |
| UniRef90-Q88 | s V | Q |
| P100046A | G N |  |
|  | TKGAKGNLCQVGHM | A |
|  | ALNAYLTLKGIIGSVTQKGRENS |  |
| UniRef90-UPI00046A9DD9 | A |  |
| UniRef90- ${ }^{\text {B4E }}$ | ANS YLK GDISGNKYQHGHED | FVYSFDYDLTR |
|  |  | QVLGLHNITREQH |
| UniRet90 C6DE86 |  | Q |
| UniRef90-¢0J | PEIKGNKQQTGRAAE | SHGVAMAVDPa |
|  | GNKYQRGHE |  |
|  |  |  |
| A1S |  | DLFSFKHEMKLPTNVQ |
| UniRef90-E8XZ | SNPAY劓LTDVDGSCNVHGRVGS | EVKSLSHHLTVPTDRN |
| UniRef90 C7BU44 |  |  |
| UniRef90-UPIO0036174 |  |  |
|  |  |  |
| -017 | G | ELGSFQWGVGRGVSMQ |
| UniRef90 U7R4V1 |  |  |
| UniRef90-×1x6W0 | KEGVDGESPD | QWAEENAGRWF |
| UniRef90-L0M6 | GN | , ${ }^{\text {a }}$ |
| UniRef90_UPI0004 | d | - |
| ef90-UPI0004792C84 | GD | $V \mathrm{DSLQMGVSDSTSGV}$ |
|  | Q | Q |
| UniRef90-G8NPT9 | DYYLNIPGCQGESQTSGATN |  |
|  |  | MV T SHGLSAON |
|  |  |  |
| UniRef90-D4B1A | GNKSQPAHRD | M |
|  | G | MVLAF DHS |
| UniRef90-W1JCN6 | SNNAFITFTDIK |  |
| UniRet90-UPIoo0371B1A7 |  |  |
| UniRet | ALQAHLQLKGПT GSVTQKGREKT |  |
| UniRef90-UP1000237 | NVFIKMD FPGEAREKQHTDW | ACKEISWEVARTGDMG |
| 10 D | KGNKYQNGHED |  |
| C6D | NLYLTLTGNQGNKYQDRHQD |  |
| UniRef90-A9R7Z0 |  | YVYGFDHNIARAQN |
| UniRef90-D3VL | QEENKDK | V |
| UniRef90_E6RQQ6 |  | A |
| UniRef90-07N |  |  |
| UniRef90 W1I | K G |  |
| UniRef | $\square$ GNKYQKSHGDE |  |
| UniRef90-UP10001A44C24 | GNKYQUGHEDQ | MVYSFEHA |
| UniRef90 C6CQ13 | GNKYQSTHENEL |  |
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#### Abstract

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GQH

F $\square G Y E N Q S N H T P D T Y$ R ASSNGGGGVTLGDFKVSKYIDRATPKLFEACCDGTPHLTCT ASDCNGKCRGSHIKKV
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GPSYRP $G G G G A T G K V V$
$M T K G P S Y R P V$ V V H N P L I V I $D G L P T G Q R$

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## WGK LT CTR

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$\qquad$ SGVRESSAASV SATGUVVIT SATGGGGAGKFKDFEVAK STDKAKL $\begin{array}{ll}A N N Q D S G M V A D G E D S U S \\ N S A R T S G R P V V S D T V & C\end{array}$ AGGATSGRTAV

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## CH VQHVS

 $C H$$V$
$V$

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|  |  |
| RRef90＿UP10004 | GA |
| UniRef90＿C6DEI2 | RTTQHAKQEKFFSI Q NDGLISD |
|  | FEFYRTNRFGINEVYYKLKLTNARIARISLQQPHSEGQPE |
| UniRet90 | TI AJVNRAGEK L KYLEIKLEEVIISSVSLNGNGSGGFPA |
| eet90＿A3 | HVLRRSGGKSGATFLKFDFKLVMIQDISWSGSDGDDICE |
| UniRef90＿W2DZU6 |  |
| UniRet90＿QTN3Y9 |  |
| UniRef90＿UPIO004790003 |  |
| UniRe990－C2L |  |
|  | M |
| UniR | － |
| Ref90＿U3BG99 | KSDGSGAKLYFQVKLTNARLVSYNVSGSD |
| UnRef90＿UPIO00471 C699 |  |


| UniRef90 H7E569 | ${ }^{130}$ T QEHCTAGT ${ }^{140} 150$ |
| :---: | :---: |
|  |  |
| UniRefal - K2JEE |  |
| UniRef90-C5BTY8 | ESITVSFCGDEVNYLDFDAT NKSASPQRVGYDLKAAK |
| UniRef90-A6FFT4 | ETITISYTEMMMTVTPTDDLLNNVQ APLVY |
| UniRef90-W1J220 | ETVQLDYKSDSCNHDAAG |
|  | EDVSFVYRAVEWTHEMAGT |
| UniRef90-L1M4P5 |  |
| UniRef90-K8A3X2 UniRef90-B9R041 | VNYYFQAAKVNFHYWEQSNQGTK GAETKAGWDपKQNKE |
| UniRet90-U2LHW4 | EK VLKYKSПS WNHRMAGTSG |
| UniRet90_G8MLH6 |  |
| UniRet90_C6CKX1 | DVMLRYNTI S WS HK\AGTSGYS■WG |
| UniRef90 U7R2Q7 | ETISLRYKSITWTHH1AGTS |
| UniRef90-W8G412 | EKISFMYES SWQHKIAGTSG NGGVTHEDSWD |
| UniRei90-E0SIO6 | EVIJMLRYNT, EWTHKTAGTSG |
| UniRef90_UPI00047B550A | EQFKLNFTEV $\square W T Y T V Q E A D M N T S G N \square A A G W S \square A R N R$ |
| UniRet90_B8ZYT7 |  |
| UniRet90-F3HNH5 | HMA LYRDIDWIHHPGD |
| UniRef90-UP1000371803F |  |
| UniRef90- UPIO0036D29A3 | SFSLNFTKI GAVFAQQNADSTKKG TGTWNWNLGTMKA |
| UniRef90-X71162 | ETVLLRYEKITW |
| UniRef90-Q13X67 | ESVRLSFSTMKHEY |
| UniRef90-UPIO00288754F | VSLNFAKIEVAYQPQNADGGKEGGTLKYGWS |
| UniRef90-C6UWW8 UniRef90-F5R9S4 | ESVSFSYESIIWEHCSAGTSGKDAGSKTVASYDLVTEK |
| UniRef90-F5R9S4 | VSASQAYSK\QMSYTPSST GKDAGSKIVASYDLVTEK |
|  | ET |
| UniRef90-D3UYE5 | EKVQLKYKSIAWSHDTAG |
| UniRef90-Q7N2U6 | ESLSLMYKSIT TEHIMS |
| UniRef90-UP10004162 | EKVQVKYKSI S W |
| UniRef90 VohFZ6 | ETVSFIYETINWEHCIIAGTS |
| UniRef90 UPIO0047088A5 | EVVT■AYGD■SWRHVSLNTAG |
| UniRef90-UPI00046A42D8 |  |
| UniRef90-S4YOY9 | EKVAFTYQKIEWS |
| UniRefto-M2AIW888 | ENFTLNFTE $\backslash$ KMAYTKYDGDSAKKATEK GWN■SEQKAA |
|  | K TMKYESTAWRHLVSGTEG |
| UniRef90-M6SVF4 | ETITLSFDSIRHSVTTQGSTG |
| UniRef90-UPIO0036F584D | EAVSLHFDEV |
| UniRef90 M6FUU0 UniRef90 UPI000369DC62 |  |
| UniRef90-K2SGP8 | ETVRLNYGRI KMLYTQQKRSDGHGGGQVAGGWDGDKNR |
| UniRef90- 0 M11 | VIT AYKDIT WKHHGAG |
| UniRef90 B7NJ30 | EVIVLNYKN1 T WK H H |
| UniRef90-K8WLK5 |  |
| niRef |  |
| UniRef90_B7LTR2 | N |
| UniRef90-UPIO00369D5B4 UniRef90 QOFRC | ESLSFNFTKVMMKNSVAKDDNT GEAQTTTYDMATRKS |
| UniRef90-U1JTW4 | ESFSLTYTKIEQIFFVEDEGGKLLEKAASVKYDA |
| UniRef90--F3LHH3 | EQFKLNFTE $\downarrow$ S WVHCLQGP GLQNKGHVATGWS $\square$ ARNR |
| UniRef90 - V7D ${ }^{\text {U }}$ O | FYLA RYGF GWHHLIANTSG |
| UniRef90-W1ABQ7 | ETISVKYKDI IF OHVMAGT |
| UniRef90-K8WGG4 | ERLTIRYRDITTSQIMAGTSGYSDSNESVV |
| UniRef90-A4WD88 | ESISLAYESI T WLill |
| UniRef90_UP1000237C7BA | EEVELRYES:EWKYCDGNUMFKDTWNERATAWN |
| UniRef90-C2LNE | EII TIVYESII TCNHTMAGTSG |
| UniRef90-G8PSQ5 | ESI QMEYGAVEDNYTMMDTTGAM GKT四EKWSRDKNTR |
| UniRef90 UPIOOO4 UniRef90 S9XXN | VSFTY S |
| UniRef90_S9XXN7 | EAVGGRAFRGIQWNYVSQEYGSGSKGAEDSYEWDAHANK |
| UniRef90-U5VB08 | ERLLTSYRSTSWITHHTAGTTGHAAWEET |
| UniRef90-A1BGT3 | EELSFTYQQ\|TWK WEQG |
| UniRef99-UP100036D0CA6 | NSFSMSYDPAF GQDKGDKVAEYDLVIGK |
| UniRef90-K2S703 | ETTSLNYGKIKTTYTQQKRSDGAGGGNVSGGWNRINNK |
| UniRef90-A0А022PKJ3 | ESISVVYQNITWSHHPAGTS |
| UniRef90-C6DHG9 | VLLKYNSI SWEHKVAG |
| UniRef90-A0A023D716 |  |
| UniRef90-WOH916 | EHISIRYSEIUWTHHSARTRGHAFWG |
| UniRef90-UP1000415D5AB | ESISI KYESIT WEHVMAGTS |
| UniRe990_C6DEI2 | EHI SLRYKDVTWTHHKAGTSG |
| UniRef90_UPI0002F4347D | ESIS Q |
| UniRef90 UPIooo365B20A UniRet90 A3W0S2 | ETVRLLNYGRMKMIYTQQKRKGTMKKH SDAMWSRVKNKA |
| UniRef90-W2DZU6 | ETISINFTTISYEFDSFTGDTVITGTPKK WDLEKNQK |
| UniRef90 O7N3Y9 | EVISVQYVNITCRHHMAGTSGOKTDSPDK SWNDETNAA |
| UniRef90 UPIOOO4790003 | ESLSLNFTKVSVQYMLDQNNQLKTDSP■K SWNLETNAA |
| UniRef90-R8WP43 | ENIATTYSGIEWFYIEENTI |
| UniRet90-D3V3B2 | GLKMKKFQFNYTPADYEG KKQAETT WT |
| 0 U3B | ESUSLSYVE【SQKHNYELEGGEKDGG\\|VT YNLPQGK |

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UniRef90-Q11AW6
UniRef90-A0A023LBL9 UniRef90-UPIOOO3941710
UniRef90 N1WCN9
UniRef90-UPIO00375E2C8 UniRef90-M6Y5H4 UniRef90-F8VKW7 UniRef90-F3F5W7 UniRef90-B2PY60 UniRef90-UPIO00471225B UniRef90- E8LZT4 UniRef90-W9BFV1 UniRef90-T0QP53 UniRef90_A1UW61 UniRef90- S6GPJ3 UniRef90_UPI000467B624 UniRef90_UP10001A44A8F UniRef90-A4C4G0 UniRef90-Q88Q43 UniRef90-U6AHF5 UniRet90_J2XLA1 UniRef90-R9NNP1 UniRef90-J2LPB5 UniRef90-K8W677 UniRef90-U7R4K5 UniRef90_C6CJT6 UniRef90-A8AJ94 UniRef90-G7TR71 UniRet90_UPIO003C7C6A0 UniRef90-UPIo00471D366 UniRef90-A8AN79 UniRef90-B5F219 UniRef90-J7KWN6 UniRef90-V6MNE2 UniRef90-H7E8G3 UniRee90-UPI00039E713B UniRef90-L8JAL2 UniRef90-UPIOOO42682E1 UniRef90 B1T5J4 UniRef90_A0A058T8J5 UniRef90-A0A022P760 UniRef90-A0A022PNJ8 UniRef90 S9NZM7 UniRef90-J4T5R7 UniRef90-F4PMK6 UniRef90-D2NE20 UniRet90-F4GSE8 UniRef90-WOVE75 UniRef90-LOMOS7 UniRef90-UPIO0046E6CF1 UniRef90-V1EZB8 UniRef90-M5QEP5 UniRef90-K8WDT4 UniRef90-H8DNPO UniRef90-J2PEN2
UniRef90-M6EFV7 UniRef90-FOSFE9 UniRef90-U6Z132 UniRef90-K8RD24 UniRef90-M7YZH0 UniRef90_U2SZH9 UniRet90-FFYHY4 UniRef90-UPI0003718E1B UniRef90 B6VKQ4 UniRef90-UPI0003C7CAC7 UniRef90-D4C3F5 UniRet90_D2TLJ9 UniRef90 K8G508 UniRef90-UPIO0039F4DB8 UniRef90 UPIIOOO3B56697 UniRef90-UPIOOO4017897 UniRef90_UPI0003785FE7 UniRef90-A1SQX3 UniRef90-A3Y8L8 UniRef90 S5N411 UniRef90-D4C020 UniRef90-UPIOOO3773427 UniRef90-Lom703 UniRef90_UPI0002F468FF UniRef90_UPIO0031725DA UniRef90-UPIooo3809C54 UniRef90-W1J2T5 UniRef90-H7E6W6 UniRef90_UPI0003143462 UniRef90-FOSFF1 UniRef90-R8UYA9 UniRef90-A3USE5 UniRef90-A9MEY7 UniRef90-A8AIU7 UniRef90_12KQW6 UniRef90_S6HMF9

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 KDSVGNDYVQGHEDEMLVQEFLHNVTVPTDPQ
KDSMGNKYQESHADEDTILSCDHHMAKAPHQH
KQGDFKGESTQKSHEGKDQGVSFSYGVLSPRDGT
 GNKSQTNHDNQMI YALEHETTRQQN
DSTGNRYQSEHADEVLYSTNYDISRQQN
KDSMGNKFQTEHMNEITVLCCEHNM
KDSDGNKAQESHKDEITVLACNFTLNKNGKPT A $\square P \nabla Y \square W \square K D \square K G S V D V Q D R E G S U E V V A Q E H N L Y \square P T D N N$

KQGTDAGSSLRKNRENLTNTYSFNHQVASWQAH AFDAFDQ DDDIAGEALDEQYTNWIVENGYFGVNQSTSGS ATPAYMS T GTKGNTYQEGHEDQVMVQGFNHEVIIPRDPQ ANHSYMT EGSAGCSTQVGHDDEDRVDAFAHN

NVF LK idGVSGESRDAAHSGWTDVDAYSWGSKRN DVS
DSVGNRYQSEHTDE LVYSTDYDMARNQN
YYK EGSGNNYOGHENEI FVYTLQHLMTREQH

 A QGUYLHIRDUTTGSGLTGHADEVKLTSAQMGMERQDESS GNRWQQGHEDEIFVFSLTQG GNKAQDAHDDQLVLALEHGVTRNQN AYP Y T KGS GNRYQLNHEDEQVUSNNGSFRTQN HYLKLEPS $\checkmark$ GNRYQLGHEDEIFVFSL
 $\square Y M R$ D

DSTGTKAQNGHEDKTFVYSLQHLMTRKQN VHLTLKKANGIKGESTQKGRDGSIECVYYEQEV DTARER
 $\square Y \square R \square T G S V G N R Y Q Q G H E D E \| F V F S F Q G G$ MQAVEHHREDPKNPQ
TK $\square \mathrm{KGTALLDAHTDWTITDSIEFGVALSTSGG}$ GNKAQVSHGDQILVYALSHSISRVQN
YTKDDS\|GRKAQISHTDEATVLACNYSLEKEADQ
 DSUGNRYQVGHEDE\|Q\|GGLNSGSFREQN GNKCQFAHQDEDMVLAYSHDM VTGN LILRDTDS STPKEGDKDQFEVLNYNHGVSMPL MRLQGDNFAGEEPDGDSKDLIRILSYSHNISTPISGD GNDYQAGHENEIIFIYELNTNVMREEN

$\square Y M R V S G V E G A A T T G Q \square E G W F A T N S Y S W G G A R N V A M D$ AF DGTTKLNGGSTVPGHFNETDVFANSSGQVLCAECS

## DS $\square G N R Y Q Q N H T D E T L V Y S T Y E \square S R R Q N$ GNHWQSGHEDE!LAFSLSNSTT



A $\square$ SAYMWLKD DYYKIESSVGNRYQAGHEDEI FVFSLQ AFDAF $\backslash Q \| A D \square P G E A D D E K Y S K W H E T G Y N F G S T S A T A S S$
$T Y$ LK TiGSVGNRWQENHPDEUFVFS LSNGLAN
IYMRVEGVTGGATASKNDGWFAISSYSWGAVRNVSMD GNRWQQNHVNEMFVFSLGAGVTN GNRYQLGHENEIFVFSLGTTQAVDGV ПY LKVKG KGSVVQDGHDKKIQ DAFKNDYDMPAKLQ
MFMRIDGIIGGATVSGKKGVFADTMSWGGVGVSGN

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UniRef90_K8W677
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UniRef90_A8AJ94
UniRef90_G7TR71
V N
VYMSD
NK QPEDTRKTHCP T GK LIT G T R $\square$ H T P F L F T K E E GLTP PAAAARGTDTLTKEMDRSSPQFLQALGKREMMEEF S GQPS GQRA HKAFKF TVA LVNA V V L LYNALA S GEMLDPTV

 S G GA T S GRT
S GQP T G QR V
RMS T D K L



## A L S N T GRGI

- पQ G

S GK $\square$ T AT
HK
AGGPRASK


## L <br> P <br> VSHHPMV,

V
LVS S TVDGVNHHGGI RFCCK
 SHDREASAARLYDMTITKKLQDRSSTELLFKEAT IGKGGVP

$G S G \square A S G R$ GSG』ASGRRQYSPLLIRKRIDDK A GS
VSNTGFGl SGLD S GK R
GTMDTSN

PSFSEE RLL
VRKNHHEVIIVKPLDKS S

## 

$T G K \square T G T R I$ TGKLT GTR】 H TP FLFT D G S la GA R GQHRPV M I T K K A I D S S MAEGPTYRP
 $\square G N G T S$ GMV G V S E V S VTKEVD GASED L L S Y Y Li N G K D GK T V $K P N F Q S F A F M \square S L S S A T D S F R K L L L T G T K L K S V$

MT GTR K H S A VLDVQKE FD S S S P Y L Y K A V A T G Q T L K S A
 MDGCSNALLDAVCTGARVEN A
TGGGSSARPELSDDTVTKKTDRASARLMEALLS

 ANN AD Q GMVGLGELLSVSRSSDGASPLLTTTFLFSGAEGKT TLLA S T G N SVVNLQ WF K F F K L I DD K S S P L L C N A I N Q N E R L Y DK


T G R G
ITSHA P F VFFEK A DD K S
TGNATGGMVG
MTEGPS Y R PVVY Q D Y T VV T K Y L D L L Y S A Y L L E K C A R G G V IP
 GGRPR

R S E K VVR S DVK $\quad$ R K A V D S R S P LL L M K


A N N A D K G MV V / $\mathrm{L} G E \mathrm{~V}$

MI WI RNSGEQLNI I MRFELRAALI SEIIHF QSHPNDMPT I QLYR DHPAGHREKYFSVRLEGAVVVSQELDVPHADCDAE ELLHWWRTSSVEGKQEYFTTRRLTDSTIVDMKLHMPHC

 QLSTCKAGGE QMEYYRITLENVIVVEVVFRDNGA
 F KYHRDDD K S G G L L H Y K T I R L M T K V R

 ELK F Y R $\square \mathrm{N}$ Y E G Q
F $\operatorname{L}$ IVYY N GEDRKVSEVEELEDVLI A SYSASSAECGGMMS $F D \quad \square Y R D N R G G R W E Y Y V I M K L R G A R L N R L D V S E S R Q N S L D Y$
 L S L Y R T A M A G GN E L Y F K I R R L L G Gll I S G I N N S L T H N D L Q P S




## 



UniRef90 UPI00039441FA
UniRef90- Q1IAW6
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10
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DSTDNTVFQGHEDE\|VQEFQNVVTVPTDSQ TYMRTDGTKGAATIGGKKGFFAIDTMNWGANRGVSGN $\square D V C L Y L K G I T E E T G D L N R L \square R C Y E Y N Q Y L Q M P V Q A S$
$\square Y \square T \square E G \square Q G E \square W Q Q G H E D Q \Pi F \operatorname{VFL} \quad A Q A \square C G Q$ ESSVGN RWQTTHEDEIFVFSLSNSMTN DSVGNRRQIGHENEVFVFSLTMDMEVEMEVT
 $\square F M R \prod D G T K G A A T V E G K D G F F A 1$ GNVSWGAVRGVGGN

YILITGVKGTCTAASHKNWNDVMSYFHAGENPEDEK
LES $\square$ GNKYQSSHEDEDFVYELTNQ TTRADN
A YMSVTGKKGEGTNAQHADQIRVLAFTMGVTSPRDAD SFDAYLLFTG $\square K G E S K \square K T N A G T L W S F S \square E N K D N T S H$

MRVDGVKGGATDEGQDGWFALNSYSWGAVRQVAME A Y LKMGGVVGDSQAPGHRSWFELSTFDQGPYRWTKKG


## WIDIMS F S H NVA <br> A QHFNWIDIMSFSHNVASAAGSK

TGNRWQSGHEDEIFTFSL LIN
11 L KTDTPKE GDR $\square$ QFEVLSYNHGVS $\square P \square M A K$
IYLNIT GEQGNRWQ $\square$ GHEDEDFAFSLSNSITN
SFNTYLKLTGSEGNRHQNDHDDEI QLLSLNHAITREQH
D WI DVMSFSHNVA
 VF $\square \mathrm{KL} \mathrm{P}$ GUEGSTKVKGLEGFDPFNSVSFIISSEAKSD GNRWQVGHEDEIFAFALTNAIT

GNRHQLGHENA $\square$ FIFS STQAESGSKGD
$\square D \square$ GNRAPHDAN GNRCQLGHEDQUYVYGFDHNVARAQN
GNRYQQSHPDEIIFVFSLQQEQRHGAQ

AHP $\square Y$ YT $\square T G \square Q G N R Y Q A G H E D E \Pi L V L N L N T G A S R A Q N$ ILLDYPGIKGESLIDRYKNLADCVSFDLSNYDDPDEE A QKMFLKADNLTGGSNDRDFDDYVEVTS LQHGEAETVFGP H $\square$ DGEPTES $\quad$ VRGDGNS $\square$ EAVFYEDSVASAlle A
A A DAY $\square Q \square K G S K G D V Q A K G K E G W N S V \square G F N Y T V P$ AFP $\backslash Y M T V T G F K G G V E E E G H K E K D R V F E V V S E S E V K V H Q Q$

MF DK N $\square$ P G D S QVEGYT D WlVIESVQ AVVNEGDC DMFLKFPDAEGECEVSGYESTI AVVQYDHVNAVSTQNH ANS $\square Y L T \square Q G A K G N K S Q S T H Q D Q U E I V A L Q H M D S R A Q N S H$


【YMNIKGKKGNRYQVGHEDDVFVLSYQHLLATRSQH
HSQWYDVLAYSHGSSSG
ESSVGNRWQDAHEDEDFVFSLSNSMT
VKGGSTVKGYEGWVTLLDFKQRDTRAFDAQ
$\square Y M N Y N N V K G N V T A E G Y K D W V R L D S F E F S N S R T V T M H$
ES SVGGRWQDAHEDEI FVFSLSNSMT
FERYVEVYSFSYGIDRS $\square K N K$
S F DDG KARLNI GGYYWSVQVPESSS


D WIDTMSYSHN
$\square \mathrm{Y} \square \mathrm{T} \square \mathrm{T}$ GEQGNRWQ $\square$ GHEDE!FAFS $\square \mathrm{S}$ S S $\square \mathrm{T}$ N

[^2]


 A N P K L S T I T L T K P P V D S Y T P V L N L A A A A T N L I I P R A GRLLTGTRVGTPITVQKDFDKTTPLLYKALSENQTLKSA H G G
 $\square I T S T G N G S Q Q Q H G L S F K K L I D D K S T P D L L S N A D N N N E Q Q L M E$

 - $\quad \mathrm{FGE}$ E HL
V S
T GQAT GKR $H A P M$
$\square H$
$\square$
$T$ QA R R P I
$\square$ G S G N S G MVA M S E VS $\quad$ T K E $\quad \mathrm{L}$ C G A
REQ N Y L P R E S G S E L
A Q S S I Q G GVKHLGLLRFCKLLD KS S QQMYEAAVK GTYF GTV
T G S G S H L H G L R F C K L I D K S T P L L


 GHS

YRPVY Q Y TVTKY D



| G | $V$ | $P$ | $E$ |
| :--- | :--- | :--- | :--- |
| $E$ | $Q$ | $L$ | $F$ |
|  | $M$ |  |  |
|  | $I$ | $L$ | $T$ |




```
\(S L S R R G\)
```

$V A H Q P I I I T K P I D K S S P L L G M S I N N N E K$ I

 TSYFS GRKAQKQDLKLERHFDLASPKLMQAAFDQKKDV TA

TAN YA GR R K H H P I K
GASGRRVQ TPVTFTLRWSKATPMLINAADTGEVLSEF $T G T A V S Q R Q H K G V T V V K E L D P A T P L L I Q A F N K G E A C E V L$


 GASTRRFQPPVTHTLRWSKATPMLVNAAVNGEVLSQF





[^3]UniRef90_U2T399 UniRef90 UPIo0035C817A UniRef90-FOLYK8 UniRef90_C0GK75 UniRef90-F3Q763 UniRef90-G9Z5D6 UniRef90-V1GZ84 UniRef90-D2TKT1 UniRef90-D3NZ74 UniRef90-E1VJ06 UniRef90_U3A2N2 UniRef90 Q2FP32 UniRef90-U3UAN7 UniRef90-JJKY80 UniRef90-B2JXI7 UniRef90-W9GVQ9 UniRef90_UPIO0036195CB UniRef90-A6F7L6 UniRef90-D6YVY6 UniRef90-X7HJN3 UniRef90-D4BI69 UniRef90-C4UE88 UniRef90-D3AVS4 UniRef90-D3BU98 UniRef90-EOM3H6 UniRef90_P46855 UniRef90 ${ }^{-}$N1TVE2 UniRef90-A0A023LGQ2 UniRef90_A4TK37 UniRef90_Q54JL5 UniRef90- В6B3К2 UniRef90-F2Q842 UniRef90_VOVIE8 UniRef90-FOSFFO UniRef90-H7ECBO UniRef90 K8D389 UniRef90 Holll UniRef90-UPIO0046E2A78 UniRef90-D3AW50 UniRef90 G9ZA21 UniRef90- ${ }^{\text {S4Y2LO }}$
UniRef90_G9Z3N5 UniRef90-HOFBK3 UniRef90 UPI0004693930 UniRef90 ${ }^{-}$G8APG1 UniRef90_M2NE38 UniRef90-A6FZQ2 UniRef90-R4WLD4 UniRef90-F4QTN6 UniRef90 S2K105 UniRef90-UPIO0047DE4CD UniRef90-B6EJJ1 UniRef90-UPIO00378C9F7 UniRef90 UPIO003B418DE UniRef90-W8GJB5 UniRef90 G8APE3 UniRef90 V4NNT1 UniRef90-UPI000466FD68 UniRef90-F4Q410 UniRef90 UPIO0030B3368 UniRef90 UPIO0026C7B66 UniRef90-UPIO003631428 UniRef90-V1HED2 UniRef90 D3B643 UniRef90-J3CNK2 UniRef90-Q7N6E5 UniRef90-H1E4Q2 UniRef90 J2Q1N6 UniRef90-Q01YL5 UniRef90-Q54175 UniRef90_-s1R3X6


F VDMRPT VYKVMD KKNNQEFGWDLTK

ESFTLSAKETTHKHDSMDDTTGEYTS $\square$ QKCNWD ELVSUSYRTVKVKSAPQKTTG

HGADRTGWSVAQNK ATNTRVGYDL

[^4]| UniRef90_U2T399 |
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| UniRef90_E7IAJ8 |
| UniRef90_UPIO0035C817A |
| UniRef90_F0LYK8 |
| UniRef90_C0GK75 |
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| UniRef90_UPI0003631428 |
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| UniRef90_H1E4Q2 |
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| UniRef90_Q01YL5 |
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| UniRef90_S1R3X6 |

lupas_21
lupas_14
lupas_28
jnet
conf
sol25
sol5
sol0
jhmm
jpssm


[^0]:    

[^1]:    $\qquad$

[^2]:    lupas_21
    lupas_14
    lupas_28
    jnet
    conf
    sol25
    sol5
    sol0
    jhmm
    jpssm

[^3]:    lupas_21
    lupas_14
    lupas_28
    jnet
    conf
    sol25
    sol5
    jhmm
    jpssm

[^4]:    lupas 21
    lupas_14
    lupas_28
    jne
    conf
    sol25
    sol5
    sol|
    jhmm
    jpssm

