## QUERY <br> UniRef90_UPI0003318A55 UniRef90-UPI00044210A0

 UniRef90-M3YYC6 UniRef90-F7BU27 UniRef90-M3VU82 UniRef90-F6USM4 UniRef90-G3GUR1 UniRef90-A4IH11 UniRef90_G5CAS6 UniRef90-G3WW01 UniRef90_UPI000388EFOB UniRef90-UPI00035A2922 UniRef90_UPI000350CFAB UniRef90-UPIO00350BC49UniRef90-UPIO002038FE6 UniRef90-UPI0002739E37 UniRef90-G5C6W3 UniRef90_UPI00034FEDFD UniRef90-UPI0003AF3390 UniRef90_UPI000398F916 UniRef90-UPI000457201B UniRef90-V8P4R8
UniRef90-F1LZ98 UniRef90-UPI0003871E16 UniRef90_M4AJ56 UniRef90-UPIO0029D83BE UniRef90-UPI0003C8664B UniRef90-G3VRA4 UniRef90_UPI00045721E5 UniRef90-W5MT02 UniRef90-13JDH1 UniRef90_UPI0002C44CA8 UniRef90_UPI0003AEAA78 UniRef90 Q4SIZ1 UniRef90_UPIOOO2C3562A UniRef90_Q96PZ7 UniRef90-H2TR19 UniRef90_UPI0003EAC1F2 UniRef90-H2TR20 UniRef90 Q4SOY8 UniRef90-H3D8G0 UniRef90-F7DKD0 UniRef90-G1NIK5 UniRef90_UPIO003F0C769 UniRef90-UPI000292B0FF UniRef90 G1N8M3 UniRef90-UPIO0046BE940 UniRef90-H2TR22 UniRef90_H2LLG1 UniRef90_F6THN8 UniRef90-H2RUT4 UniRef90_UPI00045483C3 UniRef90_Q4RFC1 UniRef90_UPI0003C17C9E UniRef90-F7E417 UniRef90-UPI0003C18DC0 UniRef90_UPI0003C85CAF UniRef90_UPI0003C85CAF
UniRef90_UPI00042BBBAF UniRef90_UPIO002743969 UniRef90-T1IW92 UniRef90-W5NJM6 UniRef90-H2T327 UniRef90_G3HUC4 UniRef90-G1MYD1
UniRef90-H2T329 UniRef90-F7E7L9 UniRef90_V8P159 UniRef90-M4AMG8 UniRef90-l1GHU6 UniRef90-UPI00034FABBD UniRef90_UPI0002A484FD UniRef90_H9K3S5 UniRef90_G3NWU1 UniRef90-G3VS62 UniRef90_U3IA54 UniRef90_UPIOOO4574613 UniRet90_G5E7M8
UniRef90-U3JD93 UniRef90-I1FWA4 UniRef90-C3Y9U9 UniRef90-C3Y9U9
UniRef90 G3PU98 UniRef90-H3C3L8 UniRef90_UPIO0027427BB
UniRef90_V9GX34

V LDCGDPEST10 ENGKVEDPESTLFGSVIRYTCEEPYYYMEGG
 V DCGPPDDLPMGYVTGPEVTTYRAVI QYHCNEVFYTMTPN VDCGTPTELEHGLVTFSNLTTYKSEI RFSCQQPYYKLLHN VNCGAPKKLPNGNFKYDTGNTYKAED LYTCQEPYYRMVNN $D C G Q P Q S L T N G D F N Y T T V N T Y Q A R I Q Y Y C R E P Y Y K M Q T R$
$C P S P V A P P N G R T T P V Q E Y V L E D R V A V S C D P G Y E L L R G S$ DCGQPRSLSNGYLHYITVNTYEARI QYYCHDPYYKMKTR DCGQPRSIDNGKLEPSQEYTFKDQVVISCNQGYRVLKDN VNCGEPDPI ENGQVEYI HEPLYKAAVRYHCNAPYYTLEGE VNCGVPQDLPNGNFSYUTENTYQSEI DYTCREPYYQMEKS

| S C |
| :--- |
| S |

 CSTPESPP CKQPETPAHAF SQTGGQLNSVV DS ISCGDPG\|PANGGLRYGDDYVVGQNVSYMCQPGYTMMNGS VQCGNPGTPAHGRIVRLDSSTLGGVAHYVCQEGFESPGGK VNCGNPTDLTNGYVNKPANNSYLSVI TYQCNEPYYHIVGG VD SCGDPGDPVYGKRRGKTSFDHGDTLTMECCQSAFYELVGE GDPGMPG

SCPNPQPPANGKMEGTNF NCQDPFPFANGDIINSDYYSFKDQI LVTCDTGYNVLKEH
 $V$ VCGDLPSPPFGSKLTG GYVSEHGNYOSV TYRCKEPYRISGS T G P GY T
G $Y$ Y
G Y K A A F R $Y$ N DVV N F T C N K G $\quad$ Y $\quad$ I $L$ S













 VNCTDPGHREHSQPSEAPQFSFGSTVVYQCSHGYHLLGT



 LN E F G A QV V LS C S P G Y Y L E G R L N EFGA QVVLS CSPGYY LEG R CRQPETPAHVDVKA DDLPTDGYTVVVTCQPGFFLAGGGS V V Q

$\qquad$
 CGRPGTPPHA VMSGEKFTFGSTVRYSC SGDRQLMGE VD C D D P GMPSH GS R R L
C GHP GSP P N GMLL
G
$\qquad$

QUERY
UniRef90_UPI0003318A55 UniRef90-UPI00044210A0 UniRef90-M3YYC6
UniRef90 UPI00034FAE3E UniRef90-F7BU27
UniRef90-M3VU82
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UniRef90 G3GUR1
UniRef90- A4IH11
UniRef90_G5CAS6
UniRef90 U3ID07
UniRef90_G3WW01
UniRef90_UPIO00388EF0B
UniRef90-UPI00035A2922 UniRef90-UPI000350CFAB UniRef90_UPI000350BC49 UniRef90-UPI0002038FE6 UniRef90-UPI0002739E37 UniRef90-G5C6W3 UniRef90_UPI00034FEDFD UniRef90_UPI0003AF3390 UniRef90 UPI000398F916 UniRef90-UPI000457201B UniRef90_V8P4R8
UniRef90 F1LZ98
UniRef90 UPI0003871E16
UniRef90-M4AJ56
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UniRef90_UPI0002C44CA8 UniRef90 UPI0003AEAA78 UniRef90 Q4SIZ1 UniRef90_UPIO002C3562A UniRef90-Q96PZ7 UniRef90 H2TR19 UniRef90 UPI0003EAC1F2 UniRef90-H2TR20 UniRef90 G3PU97 UniRef90 Q4SOY8 UniRef90-H3D8G0 UniRef90_F7DKD0 UniRef90_W5M6H1 UniRef90- G1NIK5 UniRef90_UPI0003F0C769 UniRef90_UPI000292B0FF UniRef90 G1N8M3 UniRef90-UPIO0046BE940 UniRef90-H2TR22 UniRef90_H2LLG UniRet90-F6THN8 UniRef90-UPI00045483C3 UniRef90 Q4RFC1 UniRef90-UPI0003C17C9E UniRef90-F7E417 UniRef90_UPI0003C18DC0 UniRef90 UPI0003C85CAF UniRef90_UPI0003C85CAF UniRef90_UPI00042BBBAF UniRef90-T1IW92 UniRef90-W5NJM6 UniRef90_H2T327
UniRef90 G3HUC4 UniRef90-G1MYD1 UniRef90-H2T329 UniRef90 F7E7L UniRef90 V8P159 UniRef90-M4AMG8 UniRef90_K7GG52 UniRef90 ITGHU6 UniRef90_UPI00034FABBD UniRef90-UPI0002A484FD UniRef90_H9K3S5 UniRef90 G3NWU1 UniRef90_G3VS62 UniRef90_U3IA54 UniRef90 UPI0004574613 UniRef90-G5E7M8 UniRef90_U3JD93 UniRef90 C3Y9U9 UniRef90_C3Y9U9 UniRef90_G3PU98 UniRef90 H3C3L8 UniRef90_UPI00027427BB UniRef90_V9GX34

GEYHCAGNGSWVNEVLGPEDPKCDPV
VHSTCQSNGQWSNSHLQCEPVDC
EMYQCSASGKWVDEEGKTELPVVVPV
DKYVCAADGFWTSSKGEKSLPVCEPV

GGYTCTAEGDWKNEKEGQKI PRCLP

GLFTCTAQGDWKNEQEGEKIPRCDPV $V V Y E C S A S G Q W D N E E M G T E L P K C V A V$

PQLTC CIANASWDFPVPICRA
SALTCLHSRNWNHPLPRCEA
NFSKCTMDQEWENITYVCKE
STAVCSPHGYWDVPVPACQA $\square$ S C
EHRVCRSDNTWTGKVPVCEA
$R$ VRTCTTNGTWSGVMPTCRAKFC
$\square D S V C T E K G T W R E S T F T C$
PTRQCLANGTWSGTAPNCTMITC
DRFTCSSEGTWVDGDGQVKIPAC【PV
RTITCQQNNQWSGNKPNC
HSYRCAPDGFWKDHKGNKAPPVCEPV
EERTCLSNGSWTGRQPECKAVQC
EDYQCSASGEWVNEDMGTK LDKCVPV
A RAQCRDNGQWSNPDPVCKVVNC

| $T V S S C T A M G T W D S P K L N C Q E U D$ |
| :--- | :--- |

NQLQCLNNLYWGGREGHCKAVQC
A ILTCVGNGTWKGEVPQCLPKFC
Y QMECLKDGSWSSSVPSCKIVDCKPV
TVLT CGI N RKWNHPFPRCEAP
ESLVCSANGEWSSEPPKCKVVKC $\square$
TKAQCQANRQWSHPPPVCKVVNC
SVRTCTQNGTWSGNMPLCTAVTCPP
$S V L I C Q P N G Q W D K P D P E C D M I$
$P E R T C L L N G S W S G L Q P V C E A V$
$S$ HVRECLSSGLWSGTETRCLAGHC
 $E T I S C Q E R G K W S G P I P K C E A P$
$H V R E C G A N G L W S G A E T R C L A G H C$ MTAVC $\square E D G S W S N A A A \quad P P R C \square P \square$
ALLTCQHDGRWDRP $\quad \mathrm{P}$ R R C $\square \mathrm{A} \square \mathrm{SC}$
TTRICFANLTWSGT QPEC
EPLVCEKNHWWSHPLPTCDA
SVRQCTANGTWS GSLPNCTIINC
$\begin{array}{ll}A \cup L S C E G R G V W K G \\ M T R H C T A N G T W T G T A P D C T & E \\ I & P Q C L \\ I & S\end{array}$
SSYCTADKAWEPATLSCKGVDC
PRRTCQADGAWSGVQPACDDP
LTSDCQPDGTWSNKDPRCSVVVC
A H Q Q L A N GMWSNERPRCRII SC
$H V L S C Q G D G T W D R S L P Q C L L V S C$
$V T R H C Q E D G T W S G A P P Y C T$
$V T R H C Q E D G T W S G A P P Y C T$
$D S S S C L Q S G L W S N S P P P C V A V S C P D V$
NPRTCTTN STWSGTDPTCQVVTCPP
$\square$ S SVCTAAGQWERVSLVCKAVDCE
EPLMCERNHQWNHALPSCDA
AVLTCEGNGVWRG
RLAQCHANGTWSEERPRCRVISC
RLAQCHANGTWSEERPRCRVISC
EHRTCKPDMKWTGKPPICK
AT $\square R C T K D G T W N P S K P V C K A V L C$
S DRQCGEDGEFTGEQPECDE IDC

A MQTCEESG WS SSSPTCVPIDC
ASDFCTTNGVWSGPPPDCGEAGC
S SLSCQLN GHWSGPDPHCS
DTLVCQEDSHWSGALPHCT
SSRMCQLN NGMWS GLPMPVCEAVSC
GNATCHQNGQWDSPAPLCHAVSC
RVRTCQANGSWSGRQPTC $V R I K C P K V$
RVRTCQANGSWSGRQPTC R I K
ARRYCQYDGTWSGTQPSCDDPS
ARHTCGKDGEWSGEVPDCEYVDCGKV
STLICTKDRTWNGTKPHCKAlVCGP
SALTCKANGLWDRSDPKC
TTRTCLPNLTWS GVQPDCVPHHC
EHRTCRPD GSWS GKQPVC
K S I R CTPHGVWSHPLPRCEA
EALECEPNFQWSRPLPSCEA
DTISCQLNGTWSSPIPFCTPVNC SERTCGADGVWSDTQPVCAPVSCGP SERTCGADGVWSDTQPVCAPVSCGP EHRTCKSDGRWS GKPPLCKVPV
AVLT CEGNGTWTG
ARSQCDASGQWSDMLDPTCRIDNC


|  |  |
| :---: | :---: |
| UniRef90_F1NHV0 |  |
| UniRef90-H2M2H5 | NSNGKWD |
| UniRet90_UPIO0046BF82A | TETSCSPAGKWILGELPFC |
| UniRet90-S7ND | VVLSCTKDRTWNGTKPПCKA |
| UniRef90_G3H919 | PRRFCQSDGTW |
| UniRef90 H2TR24 | SVRICLQDNQWS Q Q ip VcT P S C |
| UniRef90-D6WIC1 | PIHTCTKEGDWSGTTPTCEFVDCGKV |
| UniRef90-H2UNE9 | P ${ }^{\text {d }}$ |
| niRe990-S9Y | GLWKG EVPQCLIPV |
|  |  |
| UniRef90-W5M | VGWSDDRPFCRAPM |
| UniRet90 |  |
| UniRef90-UP10003594456 | CLET GDWD |
| iRef90-H2UNFO |  |
| UniRet90_UPP0003C90C14 |  |
| UniRef90_UPI0003AF9A | C ${ }^{\text {a }}$ |
| UniRet | CQSNGKWHRP |
| UniRef90-L9JF, | CTTQGDWSPA |
| UniRet90 UPIOOO359D9C9 | SERTCQANGSWS |
| Ree90_BOXH | A ALTCTKDRTWNGT |
| UniRef90 HoYU31 | A ALTCTKDRTWNGT |
| UniRef90-G1KDC0 | T TAVCQEDGLWSNK GKPPVCKPV |
| UniRef90 R7UMQ2 | NGT WLGR |
| UniRef90-R7U | HCSENGTWLGR |
| Reef90-67Z40 | K A A S |
| UniRef90-Q724 | T CMKVAA WS DHR |
| UniRef90 UPIOOO21 | RRCLANGQWSKDAPT |
| UniRef90-UP | NFSQCTVSQKWENDSF |
| UniRef90 UPIOOC |  |
| UniRef90-UP1000206100C | NQAWSGTA |
| Ref90-11FJP4 |  |
| 1FP |  |
| UniRef90-UPIO003F0 |  |
| UniRe990-F6VB01 |  |
| UniRet90_TIJ8K0 |  |
| UniRet90-F1MN | NR |
|  |  |
| UniRef90_UP100020AB597 | DGRWF |
| UniRef90-UP100023ACD26 | QQWN |
| UniRef90_UPP00023ACD26 | CLPSQQWND |
| UniRet90_UPIOOC | AECTGDGSWSHP1 |
| UniRet90_UPI0003D070 | G |
|  | NRK |
| UniRef90 F1NE | ATIECLASGEWSVSHQQCLA VSC |
| UniRet90-M7BWG5 | N |
| H2P | 相 |
| UniRet90-F6WJ22 | NGTWT |
| UniRet90_-6WJ22 | NGT WT |
| F6WIO9 | DGTWD |
| UniRef90-UPIO00462C443 UniRet90-F7D9P8 | NQUVCTSDGTWSPEVPTCVEVTCEP |
| UniRef90-O29528 |  |
| UniRef90-UPIO0028CFD2F | TGLWSNHNV PAQCVPV |
| UniRet90-H0 |  |
| ef90-H2LD |  |
| UniRet90_UP10003345F10 |  |
| UniRef90-U3 | QWS HTAPYCK |
| UniRef90-U3JBSO | DTRLCCLPTRQWSHTAPYCKAVTC |
| 恠9-T1.5596 | S |
| er90-T159 |  |
| UniRef90-E9GSD4 |  |
| UniRef90 B3NORO | D |
| UniRet | VALTCRANGQWGSNLLGTT QCVAV |
| UniRet | NR |
| UniRefg UniRef9 | L $N$ W |
| UniRef90-UPIOOO27 | ALNKWEPELPSCSR VCQP |
| UniRef90-UPI0003C4A793 | KSIHCTSKGLWSGPAPQCIVPKCTP |
| UniRef90-UP100032AF405 | RERVCRENRQWSGGVATCTRSQCE |
| UniRef90_UPI0002C67DAE | N G S |
| UniRef90_UP | WD |
| UniReef90-UP | P |
| UniRef90- F712C8 ${ }^{\text {U }}$ | S |
| UniRet90-G1S6R2 | AQGKWV |
| UniRet90-G1S6R2 | AQGKWV |
| UniRef90-G3i | AGQWEG |
| UniRef90_HoVJY8 | S |
| UniRef90 H3CVO1 | V |
| UniRet90_Q4SIT9 | VKS CQANGQWSNALPKCRIVNC |
| UniRef90-W5JFD4 | DTLTCLESGQWSGEAPDCEYVDCGP |
| UniRet90-S9YEU0 | SVLRCTK ${ }^{\text {S }}$ SVWNGTKPVCKAILCQPV |
| UniRef90 F6Y3Y0 <br>  |  |
| UniRef90-UPIO00273A8CF UniRef90-UPI0002233FA8 | AVLTCHASATWDFPLPTCRA |
| L9L7F9 | SGS WD |
| UniRef90-F7E1 | GLWSEPYPNCELLSCG |
| UniRef90_UPIO00328A050 | PVFVCQANRHWHNESPSCLLLSC |
|  | ITCOSDGTWDAEVP |

 UniRef90-UPI000333482C UniRef90_UPI00045D7DE2 UniRef90_C3ZHX9 UniRef90-H9GJN9 UniRef90-UPIO003AE639D UniRef90_UPI0003AE639D UniRef90-J9NWK3 UniRef90-UPIO003511B4E UniRef90-UPI0003511B4E UniRef90-L7MMX3 UniRef90-R7TT82 UniRef90_G3TFY5

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UniRef90-F6WPJ9 UniRef90-F7G9T3 UniRef90-UPI0003837F9B UniRef90_UPI0004573A89 UniRef90-A0A034V0Z7 UniRef90-UPIO0046C133C UniRef90-V8NZT1 UniRef90-Q16XC0 UniRef90_UPI0002C631EA UniRef90-T1KEH4 UniRef90-UPI000386F028 UniRef90-UPI000386F028 UniRef90_UPI00046B91A8 UniRef90-B4HOZO
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UniRef90_UPIO002740D99 UniRef90_UPI0003317C4C UniRef90_UPI0003317C4C UniRef90-A8WZ07 UniRef90-M9ZK17 UniRef90-I1GC24
UniRef90-F71018
UniRef90-M9ZQH5
UniRef90-W5N783
UniRef90-UPIO004401119 UniRef90_UPI0003C29F62 UniRef90-Q9DGC2 UniRef90-M3YL42 UniRef90-H9GXD3 UniRef90_UPI00038C386D UniRef90-।3K522 UniRef90-H3BHS8 UniRef90_UPIO0042C0D9E UniRef90-I3K523 UniRef90-H3D8L5 UniRef90-T1KJZ2 UniRef90_G3Q623 UniRet90_H3AD23 UniRef90-UPIOO03959838 UniRef90-W4XT99 UniRef90-UPIO003EAD0E7 UniRef90-F1RVL4 UniRef90_M9ZJL6 UniRef90_K1R9L7
UniRef90_W4Z4C0 UniRef90-G3VRM0 UniRef90-G1SR31 UniRef90_UPIO002B46264 UniRef90-V4AGQ6 UniRef90-V4AGQ6 UniRef90-UPIO003D0CAD2 UniRef90-S4RYI6 UniRef90_UPI0003B5D248 UniRef90_S4R8U0 UniRef90-T1IAR1 UniRef90_UPI0002652186 UniRef90_UPI0002BCF524 UniRef90_UPIO002C54EB1
UniRef90_L9L253

VECP V VD

$V$ S CGLPEFPDHGIVVGNKYN YKDTILYYKCSSG


${ }_{s} \mathrm{~S}$

$E L M G N$ Y $\mathrm{ELL} L \mathrm{MGN}$ $T K C P L P E S I A N G M L H Y N D H T$ YLS EVVYTCNTGYNHGSGS VKCATPPQVANGMMDGLD YDFGKEVVFHCQEG YVLHGA VTCSSPAQLMNGSRRGENYYYGSVVYYECDPGYQLIGP TGATSYKIGALA KYRCER G $\square E C G Y P A S D K H G G Y T G I N N T V Y L S Q V L Y S C E E G$ VSCGSPPA KDAMISGNNFTGGSTVTYMCKEGRYEMTGR VSCGSPPAIKDAMISGNNFT FGSTVTYMCKEGRYTLSG
 VTCGEPTPILHATVVAHELN YGNKAEYKCFTGGYEGKGGN VQCEA $\square H E P E Y G T M I C S K N R N F G S D C T D N C D S G Y Y D I G P$ GEVTNGNHNSQGNFTMGMSVTYTCDPGYY PSVPADYEG DETTFNARVTYTCNPGF

CIVLPLY ANGHTGKNVFVPGLSVTYSC EPGYLLVGO

VT
VTGTPQVPAGSFVIGYDYNVH SKIQYNCDPGHDMHGN CGSLSEPKNGGVOF TSLVKGSTATYSCDGFKLIGK CKDPGTPAYGDPLQAPMOEYGTTLEYKCPS LVYLLEGS  CGLPP ADDFGDCTVKGETSMGSAVOYSCKPGHKLRGD CGPPPPGEHGSHTGQGFOGDSVTYKCNEGFYELGOD CPSPELSNGRITNSCTYRYGDEVSYTCNKKYTS

$\square D$CGAPKPLMNGKHEGLEVFTPGVSVNYSCEPGFSLAGE MMCGQPPAlHYGRVEGSDQAWGSSVTYCFEGYQLOSP VTCLDPVTEPENGRIDSSEEYYFGQVVQFECNSGF KHEGH VFCDPPPSVPFGGPSRSSRLLFSSVVTYTCDGGF TLRKE $V K C D S P$ S VKNGKKTYGPSYVYRNSIT FECD P G YKKLNGS $V$ QCPHPTGIENGFVNFARTYHYMESVDYGCQ PRYVLDGP CPHPPK HNGHYDGEHPFPYGMTVSYTCD PGYLLVGR
 NCGSPDKAENSTI VSCGPPLHVANGVVRGA VFQFGDVAVY LPMSEFAEFS
CP DP 1
V
V I A HGQLSSAE SC C P

SCVEPDDI LN NE RNVSGM LY NS IVVYKCDDGG YNMTGS VTCGPPPNLLLGNVTLPSD RYESNATYSCSLGFTTDDGP

 $1 \begin{aligned} & 1 \\ & 1 \\ & \mathrm{~V} \\ & \mathrm{~V} \\ & \mathrm{~V} \\ & \mathrm{~V} \\ & \mathrm{~V} \\ & \mathrm{D} \\ & \mathrm{V} \\ & \mathrm{V} \\ & \mathrm{Q} \\ & \mathrm{V} \\ & \mathrm{V} \\ & \mathrm{K} \\ & \mathrm{T}\end{aligned}$ $1 \begin{aligned} & 1 \\ & 1 \\ & \mathrm{~V} \\ & \mathrm{~V} \\ & \mathrm{~V} \\ & \mathrm{~V} \\ & \mathrm{~V} \\ & \mathrm{D} \\ & \mathrm{V} \\ & \mathrm{V} \\ & \mathrm{Q} \\ & \mathrm{V} \\ & \mathrm{V} \\ & \mathrm{K} \\ & \mathrm{T}\end{aligned}$ | V |
| :--- |
| I |
| V | V

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



UniRef90 M9ZNV0 UniRef90_UPI0002B8E190 UniRef90_UPI0002B8E190 UniRef90_F1L4U5
UniRef90_L5KWP2 UniRef90_UPI0003841721 UniRef90_UPI0003956524 UniRef90_UPI0003956524 UniRef90_R7TUK2 UniRef90_UPIO002035191 UniRef90_A8PSF0 UniRef90_W6A358 UniRef90_UPIO002C44CC0 UniRef90_Q9VYR4 UniRef90_H2Z1V2 UniRef90_W5KJH5
UniRef90_G1LNS6 UniRef90_UPI0003871DFA UniRef90 E9QCA1 UniRef90_A7SIG6 UniRef90_UPI0003B41896 UniRef90_UPI0003B41896 UniRef90 E5SHA5 UniRef90_UPI00044350F8 UniRef90_M9ZH29 UniRef90-M3ZHP6 UniRef90_UPI0003EBFF0E UniRef90_UPI0003EBFF0E UniRef90_F7EN39 UniRef90 Q7PN18 UniRef90_UPI0002A48A1A UniRef90_UPI00046B3E47 UniRef90 A7SIF9 UniRef90-UPI00046BB156 UniRef90_A7SIF8 UniRef90_UPI0004543775
UniRef90_F6YDR8 UniRef90-L8HN66
UniRef90-R7U277 UniRef90-R7U277
UniRef90 UPI00034F7028 UniRef90 ${ }^{-}$P08603 UniRef90_A0A026WDN6 UniRef90_B4JMK8
UniRef90-A0A026WBT1
UniRef90_UPI000333BBA1
UniRef90 UPI00046271A0
UniRef90- W5KC46
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UniRef90_H2S134
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UniRef90_C3XRS5
UniRef90_C3XRS5
UniRef90 Q4S0R7
UniRef90 UPI000359B417
UniRef90_C3XQB0
UniRef90_M9ZQD3
UniRef90 UPI00034471AA
UniRef90 ${ }^{-}$V8NVE2
UniRef90_UPI00046B529C
UniRef90_E2R0W5
UniRef90 UPI0003D0C27B
UniRef90_UPI0003D708BB
UniRef90_M9ZJW9
UniRef90_UPI000388C4DD
UniRef90-UPI0003500126
UniRef90_UPI0003F12FA5
UniRef90_UPI0003D09CC5
UniRef90 F7FVV6
UniRef90_H2S137
UniRef90_M4APZ4

D T|ITCRADGKWDGQKPWCEPVSCGP
 PYARCEENGRWSHPMPKC
K N $\square R \mathrm{C} \square \mathrm{SNGSWS}$ GPPPQC
QHQQC $\square D$ GE WTS A P P DCE LI Q
E VITTC E ESSSTWVIP P K P ACC E
EV I T C E E S S T WV P P K P A C E
N QSTCQANATWTELESMCDEDHC NNATCHQNGQWDS PVMPDCRAVFC PTLRCLNS GQWS A QVP HCKATEC TVQQCIS GHQWSNEAP QCVPVNC

A I S C GILGGGEWSSSK TP S C R F V V D C | $T$ | $I$ | $L$ | $E$ | $C$ | $L$ | $D$ | $T$ | $G$ | $S$ | $W$ | $S$ | $N$ | $E$ | $L$ | $P$ | $S$ | $C$ | $A$ |
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| $P$ | $V$ | $S$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $H$ | $F$ | $S$ | $V$ | $C$ | $G$ | $L$ | $S$ | $G$ | $R$ | $W$ | $Q$ | $V$ | $A$ | $T$ | $L$ | $R$ | $C$ | $R$ | STILLCTSS GVWSSPAPR CELVPR

GMYKCDEDHA WVSP EA GKEVVPVCEPV
 LI RTCLDENASWS GTQPRCSAVDC SKCVVCQA D GTWS H A Y H S C CVPA A H C SKSVCCQAD GTWSHAYHSCVPAHC NYAVCNQYGLWTNEPPEC
LSSSTCVAK GLLWSNKVPVCERDTC
SVIVVCQA D GTWSHESPTCVVAHC

S I QTCQGD GTWS GT QPVCVEVVRCE | $S$ | $E$ | $L$ | $C$ | $C$ | $A$ | $N$ | $Y$ | $Q$ | $W$ | $S$ | $G$ | $P$ | $Q$ | $P$ | $R$ | $C$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $V$ | $V$ | $V$ | $R$ | $C$ | $P$ | $P$ | $l$ |  |  |  |  |  |  |  |  |  |
| $S$ | $E$ | L | $C$ | $Q$ | $A$ | $N$ | $Y$ | $Q$ | $W$ | $S$ | $G$ | $P$ | $Q$ | $P$ | $R$ | $C$ |
| $V$ | $E$ | $V$ | $R$ | $C$ | $P$ | $P$ | $I$ |  |  |  |  |  |  |  |  |  |

T S SVVCQDD G RWRYY LDPQCLLAPCVVP ES R E C L L T G Q W S E S SA Q CVVAPR S C GP KEDHCSENGDWSAE $\square P$ R CEE I L C SLRKCTSEGRWDGS STSSVDCGP ALLICTHEGTWSQPAPFCKEVNC
A V RT C QA D G S WN GTLSE C N A V D C GP
$K$ DVT C ENGKWSNP PSCL
SF NQCEPTVIDWENEPPLCEADRC
 PTADDCNEAGEWSAATPSCAVVRMC K T $\square$ QC L S S G D WS A A F P VCK EA Q CEP $\square$ E EMHCSD D GFWS K E K P KCVVE $\square$ S C
 NTDTCTR GEWT K A KC L L M Q G S WY GP D $\square$ T C K P Q S C E A S 1 NCTSKGVWSGPPPQC
RTIYCTDSGTWSSPTPLCT
SHMVCMENGSWS SPFP ICCSPKSCPP

K T I T C L S T GEWS TF S P TCKEAQCE
K S I Y C T S K G $\square$ WS S AP P Q C T A V K C L




AK KI RCTE T GTESSSPAPECDPVVVC
AKI R CTETGT F S S PAPECCLPVVC
E ELLECVSNG WNADPP D CK

$S K M V C N A Q G Q W$ APPDGATVPRCII
S K MVVCNA QGQW APPD GATVYRCDI

S RLIT CVGNDEWSSQPP QCKVVVKC
PSAACLLLGTWDKEAPMCEKIFC
K S VTC M NGEWS $\quad$ G
SNLICTGNGVWS SNPPECKVVKC
$K$ QL V CLP S GQY D NK P P Y CK E
QTRTCQSDQQWNGT QPYCQRLKC
 $D R R V C T S L G G W S N E T V M C N P V T C G P$ STRTCQSSGSWSYSAPTC
S 1 SVC QA D GTWSHETLTCVPARC
K S $\quad$ Y C T S K G $\square$ WS GPAP Q C I LP V ASRTCQLNGHWSGTMPHCS
S Q 1 R CKANNTWDPEDPVCEKETCQPV
K A I R CNAQGTWEPSVPVCE
K T I Y C T N S G $\square$ WS GPAP YCK L
SMADCTRHPQWSEA DP LCQ ALLS C

K T IIHCTMDGTWS GPSPDCKL
K S $I$ R CMP S G $\square W$ S P S A PR C E E K S C E P P QRHCQ $\square S$ GKWS GATP ICER I P CH P ES $\quad$ QQCTSEG WQCVK LQVQEI TCPP A NWT C L K Y GK WK L R R PRCS PVQC



UniRef90 UPI0003C43C80 UniRef90-UP10003EBC33E UniRef90-UP10003FB599D UniRef90-UP100045D7B4C
UniRef90-UPIOOO298C570 UniRef90-UPIO003C4C1BD UniRef90-UP10003C4CB28 UniRef90-M9ZJJ5 UniRef90-K7GLM8 UniRef90-T1P9F2 UniRef90-UPIO0021A5620 UniRef90-UP100021A5620 UniRet90-K7F723
UniRef90 - T1XR4 UniRef90-V9LL03 UniRef90-H2S5P3 UniRef90-UPIO003314BA3 UniRef90-K1QM17 UniRef90-J9E4V2 UniRef90-Q01102 UniRef90-UPIOOO3B61871 UniRef90-UPI00042CA153 UniRef90-G1P1A5 UniRef90-V9LDI5
UniRef90 F6ZVR9 UniRef90-H2ZZU4 UniRef90-H3CCX3 UniRef90-F6QHS8
UniRef90 UniRef90-UPIIOOO4422AA5 UniRef9-UP100045DC74D UniRef90-C3YOA4 UniRef90 ${ }^{-K 7 F 7 B 6}$ UniRef90-UPIIO0034FD76B UniRef90-UPI0002C653F6 UniRef90_W4XNNO UniRet90 - H2Y8B7 UniRef90-HOWP65
UniRef90-H2VB90 UniRef90-G1PBS9 UniRef90-UPIOOO44195CC UniRef90-Q28797 UniRef90-UPIO0042BDA2F UniRef90-UPI0003D74BEC UniRef90-F7FK28 UniRef90-UPI000359A1B7 UniRef90-L9KQC9 UniRef90 UPIOOO45D7795 UniRef90-UPIO00388D5A3 UniRef90_UPI0004541729 UniRef90-Q61476 UniRef90-C3TVZ8 UniRef90-U1M6U9 UniRef90-H3C5H2 UniRef90-UPIO004438E5D UniRef90-10AZ89 UniRef90-H2N3V3 UniRef90-UP100042AB8DC UniRef90-P68639 UniRef90-UPIO003C28306 UniRef90-UPI0003F08AD9 UniRef90-UP10002BD12CD UniRef90-UPIOOO4440E08
UniRef90 UPIOOO328FA26 UniRef90 F1QIW0 UniRef90_UPIO003872B7A UniRef90-R7U4J6 UniRef90_UPI0003AF9709 UniRef90_UPIOOO3C4841B UniRet90-UPIOOO3C85055
UniRet90-UPIOOO383B5CA UniRef90-UPIOOO4403400 UniRef90-UPIO003C8ECD6 UniRef90-СЗҮОАЗ UniRef90-B7PM40 UniRef90-UP100042ACA1C UniRef90_UPIOOO443B067
UniRef90_UPIO003339219 UniRef90-G9K368 UniRef90-M7B986 UniRef90-UPIO00333A5D7 UniRef90_UPIo003C44F61 UniRef90-UPI0002C2F684 UniRef90-E9GSY7 UniRef90-C3ZG49 UniRef90-B7PPUO UniRef90 B9EPXO UniRef90-G1NS43
UniRef90 O9GLM2 UniRef90_UPIO00350254E UniRef90_R7TM49
UniRef9O_M7BTR CADCPKLENTAPHLHVSTVPGAQVQLSCDPGFY LVGE CPFAGULENGAVRYTT FEYPNMISFACNPGFY LNGT CPDPSVLEYGTVSPPERYFVDNETTYECDSGGYTLRGS VPHPPKDHNGHHIGGHASPYGMIVKYTCN PGYMLVGK VQCENPGAPPNGYAQGTPPYRAGDVVQFNCN PEYMMQGQ TAIYSCEKGF VRCEQP KVNHGK TGYSPVYTYRSSVMFDC EHRYTLKGS VGPVPQIDNGFAVVSTNVTYMGTATYQCYAGFVFHSKN VECADP KVANGKWKFGPLYMYQDSTRYECDAG YQLIFGS VECADPKKANGEWVSGSRPKYLATVTYRCNAG YKMEGD CAPPPAISNGRHSGKDFYPYGSSVTYSCDPQQSLVGK TTCHPLVDLPNGF IRTPGDFDFGSNAEYGCNEG YVLVGP VQCQSLEAPPHGTMHPDAAFAYDSSCKFECQPGYRARGS VQCPTLKDPENGSLKCLDGHGYEKNCSFSCDPGF ELQGV
 KCNPDKISHGSVVCSDSNDYQSRCSYHCDVGYHMDQGQ VTCLDPGQVENGRMNCSDFAYNSTCDFSCSEGFRLTGSE CCPHPGVPIHGYLRSTGNYVVGSIVEYVCDQGYSLIGK
$\qquad$ CQPPPKVLHGKHPPSHKSSFSSEVFYSCEEGYDLRGA CPDLDAPGNGNKIGGSSNYGDTVTFSCDAGGYQLTGS QDGLVR
scppppsp
 VLCGAPPPVENAFLDGRKRSHYHSVVRYQCAEGFLQR RHV VTCPAQHAPEHGRLECTGSFSYNTSCAVSCEEGYRPSSPQ CGLPPTIANGDFTSDEYFHYASVVTYHCNLGSFELVGE SCAQPPNISHGQHSDKKVFVVGSSVTYKCDRGF SLVGK CLPPPNTAHGMSSAGDSYAYGSAVTYKCESDKYSLIGN CGPPPPISNGYMRASGTFQHGSSCEFSCDQ
VECERPEEIGNGRVTTTRQFTYGVTVRFSCPEG $\qquad$ CPDPPKINNGIMRGSDSYKYSQVVIYSCDKGFI LFGN VQCTMLQNPSFGKVHYDDGFSWGARAKFTCMEGYY LAGM VECGKPQNVTNGNV YCSSTTFNSTATYVCDPKFRLIDGA CGAPPEVEHGGPDGSSRGRYKSU: RYQC

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VEC GDPEATN TPGDNST

PGFT
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Y YQRGE
$Y R L N G S$ KDPVVINGFWESGSRPKYKATVYSHKC
V
s CSHPGDAENADFKLLDGTVFGATVVYOCHEGFAQ RGHV
 SCETPADLMNGGVHHDTNTQFGSRINYSCNEGYQLIGH  D CPPPPIDNGDITSFP
$\checkmark$

 HPGGNFPFNT

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| UniRef90_U | SYRQCVIS G ${ }^{\text {PW WS G DMPFCERT }}$ |
| UniRef90_UPI0003EBC33E | PVLQCQNKGEWSHNLPSCERVSCG |
| UniRef90_UPI0003F1599D | D SARCTEE |
| UniRef90-UPI00045D7B4C | SMDYCGNNSTWSHAAP |
| UniRef90_UPI000298C570 | SRRVCLPNGKWS G S T Pl C S |
| UniRef90-UPI0003C4C1BD | ASIYCTTS G |
| UniRef90-UPI0003C4CB28 | TSIYCTTNGVWSARPPRC |
| UniRef90-M9ZJJ5 | PVRRCVS GRLWT GDEPVCR |
| UniRef90-K7GLM8 | AFIF CTHQGTWSPFDS Y CKEVK C |
| UniRef90-T1P9F2 | P IIA CQDNGRW |
| UniRef90_UPI00021A5620 | SI R T CLS S G NWS G D P P F CKI |
| UniRef90-UPI00021A5620 | SIIRTCLS S GNWS GD |
| UniRef90-K7F723 | SVVRCNENNS WDPPDPDCERSSC |
| UniRef90-T1IXR4 | QVI QCTEQGKWQ EPPVCVTS QC |
| UniRef90-V9LL03 | SVIKCTSNSTWDHQPPTCQR |
| UniRef90-H2S5P3 | A SMECGLTN G Q WTP G $\square$ P K C T AVT C S P |
| UniRef90-UPI0003314BA3 | AS $\square$ S CSMENKW\PSPPTCQR |
| UniRef90-K1QMI7 | S |
| UniRef90-J9E4V2 | QRRCQANREWSGT |
| UniRef90-Q01102 | NTLHCTGSGQWSEPLPTCEA\ACEP |
| UniRef90-UPI0003B61871 | HTIOCSEDGQWSND |
| UniRef90-UPI00042CA153 | STIVCGAKGTWEPELPKCS |
| UniRef90-G1P1A5 | K TLYCELLTGEWSDNLPSCEKVLCKP |
| UniRef90-V9LDI5 | SPITTCQADS S W |
| UniRef90-F6ZVR9 | DTAECMHTKMWNNPTPTCDNN |
| UniRef90-H2ZZU4 | RQLQCTASGEWTGNQPTC |
| UniRef90-H3CCX3 | SLLS CLGPGA S GPRWS Q |
| UniRef90-F6QHS8 | RQQECLYFLQWNGDAPFCVD |
| UniRef90-W5MN | PVAECDEDLKWKRYPVQC |
| UniRef90_UPI0004422AA5 | A SLLHCTPQGD WS P S APKC |
| UniRef90-UPI00045DC74D | NYRECEPEG WT N N $\square$ P L C GVVK CFPV |
| UniRef90-С3Y0A4 | STLTCQHNQQWNGTQPSCTRKECLPV |
| UniRef90_K7F7B6 | A SLLCTTNG |
| UniRef90-UPI00034FD76B | EKLSC K D Q WLDPEAPQCKA Q C L |
| UniRef90-UPI0002C653F6 | A QLECTSQGQWTQ |
| UniRef90_W4XNN0 | GMVTCDADGSW |
| UniRef90-H2Y8B7 | S 1 LTCTSS GT WS GP GP S CT |
| UniRef90-H0WP65 | TTS Y CEVVQDK WS P P P Q CVIA K CE |
| UniRef90 | PTAKCRANGKWDRPK |
| UniRef90-G1PBS9 | A AR_CTASGEWSAPLPGCEVA |
| UniRef90-UPI00044195CC | SPRLCTA QGVWS DPPEC |
| UniRef90-Q28797 | PSIYCTSKGIWSGPAPQC |
| UniRef90_UPI00042BDA2F | TSIQCI |
| UniRef90-UPI0003D74BEC | A VRECLSS GLWW |
| UniRef90-F7FK28 | STIS CTL T G A WS S $^{\text {S }}$ |
| UniRef90-UPI000359A1B7 | RQI Y CTENQKWSANPPECKVV |
| UniRef90-L9KQC9 | RKLQCGPTGQWDGEEPTCEA |
| UniRef90-UPI00045D7795 | QYVTCS NGEWS |
| UniRef90-UPI000388D5A3 | RVSQCQDDNT WN |
| UniRef90-UPI0004541729 | ETVS CSAS G D WT A SV |
| UniRef90-Q61476 | STIYCTVS GQWS SPPPQCK |
| UniRef90-C3TVZ8 | SVLHCVLK G DWNGHPPSCE |
| UniRef90-U1M6U9 | YRVYCNES GHWHPTAPDC |
| UniRef90-H3C5H2 | PVVRCRVD GQWEQPQVECT |
| UniRef90_UPI0004438E5D | PVIHCMANGEWEKPQAQC |
| UniRef90-10AZ89 | SKSYCTGSMVWNPEAP\CESVKCQ |
| UniRef90-H2N3V3 | S SATClIS GI WDNETPVCDR |
| UniRef90-UPI00042AB8DC | ERLDCSPS GHWT GTPPTCEAI K C |
| UniRef90-P68639 | SGVLCSG GEWSDP PTCQ |
| UniRef90-UPI0003C28306 | SKI QCTAEGQWSQPFPKCE |
| UniRef90_UPI0003F08AD9 | A SRVCSNDGRWT G S D S Q C QL |
| UniRef90-UPI0002BD12CD | GT LT C TAQVP WKQTQEREEVPRCV |
| UniRef90-UPI0004440E08 | PTVTCNDDSKW |
| UniRef90_UPI000328FA26 | ATIHCRGNGKWERPQIVCTK |
| UniRef90-F1QIW0 | NKRTCTSKG WDN |
| UniRef90_UPI0003872B7A | ESRECTATGAWTGDTAQCKVIS C |
| UniRef90_R7U4J6 | RTRNCQSNGQWS GFL |
| UniRef90_UPI0003AF9709 |  |
| UniRef90-UPI0003C4841B |  |
| UniRef90-UPI0003C85055 | S SAECIIS GMWDTGRPVCERILCGP |
| UniRef90_UPI000383B5CA | S S 1 Y C TDQGEWS GP LP QCRETDVT P |
| UniRef90-UPI0004403400 | R \LYYCE $\square$ S G $\square$ WG D NPPLCER\LC |
| UniRef90-UPI0003C8ECD6 | KKIT C RRGQWS EP |
| UniRef90-C3Y0 | S VRTCQADGQWS G |
| UniRef90-B7PM40 | N S SVCLDD T GNWS NPLPK CLA |
| UniRef90-UPI00042ACA1C | QSLQCTSS GDWDNEKPSCKAFQCE |
| UniRef90-UPI000443B067 | PTVRCY NGEWS KPPRCL |
| UniRef90-UPI0003339219 | NSI RCTEQGQWS D |
| UniRef90_G9K368 | ATRVCQANGKWS G G |
| UniRef90-M7B986 | PTIQCTAQGEWSEPFPKCEVAQCE |
| UniRef90-UPI000333A5D7 | A D AVCLP N NKWT D $\square$ KEFCNR S CE |
| UniRef90-UPI0003C44F61 | RTVQCTEQGEWSTPFPKCEV |
| UniRef90-UPI0002C2F684 | SELECLAS GDWTNTPPQCVAV |
| UniRef90-E9GSY7 | PVLLCQSNGTWS GAVPSCSK |
| UniRef90-C3ZG49 | STLECLADGS W D QI A ACEPVRCEPV |
| UniRef90-B7PPU0 | GHISCGPS GFWQGD |
| UniRef90-B9EPX0 | KSIVCEKDGEFQPAPPECKMVSCP |
| UniRef90-G1NS43 | LRSI CLENGTWT TSPTCK |
| UniRef90-Q9GLM2 | ADSVLCLNDKWS |
| UniRef90_UPI000350254E | ASTFCMANGVWS D AFPVCTKILC |
| UniRef90-R7TM49 | D T ${ }^{\text {T T C E Q Q G A WS ETPPTCTV }}$ |
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UniRef90_W5MXV7 UniRef90_UPIOOO3EAAOCA UniRef90-F1QIT5 UniRef90-17COW1 UniRef90-Q5TIT2 UniRef90 W5KH30
UniRef90 UP 10002 E UniRef90-UPIOOO2B42529 UniRef90_RTU763 UniRef90-R4GAC1 UniReffo-O9GLM0 UniRef90-VAAG15 UniRef90- V4A3L2 UniRef90-V4AAQ2 UniRef90 R7UNS6 UniRef90-UPI00035A0307 UniRef90-UPIOO042C4628 UniRef90-H2Y5C1 UniRef90 ${ }^{-} \mathrm{H} 2 \mathrm{Y} 5 \mathrm{C} 6$ UniRef90-UPIOOO392E06C UniRef90-Jom2M8 UniRef90-UPI0003C89C0 UniRef90_UPIOOO3DOE788 UniRef90-UPIOOO2C62ADF UniRef90_UPIOO044223E7 UniRef90-F1QM47 UniRef90-H2T4J1 UniRef90-UPIO003DOB2ED UniRef90-UP1000350F53A UniRef90-UPI000392E1F9 UniRef90-C3YZF8
UniRef90-UPI000359B5AD UniRef90-R7TC46 UniRef90-UP100038C2C9C UniRef90-V4BCE9 UniRef90-UPI0002C587E1 UniRef90-UPIOOO38C5066 UniRef90_UPI0003C47FF6 UniRef90-Q63135-2 UniRef90 F1M296 UniRef90-UPIIO003EBF16B UniRef90-UPIOOO3332614 UniRef90_UP100021A59A0 UniRef90-Q17C51 UniRef90-UPIOOO3298568 UniRef90 C3ZN51 UniRef90-C3YZG5 UniRef90-UPIOOO39912A3 UniRef90-H2S5P7 UniRef90-UPIOOO328BC43 UniRef90_UPIO0046BCF8F UniRef90-F6WI33 UniRef90_UPI00044234AE UniRef90- F6Z4F9 UniRef90-UPI00032929CA UniRef90-UP10001CE29EC UniRef90-UPIO002C56B92 UniRef90-C3XRC2 UniRef90-H2YD84
UniRef90
R7TTA6 UniRef90- Q62479 UniRef90-G3WVB0 UniRef90-UPIO003C1443B UniRef90-F6VQ34 UniRef90-U3JOZ8 UniRef90-UPIOO03513096 UniRef90-B3MFL4 UniRef90 UPIOOO180C8C9 UniRef90 UPIOOO38C529F UniRef90-C3ZRN4
UniRef90-F1QSS6
UniRef90 H3GJS8
UniRef90-H1A371 UniRef90-UPIOOO4545AC0 UniRef90_E9GSD1 UniRef90-A0AO16VGG1 UniRef90-F8W252 UniRef90-Q5R341 UniRef90-UPIOOO443A584 UniRef90-UPIo00180C3AC UniRef90-I3JY19 UniRef90-W4XLQ7 UniRef90_UPIOOO34F612B UniRef90-G3H5ZO UniRef90-T1IM48 UniRef90-U6PQW6 UniRef90-F2ULB4 UniRef90-UPI0003BD268D UniRef90_UPIO00203AOBB UniRef90_UPIOOO180C8C7
 VIKCPDPPEVITDAEVAGDTQ ${ }^{20}$ NFNSVISYRCDRG QLDGD SCGSPPEVENARLFGKRRDRYNSLIRYQCNPGFTQ RHLD
QCPALDNLVNGDLSCNSSFSYGSKCSFCAEGFMGQQA VN $\stackrel{c}{C}$ VA CSELESPEHGSLVCSHNFSYNSSCSIISCDRGYYRSSM A C
D
C
C NCGSPPSIENGVVMGSPATNYGSSVEYNCHEYHFLQGS DCGQVPSGDSSTGTAASGTTYPNEADYTCDEGHEVASGR $D C T P T P T F E N G Q V S G D C H G R V G D T C V Y S C N D G F V L R P G Q$
$\square N C G D P P P G L E S S G T A S S G T T Y T D T A D Y I C N E G F V R Q S G N$ VDCGLPPPPRGGITSTGFANGDNTATYUCDEGHTPLSGK VLCGPPPEVPNAFPVGKKKEKYNSSVRYQCHEGFTQ RHV 1 TCN QCAAPGNVDNGS

E
VYCSAVPQDANGFASS
CEPPPSPANGSMDC
CGPPPPDENGDITS VNCSHP
IQCQP LN $\square P V N G N F S C$
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VT
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C

SCPNPGESUVGTVRTGSRFDLGDKVRYHCSSLNLVLTGS
SCGALGELPNGHVFVPQNLQLGAKVTFVCNTGGQLKGN
VSCSQPPVVKDARVFGATKLRYNTLLRYQCKQGFDQ SHT
VSYSSNTKYNSTATYSCEDGYSGVGD DTCGYPGTVKNGYSDGNOYFY CESPPVVQDGTFTPTELYDYKDVIVYTCKSG YTRNGS VQCPALTAPANGLLSPRGANSYPAEVTFTCDQG YRLVGA TTCPVLPVPNNGSRTEGHMSHGDKVTYSCDEGYELIGS VTCSPPPTTTSGTFSPKPLYQYDETVAYSCDQGF TLSGS DCGQPKNLPNGYDSTKGVNTYQARIQYYCREPYYKMLTR CGPPPVIDNGNTTTHPSAVYGSSVEYQCQA YYVLDGN CGYPPNVPNGDADEERSSFY
CDQLKDPDQGDFTCKHDFGF
$\qquad$ CASPPQTPNAEYSGTDSFEYNAVVIAHCQEGYYQAVPA ISCPDPGVPVNGK RFGDSLQLGSSISFLCDEGFDGTQGS -S CGDPGHIRHAT RNMEGTLYRDEVTFTCNTGFNDQGD
 CKTPSDPENGLVHVHTGIEFGSRINYTCNOG CGDPAVEHARTLGQKKDRYNSLVRYQCNEGFVQRHV $\nabla$ VTCRAIRQPQNGSVRCSHSFTFKSSCNFTCEEGF MLQGA VT CPMVAPLNGRIGGTSLISTVGALVTFSCNDGH SLVGE SCPNPGELRNGDINTTNGLFYGSPIFFSCHTGYYRLVGE CGQPPLVLHAKMFGRRQLKYNSQVRYYCESGF DQ RQN
 $\square$ NCNAPASUYQGSVKYS STTPGSSATYSCMKG TNMKGP VVCANPGEITNGYWNVTGLLFGSEIFFSCDTGYRLIGS VDCGPPPVLAGAVYEGDNNSFVGSALTFTCRPPYSLVAGD VTCSTPPEVQNARMLGNSKDRYPSFIRYQCNSGFTQ RHL VQCTTP
SCGHPGDAQFADFQLGDDFVFGSEVVYTCHKGFQMVSRT VSCPTLPAPANGSAD DVTYGGVARFVCDAGF DMSHV VSCGPPPEDPLAQVFGSPRPRYETVLRYRCDEGLVQRNLP CEUPPNDENGYVQISSDSYRAGEKVKYVCDDGFRSGRRS

V
NCGPVEEVENGQUEYRPGSEFGDKAVLICNSGHMMPVGG


|  | 5060 |
| :---: | :---: |
| UniRef90＿W5MXV7 | REIIF CTE N G T WS SPPPECK |
| UniRef90＿UPI0003EAA0C4 | PVVRCLS D G Q We Q P HVE C |
| UniRef90－F1QIT5 | S EI S CTNTAEWS QKP P HCEAVVC |
| UniRef90－17C0W1 | STIHCCTS D GVWS GPPPRC |
| UniRef90－Q5TI72 | ETMQCMSSGEWSAP IP A C NVVECDAV |
| UniRef90－W5KH30 | E I LMCQWDLT WS G DVPA A EKV VCQ |
| UniRef90－UPI0002B42529 | P TIR CQP S GQWE Q P R I S CLN P S |
| UniRef90＿R7U763 |  |
| UniRef90－R4GAC1 | RTVSCSR GQWT TPPPSCDEP |
| UniRef90＿Q9GLM0 | T S SYCFA DVE WS D P LP D C Q $\square$ S |
| UniRef90 V4AGI5 | S K I A C L A T GQ WD |
| UniRef90－F2U400 | QS RTC CS D G T WS GSVPRC |
| UniRef90－V4A3L2 |  |
| UniRef90＿V4AAQ2 | AEISSCLAS GLLWET DILI CQPKDCGP |
| UniRef90－R7UNS6 | P NRTC Q A S A QWS GT QPI C $\square$ P P T |
| UniRef90＿UPI00035A0307 | P T I K CHS T GKWDRPKIL C |
| UniRef90－UPI00042C4628 | KVVQCTASGVWTAPAPVCKATQ C Q |
| UniRef90－H2Y5C1 | GVLTTCTNTGEWSHDEPTCQVPQ |
| UniRef90－H2Y5C6 |  |
| UniRef90＿UPI000392E06C | ESRECTAT GTWTGDHPHCEAIA C P V |
| UniRef90－J0M2M8 | EEITYCT DEGRWT LTT P S CKA M T C |
| UniRef90＿UPI0003C89C0F | D TVRCADLGQ WT AP A PVCQALQQ L L P V |
| UniRef90＿UPI0003D0E788 | K TI 1 C $\quad 1 \mathrm{NG}$ GWS EPPKCLRMA |
| UniRef90＿UPI0002C62ADF | SELQCLET G NWSSP |
| UniRef90＿UPI00044223E7 | ETIMC GASGKWSASEPT CQVKQCQPV |
| UniRef90－F1QM47 | A $\square$ A K C Q E D L NWLLQ Y PVEECKK |
| UniRef90－H2T4J1 |  |
| UniRef90＿UPI0003D0B2ED | QFATCNV GEWT EPPTC口 |
| UniRef90＿UPI000350F53A | D T LQC G S S G W WTEEQPSCEAV |
| UniRef90＿UPI000392E1F9 | STVYC EQGNWT EPPACL |
| UniRef90－C3YZF8 | EERTCQSDQTWS GTQPTCSPCPVLPV |
| UniRef90＿UPI000359B5AD | P T $\square$ R CQ G N GRWDMPK $\square$ T C M NP S |
| UniRef90－R7TC46 | TTRTCQANGQWSGSNPTC |
| UniRef90－UPI00038C2C9C | K ELLY C A G N GVWS S SPPQ CKVVK C |
| UniRef90－V4BCE9 | T T A TCNDNGQWQN VP T CREQT C |
| UniRef90＿UPI0002C587E1 | SKLLICVDNNKWS S S P P E C K V VK C |
| UniRef90＿UPI00038C5066 | A ERECQSDGVWS GTEPDCRQP |
| UniRef90＿UPI0003C47FF6 | SFlQCILK GEWS ELP TCQVM T C |
| UniRef90－Q63135－2 | S S SHCVLD G $\square$ WN S SVPVCE QV IC |
| UniRef90＿F1M296 | KTI 1 C I N E W S D P P K CL |
| UniRef90＿UPI0003EBF16B | P T I R CQA N GQWDS P KVTCTS P |
| UniRef90＿UPI0003332614 | GTLS CPA Q G T R K K Q NGEEVPRCVPV |
| UniRef90＿UPI00021A59A0 |  |
| UniRef90＿Q17C51 | ANATCLA S GNWSSPTPNCHPIQCPP |
| UniRef90－N6TNP4 | S T I I C K D G K WF P A K P K CVGV Q C |
| UniRef90＿UPI0003298568 | RQLDCSDDGT FKPEPPKCIKVEC |
| UniRef90＿C3ZN51 | EVLA CQANGMWNDSVP |
| UniRef90－C3YZG5 | ENRTCQANQSWS GTQPNCSRTACLPV |
| UniRef90＿UPI00039912A3 | ES RECMAA GTWT G D A P R CEA $\square$ K C |
| UniRef90－H2S5P7 | K S LS C S LD G T F N G S P P T C S |
| UniRef90＿UPI000328BC43 | A DSSESTRG |
| UniRef90＿UPI00046BCF8F | $R \mathrm{R} \mathrm{V}$ T C G D GEWS E P P K CLL |
| UniRef90－F6WI33 |  |
| UniRef90＿UPI00044234AE | ESIT C T Y S GKWSAPPPSCKVVEC |
| UniRef90＿F6Z4F9 | DVLT CTV S GEWS D DEPTCRIVVTCQPV |
| UniRef90＿UPI00032929CA | GTLTCAAPGTWK D A Q G R VEV PQ CVP |
| UniRef90＿UPI0001CE29EC | S ELY C $\square$ GP G K W S S DP P K C K V VK C |
| UniRef90＿UPI0002C56B92 | ETITCEGSVVWNSAVLRCEAP |
| UniRef90＿C3XRC2 | QVIVCGSDGEWHGE PVCEQIVCPGV |
| UniRef90－H2YD84 |  |
| UniRef90＿R7TTA6 | T T RTCLAS GRWS G H D TVVCPVIC |
| UniRef90＿Q62479 | S S AVVCVIT D Q WD TEAPICCEWIPPCE |
| UniRef90＿G3WVB0 | P T I R CLIPSGHWEEPQ】AC |
| UniRef90＿UPI0003C1443B | K S I T C QR】A E WS DHRPACKAK T C |
| UniRef90－F6VQ34 | A QVECTT Q G W T Q QVPVCEAFQC |
| UniRef90－U3J0Z8 | ASRDCTAMGTWS G D $\triangle$ P Q CKA $\square$ T C P V |
| UniRef90－UPI0003513096 | RLLR CQA T G NWT G H SPVVCE |
| UniRef90－B3MFL4 | S Sll C T E N G F WS H S P P F C |
| UniRef90＿UPI000180C8C9 | T D Al CRDDGTWS SEAPDCVGL |
| UniRef90＿UPI00038C529F | S S S YCTR T L K WS E P LP E CVEI Y CEPI |
| UniRef90－C3ZRN4 | PVLTC T A S GQWDKPAL C D PVNC |
| UniRef90－F1QSS6 | P I T CQS N GLWWE EPK＠MCS P |
| UniRef90－H3GJS8 | S TII R C T N Q Gll WS P Q P P E C R V |
| UniRef90－H1A371 | EMLQQCEATGNWTRDPPVC |
| UniRef90＿UPI0004545AC0 | S S A Y C Y LT G S WS D P $\square$ P T C T E $\square$ F C |
| UniRef90－E9GSD1 | A TVTCLTDKS WS DRTPSCQQUTCPP |
| UniRef90－A0A016VGG1 | QSVRC GT DA S WDLG D L R C E G PVCV |
| UniRef90－F8W252 | SVVRCLP D G Q WE K P RVVEC |
| UniRef90＿Q5R341 | ERLDDCTRS GRWT DSPPMCEA |
| UniRef90＿UPI000443A584 | TETTCCSDDGEFSPSPPTCDKVECKPV |
| UniRef90＿UPI000180C3AC | $P \square S T C T T N G \nabla W S S P A P T C E P \square T C \square P$ |
| UniRef90－I3JY19 | NFRRCMAEG WDGVIPVCEAQQC |
| UniRef90＿W4XLQ |  |
| UniRef90＿UPI00034F612B | $L 1 / R C Q E D G S W E S P R \square A C V P$ |
| UniRef90－G3H5Z0 | P S RVCQ S S R Q W G S P Pl C T |
| UniRef90－T1IM48 | SESECLQNGEWAEPD\LLCPVQC |
| UniRef90＿U6PQW6 | NF LQ CLA D GS WNGT TPFCLPATC Q |
| UniRef90－F2ULB4 | T S R T C GYNG WS GSAllS C EPV S C |
| UniRef90－UPI0003BD268D | GELTCGDKG WT GRLPVCEVTQCEPV |
| UniRef90 UPI000203A0BB | PSTKCVLKK G E WQ T K P P ECQQIIC |
| UniRef90－UPI0003C2781E UniRef90－UPI000180C8C7 | NASFCN NGNWT KPPVCL |



|  |  |
| :---: | :---: |
| niRef90- F6YUS | PTI RCHRNGRWD |
| UniRef90-UPIOO0440E1A8 | GVRLCRGNG WSGRTPVCEUVYC PV |
| UniRef90-I3JY1 | GSRTCQLDG WSSTVPVCE |
| UniRef90-H0V8) | GVLRCGDLGQWSAPAPVCQALQCQEV |
| UniRef9-UP10001D61C6F | DTLTCQWDLS WS S |
| UniRef90-F6WDI7 | ETLQCLA S GQWT SP |
| UniRef90-UPIO003D08A1D | QFVSCKS GQWT |
| UniRef90-R7VJM6 | KNI YCDEDGA WNDTDVSCRDKKCPEV |
| UniRef90-UPIO00383564A | ASLTCGADGKWD |
| UniRef90 UPIO0046C1811 | NRVYCS NGQWT T |
| UniRet90-W5KNLT | SLLSCYHHDS TGPKWSEK |
| UniRef90-UPIO0035985CC | SSSECQDNQHWSYRTPECT |
| UniRef90-UPIO0038C543F | A Q ${ }^{\text {E }}$ C |
| UniRef90-L5LV18 | DTVRCADAGQWTAP |
| UniRef90-UPIO003507 | RIVTCMDNKAWSGRPASCEPPR |
| UniRef90-UP10003C8F297 | LKK QCLEEGGUW ERGGSCSPVMCEP |
| Q4RUP1 |  |
| UniRet90-Po2749 | DSAKCTEEG |
| UniRef90-V4AHJ9 | S C D |
| UniRet90-K7E339 | R CSS |
| UniRet90_Q6DIV5 | GK |
| UniRef90_UP10004572EE8 | D L MCowd |
|  |  |
| UniRer90-G3W3U5 |  |
| UniRet90_R4GC56 |  |
| UniRet90_G5CB43 |  |
| UniRef90-Hoxouo | Q ${ }^{\text {N }}$ |
| UniRef90-E1BXY7 | YKYLTCKN |
| UniRef90-H3B612 | PTHKCRGDGKWDFPK\SCLSPS |
| UniRef90-UPI000441FB01 | KTITCQKSSQWS |
| UniRef90-F6UN32 | SFLT CMEDGLWSFPEALC |
| UniRe990-F7AJQ7 |  |
| UniRef90_UPIO003BB9766 | P |
| UniRef90-UP1000331508 | RS |
| UniRef90-UP10003F0AE4B | PSLQCTSSGSWDSK |
| UniRef90-608J4 | W |
|  | 俍 |
| UniRer90-UP100045D839E |  |
| UniRet90 UPI00042C20 |  |
| UniRef90 A0A026WV69 | NGI WS |
| UniRet90_G30ILL | WD |
| UniRet90-Q4TE70 | PT TRCRADGS W |
| UniRet90-C3YQL9 | ATRKCEGDKTWSGANPAC |
| UniRe90- |  |
| UniRet90_W4XGD8 | EITC EKGQWSD |
| UniRef90-UP1000441C954 | SYR |
| UniRef90 G3PMR7 | DRLVCLEDGLWDFPEAYCKT ECPEV |
| UniRef90-L5KJL5 | ETVVCL NGTWSGEPPSC I A S C |
| UniRef90_UPIO003BDB0AD | NCA GEWK ELAIK |
| Q1LXE | , |
| UniRef90_V4AL26 | Q ${ }^{\text {N }}$ |
| UniRef90-_6X4B9 |  |
| UniRef90 W4YJZ1 | NLNRCLQDGT W |
| UniRet90_EOW1Q1 | ESIKCQESGMW |
| UniRet90-K1PSV5 | HTLKCENHGQWSADMPHCKKGSCV |
| UniRef90 B2GT17 | HSATCOSSRTWSG |
| UniRef90_S4RVL9 | STRECRPNGRWSG |
| UniRef90-B7PIL9 |  |
| UniRef90-E1BK92 | ERSLDCTPSGHETGS |
| UniRef90 U3JGR3 | AMLTCPGNGSWDFP |
| UniRef90-T1GT10 |  |
| UniRef90-H3B729 | STRVCQFNRNWTGSKPSCVI |
| UniRef90_UPIO003EA | AQRTCQPDGTWS G |
| UniRet90_UPI0003D0C | A HRTCLEDRTWS G |
| UniRef90- W4YXM9 | SERTCQTSGSW |
| UniRef90-F1C7E7 | RTC DNGEWTG Q |
| UniRef90-UPIO00386F26F | ATLQCGPSGAWDRQQPSCAAV |
| UniRef90-G3P945 UniRef90 Bow - | QKVTCLSNGSWSASPPHCRA RCL |
| UniRef90-B01/ ${ }^{\text {UniRef }}$ | AMARCGEDLLKWQAGQMKCQQTMCSP |
| UniRef90-UPI000273E6EA | ARLSCSENSRWSAPAPQCKALMCS |
| UniRef90-UPIO003EDE39F | SKITC RNSHWSS |
| UniRef90- $\mathbf{C 3 X X J 2}$ | SSRTCRADGTWSGNTA |
| UniRet90-UPIO0038FOA5F | GTLSYPVQGT WADRQDRQEHPQC\|VPV |
| UniRef90-E4XFR | ElSTCGEDGWNAD |
| UniRef90-UP100046B5843 | W |
| UniRef90_V4A4A2 | EFYVCQSDKTWSSPTAVCKRLKCPPV |
| UniRef90_UP100042AD2DO | SSVVCLANGTWTGEKPHCRDUR |
| UniRef90_UP100034F8B14 | DQRRCQEGGSWSGTEPSCQ |
| UniRef90-T1KZZ5 | GQWS |
| UniRef90 U3JXM3 | NRTWS G |
| UniRef90-UPIO00388EDC9 | DLLMCHWDLT WS G |
| UniRef90-T1L661 | Gc |
| UniRef90-c3Y2 6 | A ${ }^{\text {d }}$ |
| UniRef90- UPIooo333C4EC | EETTCGPSGNWSALEPSCQVTQCEP |
| UniRef90- V8N594 | PFПTCSKN HWT ETPRC |
| UniRef90- UPI00038338C8 |  |



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lupas_21
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jhmm
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N 1 SHCTK L G GKWDSPKPLC

VQ V Q C ClK D G T WS NK I P DCK



