 GSSAFPRLLLV DENGNPIKASQLPVADFPYPLSNE
 LK TFPWMI IVDSNGNASKIIPVNDPAILLIFEYPMLGD LKNFPWII IVDSDGNASKLPVNDPSILLFQYPMEGD FEKVQLKDAE GNP』KASA $\square A V Y V F N Y P Y V G T$
NTKGLKRYTKALLVKED GSPDREED DTQY $\square$ FFYPYAST
 $G \| R L V H \quad D P T G V P I K A S D L T V I V H V I P D$ $G V R L V R \quad D P T G T P I K A S D V T \| A F H V I P D E V E$ YPRKSVGQ LGRMAPNTP SS FTYPDAAS VNNPSVVAFSYPDAAS KADVYE EHMHS $\square H$ GSRN $K K Y P R V K \square A N \square S E D N T G Q P V F K E Y \square \quad$ G GLRLAR DPSGVP 1 KASEVTIAFHVIP LTHE DEKALAHALKRADN
AAMADHPPARLVNAD GSPLKAADVTTLVFAYPYRGI
 $V$ VS YPSVVIGNSKTLQPN QPVT FNFPDEQS
$\square A S Y P R Q K \square G Q \square S Q L R V D Q P$
LIF SYPDAAP GMRLARDHDGTPDRAADVAMI FHVMPDTHE DPAGRPVKASDVT IVVHIDPEAPE
 LI A HVGELKTNVP FDFAYPDASS YVSN GMR $\square$ AH DPSGEP $\square R$ A A D $\square$ T $\square$ A VHVIP LEEK
 A RVVGYPRQLIAKVSELKLNEPVN $H V 1 P D S G$
$F N Y P D N G$ VEGTNQLIKASDLATAFPEYPHNEE

 R

$P \vee V K Y F \prod P P S A G G$ P 1 VK Y F 1 PPSSGG

GRTS WEGVRLLRDDGSPVDOQPGPYATFFAPPGLGS GRTSWE GVRLLRDDGSPVDQQPGSLETVFPAVPESDA
 ENTGEPLKPEDVPVLAFARPDGLE IQMMFTYSRFFFPVSSGN YF 1 PPRAAG

$\nabla N \square S K \square E P G Q Q M \quad P V V N Y F I \begin{aligned} & V A E W R G Q \\ & I \\ & P\end{aligned}$
$N \square S K \square E P G Q M V T \quad$ VE WR G K VEGTNKPDKEADLAAMDTAFPDHGG
VNISK $\square E P G Q Q M$ $\square A E W R G Q$

VD $\square$ SK LDEVGQQM IVEWRGQ WRGK
VD $\square$ S K L A P G Q M M T
VE WR G K WQ G K
VD $\square$ SKLKPGEKMTGQPVWIV RRT VRLTRED GSP $\square R P D D V S T V F P G \square P W A D S$ VNTGKLESGQQMT VEWRGK
ADISNLKPGEKMTGLPVWVV RRT MRVVR DVVGTPDRPADLEDGDLV NAE

VDVSK ILPGEQWRGKPVF $\square \quad \square R R T$ $V D K E G N G \square K V G D \square P$

## QUERY

 UniRef90-C3MLY2 UniRef90-F9VML5 UniRef90_H2C5T2 UniRef90-12K4V3 UniRef90-UPI000368F66F UniRef90 D3SPLO UniRef90- 2 KKG71 UniRef90-LOLG6 UniRef90 Q83GL5 UniRef90 UPIO0035FD2EA UniRef90_UP10003134555 UniRef90-A0A022FU22
UniRef90 TOLPI6
UniRef90 ${ }^{-}$B1VHF3
UniRef90-UPIO00364584D UniRef90 U3TC01

 TTFLINMGDENNNPVAVPPTEVLIPETGKTYHFTPGGVGG PAIMVNLTSPAEKDI PVMLIRLRSSDAHKVTKRKGQETFNY
PCYLINLDREDKPVELKLKDGGSYTWQ GGAG
PGVLLKLGKP
VEGGAG V ${ }^{\mathrm{E} G G G A G}$
$P C Y A L R M G N A$ GMLLNEKAKAVVLLVRLPE ESLKEREDRKDWSYHG $P C I A V K \square G N \quad R V P G G V G$
PCAAIKMG
PNFLLRMGDASNNDVK\DSTTVD TPATG
TAVPGGVG
AVMLI RLRHEDALRAVQRAGQEDFHY
$P V L L I R L R T E D A E Q V V Q R A G Q E G Y N Y$
R\|VVIKLGEEA

PVMLI RLRTEDSDRAI RRKGQESFNF
AVMLI HLRAEDANRAVRREGQETFNY
PCFLINLGGRAAHPTALASPEDGDYTSP AGAG
ELEHGKLDEKAKAVVLLVRDPRDLRSDQSPEGETW
RNFLTRIEGE
PCLLVKTGSEA
VMLLI R L R H QDA LKA $\square$ PREGQEDFHY
SAMALKLGERAG
EEHWI TEKAKAVVLLVRM DPADLK ESEERKSWS PVMLI RLRP GSKPVKRKGQEDFNY
VMI RFRSADGAKMlKRAGQEDFNY
PCAVVKMR
TPVP G GVG
AVHVI PEGNEAEHK $\square$ EEKAKAVVLLMRLNPEDLSPSEGRE PCVMI KLG
PVMLI RLRPEDAARADKRKGQESFNY
AKAI VLLMRLLPEDLVEDEDRKEWSYNG
PVMLI RIKPADMHRVI KRKGQESFNF
SEHKKEEKAKAVVLLMRLLNPESLNPSPGREDWGYEG
P
HPHGLSLNDQAKTVIMLIK $A$ V P E G D
AVVLI RLRPGTNKPL PGRENWAYQ
TVLPEGLEEQVDEHLTEVAKAVTILIVNVPAGDFKPAEGRE HTEYQNAKAKAAVIVVRI EPDKIRTPAGRENW $\square L S V V P E G Y E H D L N A L A K A T L I L I K F R P E E G K D G V N K N W I$ GGGGVTAKDA LGNDVKEENSPGAKVLVQGLKGDPTYLVVK MITVLPEGSESEHHMNEAAKAVTVLIVVPPEKFKPVKGRE

AEHPLDEKAKASVLLMRLNPDD ${ }^{-1}$ KSDKQRDWGYE
T GGGVDAKDALGNDVIVSQSAGDRVLAQGLKGDPTYLVLK S GGGVTAKDALGNDVVASRQPGDRTLAQGLKGDPTYVVVT


 PENLQDLQEKAKASIIVVRNPNTDK\PESRKDWHV

ETHNPGDRVLAQGLKGDPTY VVVE
A G GGTTAKDA $\square$ GND I DA A D GPGDRTLTE GLK GDPTYLVVE



 GGGGADAKDALGNDVSDSHNVGDRVLVQGLKGDPTYIVVE $P V Y V V R R T D E V L Q N L E K V R D P N S E E S D Q P D Y V N P E N R S I K$ EGGHLS LNDQAKTVVLLI KDPEGDFKPGMTEQQMNW PVFIVVRTEEILGNLKKLSDPMSEKSDQPAYAKNEARSDK $P V W I L R D D R E A T L G E D V L R D P D S K E S D Q P K A A T N V V R A U K$ VMLVRLEPKD K K D K K S AEW
PV WVV K RSQETMENLDELSDPSSEKDQQPSYAQNEYRSTK

 $P E M L A K L$ V PTLLIHLRPDDAALT RANANADPRNKDSMW


 | $P V V I V R R T E E I L R N L E K V A D P E S K S S V Q P A Y V D P K T R S D K$ |  |
| :--- | :--- |
| $P E I I V G T D K G Q P L P S G E V$ | $D$ | PEMLDESLKADSAS



| QUER |  |  |
| :---: | :---: | :---: |
| QUE |  |  |
| UniRef90-C3MLY2 | PNKSUVAYSAL | Q ${ }^{\text {a }}$ GCTPPYIHFFPPQYVGPQAKVPA |
| UniRef90-F9VML5 | PYKSIVAYSAI C | Q ${ }^{\text {a }}$ |
| UniRef90-H2C5T2 | PNKSIVAYSA! C | Q Q G Co |
| UniRef90-12K | VKDTIVA Y SAl C | CPHLTHP |
| UniReef90-UP1000368F66F | KK GFYA M K C C | CSHLGCP |
| UniRef90 D3SPLO | KKRSLVAYSAl | P HQL |
| UniRef90-LoLG61 | PNQDIVAYSSLC | HMGCPV AYDGGTKTF |
| UniRef90-Q83GL5 | VAYSKVC | CThGCPV ShYEHRTHRL |
| UniRef90-UPIO003 | VA Y SKVC | CHVGCPV ALYEQQT |
| UniRef90-UPIO0031345 | PDGDVVAYSVMC | THMGCP |
| UniReef90-A0AO22FU22 | PDKDVVAFSTLC | CTHMGCPV |
| $\begin{aligned} & \text { UniRef90TOLPI6 } \\ & \text { Uniefeob BiVHF } \end{aligned}$ | PYGSVVSSSAIC <br> GDYIAFSKI |  |
| UniRef90-UPIOOO364. | GTYYAYSKVC | THVGCPA SLYEQTNRL |
| UniRef90-U3TC01 | PEKDVVAFSMLC | HMG GFLIFDSN |
| UniRet90-UPIOOO34A4 | VAYSKVC | HVGCPV ALYEQH |
| UniRef90-M2 | GDYWA Y SKLC | H |
| UniRef90-F6EFB88 | GNFFAYSK1 C | CTHLACP |
| UniRef90-14WBP5 |  | CMHVGCPVDYSATRYAASGSPLTDAPG |
| UniRef90-MODDLO | SDGDIVAYNGLC | THMGCS |
| UniRef90-B3EFU3 | SGKDIVAFSTLC | HMGC |
| UniRef90-F8DZS31 | GDYYA S K 1 C | CTHDGCPT |
| UniRef90-UPLHCO2629 | PEG ILAFSKI | HVGC |
| UniRef90-C7R4P1 | YDG IVAYSKIC | HVGCPV A |
| UniRef90-UP1000237: | GDYYAYSK | HVGCPT SLEEQQ |
| UniRef90-UP100046 | GDYFAYSKIC | LGCPT S |
| UniRef9-UP100047BE2F6 | DWGGIVAYSKI | HVGCPV AAYEQQ |
| UniRef90-UPI000473 | PGSDVVAFSRL | HMGCPVAYDT |
| UniRef | GDYFAYTKVC | CHLGCPT SLYEQRTNRI |
| UniRef90_UPI0003082FA6 | VAYSK C |  |
| UniRef90-UPIOOO479D22B | IVAYSKIC | THVGCPV ALYEQQTH |
| UniRef90-UPIOOO30ABB | 1 VAYSKVC | HVGCPV ${ }^{\text {a }}$ ALYEHQTHHL |
| UniRet90-A6FGU9 | NKQDIVAFSLMC | HQGG |
| 10 | HDG IIAYSK!C | HV |
| UniRef90 A0LTH UniRef90-UPIOC | N WNGHVAYSK ${ }^{\text {d }}$ | HVGCPLLT ALYEKQV |
| UniRee90-UPI00036B8D82 | $\square \mathrm{DGGLCYSKIC}$ | HVGCP直 SLYEQTTHHV |
| UniRef90-UPI0003681AFC | HDG VAYSKI | HVGCPA ALYEQN |
| UniRef90 B4WHM1 | GGLYGISS1C | THLGC |
| A8 | NGGVAYSK C | HVGCPA ALLYEQT |
| UniRet90 A8V296 UniRefo | PEAGVVAFSTS | LGCVV |
| UniRef90-U5DF82 | EDAEIYGLINAVC | HLGCVVPWN ANENKF |
| UniRef90 C7NIC8 |  | HVGCPV ALVEQ |
| UniRef90 UPI0003465800 | DNKEIASFNAVC | THLGCVVP |
| UniRee90-UPI00031119F3 | EDATLYGLNAIC | HLGCVVPWN ASA |
|  | DWGGILSYSKIC | HVGCPVN $\square \mathrm{WEQQT}$ |
| UniRef90-NoCX | DDGTLVGYSAVC | CTHLACAVLWRKD RGREGEL |
| UniRef90-F4XV884 | EDQGLEAYNA | HLGCVVPWN ASKNRF |
| UniRef90-UPIOOO3496B56 | YNGIVAYSKIC | HVGCPA ALYERTTHRI |
| UniRef90 F5XF <br> UniRef90-K9 | SKEGALCCYSKIVC | CTHVGCPITMN SLWEQQ |
| UniRef90-V4U9 | KDKTLYGDNAVC | HLGCVVPWNS AENKF |
| H6RSR6 | GDYVAYSKIC | HAGCPV SLYEQETGRL |
| UniRef90 W4 | GGIL S Y SKl C | HVGCPVN LWEQQTHHL |
| UniRef90 J7L8B5 | HQGOIVAYSK1 | HVGCPAN A A Y Y ERT |
| UniRef90 - V6RRW7 | SHQGVLAYSK | HVGCPV SLYEQQ |
| UniRef90-M2W8R1 | EDGELRPYSAVC | HLGCVVP W |
| UniRef90-B1X | GDDAIVNYNAIC | HL GCV |
| UniRef90-W8R | SKETIYGlUNALC | HLGCSPS |
| UniRef90-F2R7N9 | EDGTLAGYSAVC | Thtacav Lur |
| UniRef90-UPIIOOO3805EB9 | PK LLVLVGLC | HL GCAPMYRPEVGAADLGGDEWMGG F |
| UniRef90-UPIO003481772 UniRef90-UPIOOO3480ED1 | THNG\|VAYS | HVGCPATARPEVAPVDGGKYERGSH |
| UniRef90-O606 |  | HLGCAPTFRPDVAPADLGS |
| UniRet90-UPI00030DC895 | HEG | HIGCPAT |
| UniRef90_A3YB | PEKEAVLG | CTHLGCSPTYRPELSPEDLGPKWVGGGY |
| UniRet90-W0SFV2 | $P \mathrm{E}$ ¢ LV VAVG\| | HLGCSPTEKFKTGAESGIEADWPGG |
| UniRef90-A1IPK5 | PND LVAI | HLGCSPTFRPDTAPADLGADWK GGF |
| UniRet90_UPIO0036 |  |  |
| UniRef90_UPI0003717D6E | P | GCPA ${ }_{\text {GCP }}$ |
| UniRei90-UPI0003689DD8 | EE YLVLVGIC | CTHLGCSPQYVPEVTP |
| UniRef90 R7WZ37 | HKDLLVVVG\| | GCIPSSG PYQADTNAALGHDPGF |
| UniRet90 UP100036F21A4 | P ${ }^{\text {d }}$, VAYVG | HVGCSPSFRPEVAPADLGPDWV G |
| UniRef90 K9YM09 | EDQQIYĞNAVC | CTHLGCVVPWN ASENKF |
| 02 | NAEIAVLV | CTHLGCSPQFRPEVGAPDLG DDWQGGY |
| U2 |  |  |
| Ref90_UPI000475647A |  | GCVVIP WNASAE |



| QUERY |  |
| :--- | :--- |
| UniRef90_F2L5B2 | Y A V |
| Un T N A P Y F |  |


| QUERY UniRef | F2L5B2 |
| :---: | :---: |
| niRef9 | C3MLY2 |
| UniRef9 | F9VML5 |
| UniRef9 | -H2C5T2 |
| UniRef9 | 12K4V3 |
| UniRef9 | UPI000368F66F |
| UniRef9 | D3SPL0 |
| UniRef9 | K2KG71 |
| UniRef9 | LOLG61 |
| UniRef9 | Q83GL5 |
| UniRef9 | UPI00035FD |
| UniRef9 | UPI0003134555 |
| UniRef9 | A0A022FU22 |
| UniRef9 | T0LPI6 |
| UniRef9 | B1VHF3 |
| UniRef9 | UPI000364584D |
| UniRef9 | U3TC01 |
| UniRef9 | UPI00034A441F |
| UniRef9 | M2WD61 |
| UniRef9 | F6EFB8 |
| UniRef9 | 14WBP5 |
| UniRef9 | F8A3N8 |
| UniRef9 | M0DDL0 |
| UniRef9 | B3EFU3 |
| UniRef9 | F8DZS1 |
| UniRef9 | W4LHH9 |
| UniRef9 | UPI0002629CBE |
| UniRef9 | C7R4P1 |
| UniRef9 | UPIO002379210 |
| UniRef9 | UPI000465429F |
| UniRef9 | B3DAM2 |
| UniRef9 | UPI00047BE2F6 |
| UniRef9 | UPI0004734FFD |
| UniRef9 | H5TZZ7 |
| UniRef9 | UPI0003082FA6 |
| UniRef9 | -17GD61 |
| UniRef9 | UPI000479D22B |
| UniRef9 | UPI00030ABB0C |
| UniRef9 | -A6FGU9 |
| UniRef9 | UPI0003460480 |
| UniRef9 | A0LTH5 |
| UniRef9 | -UPI0003F6CA5F |
| UniRef9 | UPI00036B8D82 |
| UniRef9 | UPI0003681AFC |
| UniRef9 | B4WHM1 |
| UniRef9 | D1A8W5 |
| UniRef9 | A8V296 |
| UniRef9 | UPI0002D91301 |
| UniRef9 | U5DF82 |
| UniRef9 | C7NIC8 |
| UniRef9 | L8LVH3 |
| UniRef9 | UPIO003465800 |
| UniRef9 | UPI00031119F3 |
| UniRef9 | F9Z052 |
| UniRef9 | N0CXR8 |
| UniRef9 | UPI00037E09D3 |
| UniRef9 | F4XV84 |
| UniRef9 | UPI0003496B56 |
| UniRef9 | F5XRY8 |
| UniRef9 | -K9XJ95 |
| UniRef9 | V4U968 |
| UniRef9 | H6RSR6 |
| UniRef9 | -W4TN67 |
| UniRef9 | J7L8B5 |
| UniRef9 | UPI000477C84C |
| UniRef9 | -V6KRW7 |
| UniRef9 | M2W8R1 |
| UniRef9 | B1X5F2 |
| UniRef9 | W8RAM2 |
| UniRef9 | K9UYF8 |
| UniRef9 | F2R7N9 |
| UniRef9 | -UPI0003805EB9 |
| UniRef9 | UPI0003481772 |
| UniRef9 | -UPI0003480ED1 |
| UniRef9 | -Q606Q3 |
| UniRef9 | UPI00030DC895 |
| UniRef9 | -A3YBV6 |
| UniRef9 | -1318K3 |
| UniRef9 | W0SFV2 |
| UniRef9 | -A1IPK5 |
| UniRef9 | -UPI00036623A5 |
| UniRef9 | -UPI0003717D6E |
| UniRef9 | -UPI00036D0B2A |
| UniRef9 | -UPI0003689DD8 |
| UniRef9 | -R7WZ37 |
| UniRef9 | UPI00036F21A4 |
| UniRef9 | -UPI00036D4B25 |
| UniRef9 | -K9YM09 |
| UniRef9 | UPI000262CD3E |
| UniRef9 | -U2YWT7 |
|  | UPI000475647A |



UniRefgo- K016M UniRef90-S3DKY7 UniRef90_K7SLX2 UniRef90_Q21U78 UniRef90-MOCIV3
UniRef90-A3PBI5 UniRef90-A1U3H6 UniRef90-M5DN30 UniRef90_UPIOOO3765489 UniRef90-UPI0003793BC1 UniRef90 B7RTL5 UniRef90-N6W9C9 UniRef90-B5JRP1 UniRef90_UPI00036EC4A7 UniRef90-F3LCl5 UniRef90-C6HY64 UniRef90-W9TX57 UniRef90 - P95521 UniRef90-UPI000365EF0C UniRef90-B5Y3C8 UniRef90_F3L1M3 UniRef90_A4YUT2 UniRef90-M8D5C0 UniRef90-UPI0002E2ED04 UniRef90_UPI0004765436 UniRef90-I2JGK5 UniRef90-N2JCY2 UniRef90-A0A011PQV8 UniRef90-B8HNR1 UniRef90_A4RS90 UniRef90_B2UEZ9 UniRef90-A1K4U7 UniRef90-B2UDT7 UniRef90 KODQX9 UniRef90_G9QP51 UniRef90_A3JUZ4 UniRef90_K2KBY4 UniRef90-DOI4Z2 UniRef90_Q0K6A5 UniRef90_R4VLY6
UniRef90 QOFQA1 UniRef90-A9XNS4 UniRef90-A2SCN7 UniRef90_A6FEX7 UniRef90-FORP18 UniRef90-W4HGP5 UniRef90-AOYES1 UniRef90_U1MDQ9 UniRef90 J2IIJ8 UniRef90_A5DC66 UniRef90-B5I8S2 UniRef90_UPI0004797A4E UniRef90 A5DZ68 UniRef90_UPIO0036E3456 UniRef90_UPI000414C6B1 UniRef90-P70758 UniRef90-11DXS7 UniRef90_UPI00035D60C9 UniRef90_D8FZ15 UniRef90-Q93SW6 UniRef90_YOKEF3 UniRef90_UPI0003B37CA5 UniRef90_L8GC67 UniRef90_UPI0002FDB785 UniRef90-A0A016XK63 UniRef90_UPI0002FCA1E7 UniRef90_G8ZPX0 UniRef90-S4XXS7 UniRef90-F7ZLP3 UniRef90-R1ENL0 UniRef90_E1X2U4 UniRef90-H5SFT7 UniRef90-D0J026 UniRef90_UPIO0046396B9 UniRef90-W6VYZ2 UniRef90-H3A401 UniRef90_UPI0002E47DD5 UniRef90-K6H1V6 UniRef90_UPIO004695EE1 UniRef90_UPI00041D61C2 UniRef90_UPIO0046A9B4F UniRef90-M2TPFO UniRef90-C4R0S5 UniRef90-CON8W2 UniRef90-K1ZZZ9
UniRef90 FoW758 UniRef90-FOW758 UniRef90_D6TR61
UniRef90_UPI000472136A UniRef90_G3GWW7
 PEMLAAL PQQDAALADPASRKDQQPEYARNPQRSI R
 PEMLKTLQDPA LQKLRDPESCDFQQPKDATNWHRSVS PEQLAALSTLDPQ LADPKSERKPAEQAPAYARNATRSIK A EGEQLTVFPPEPRPG\ADAPTLLVRYPEDAY KDELGNPIT PVWIIRRTDAMLENIEKVKDPESEEAQQPAYDAETGHQRS PETLDTLGTLAGGRLKDPESNKEQQPAYADNGFRSRK EKALESLDSED DSK $\square A D A D G T G N S K S Q Q P D Y V T A N Y R S \square E$ PALL 1 RL
PVYVMHRTDALPELNSVLKDPESK DSDQPAY TTGVDRA TR PVWIVRRTDEMLQNDEKVKDPQSETTQQPEYVEGIYRSLK PVWIVNRTDKMLA DMKTLADPNSEAPQQPEYTQNGTRSSMK PVWVVNRTKEMGKHDDKLADAMSEQPQQPDYCKNATRSUK
 $P V W \square V R R T Q S V L D N L D K L R D P Q S E M E Q Q P E Y A Q N E F R S I K$ A GGGVTAKDALGNDVVATHTPGERVLAEGDKGDPTYLVVE
 QEMLDNDPRLND ANAV RDASRLNEVLIVRLDPAELDDD GALLVRVG
PVWVVRRADGLKALDDQLRDPVSGEEQQPAYAQNAYRSTK PVWIVRRTPELSKHDNELADPLSERKAYPDPEYAKNEWRS PVYVVRRTQEQVAGLKELKDPESSGSDQPEYVEVATRSTR PVFVLRRGADALERLSRLADPDSHDSDQPDYVNSRDRSIR PSMLETLPKLDD SVADPKSEKNMQPAYCKNETRSIK VGGGVVAKDALGND ISVVSDGADRALAQGLKGDPTYIVVQ PVWILHRTDRLGTHDNLLGDPRSKEDQQPAYARNATRSLIR PVWILHRDAAMEAHAARLADAGSAVTQQPDYARNAHRSIR PDMLESLKKTDNE VADPKSDVPFTMKTPDYCKNETRSRA PVWU DNRTEKMDADVQEVADPBSKNPPDPEYCNNEFRSRT P I Y IVKRTKEMMDGLTKKVDPNSESSGQPEYCKNQSRSK PVFI RRRTDAKAVELADLDDQGSENSNKPDDASDANRSLD PVWVVRRSPEMPEHDDRLRDPKSEEPQQPEYATNEYRSIK PVWVVRRGKQMLETMNELRDPDSEEPQQPEYAGNTYRSVK PVWWV AR RSEAAALEALDDTLADEASDVVAQQPSYAQNTHASDDD $P V F I R R R T E A E G V E M S E L V D P V A R N P N I P E G A D A T D A N R A$ DVLA A EWLKDHGPGDRTLT QGLKGDPTY L VVE $K$
$P V W L V R D G S R L N K V L L D R L E P G S$
$S$ T DADGNQI $\square R K G E P A L Y K F A S G E L G G E A N V E A A$ $P \vee F \cap R R R T P T E A V D L S Q L I D P R N E N D Q G E A D A V D E N R T L D$ $P V Y V V R R T A E A V A Q L A E L D G S L K D P D S E N P S Q Q P L Y D S R A$ PVFVKHRTDEKAVDVAQLRHPQHDDERVQRDEWLVLLG PVWIVKRTEEMLAQLADLRDPGSKEPQQPAYAQNRHRS $\square K$

$P$ TFLKTQGKVAAPPLESLPPGEGAVVRVNGDRLAVY RD
$P V F \prod R H R T A E N D V D V S K L R D P E T D A Q R V K K P E W L V M L G$
PVVFI LRRTPSSPAHAAKLRDPDSSVNNQPDYVKNNHRSIR
 PVWVVKRPDALANHEDKLRDPESAVAQQPAYAQNRYRSKK
 GA A A AK DK LGNPDPASQLLAEPPGTRALVAGVK
 PVFI RHRTADEI KEAEDI K DES L R DPQQDADRVKKP
 PAMVAELPKLD PLLADPKSQRNPDDLTPPYARNEHRSI PVFI RHRTEANDIDI SSLKDPQTDADRVKDPQWLIMLG


VS F DPEMDFDAGRPGDYEEGVDERWKNGYGVW MVV

 P I I RNRTEEEAVELSELKDPVARNDNEPATDLDARSAGEG PVVIRNRTPEADVPMAELKDPVARNANAPDAQATGDGGAG

 DLTEEPQRFNFTDEQEDAWYTSVAWVY






UniRef90_D5VD62
UniRef90_K0I6M1
UniRef90_S3DKY7
UniRef90_K7SLX2
UniRef90_Q21U78
UniRef90_M0CIV3
UniRef90_A3PBI5
UniRef90_A1U3H6
UniRef90_M5DN30
UniRef90_UPI0003765489
UniRef90_UPI0003793BC1
UniRef90_B7RTL5
UniRef90_N6W9C9
UniRef90_B5JRP1
UniRef90_UPI00036EC4A7
UniRef90_F3LCI5
UniRef90_C6HY64
UniRef90_W9TX57
UniRef90_P95521
UniRef90_UPI000365EF0C
UniRef90_B5Y3C8
UniRef90_F3L1M3
UniRef90_A4YUT2
UniRef90_M8D5C0
UniRef90_UPI0002E2ED04
UniRef90_UPI0004765436
UniRef90_I2JGK5
UniRef90_N2JCY2
UniRef90_A0A011PQV8
UniRef90_B8HNR1

UniRef90_B8HNR1 UniRef90-A4RS90 UniRef90-B2UEZ9 UniRef90 A1K4U7 UniRef90-KODQX9 UniRef90-G9QP51 UniRef90_L2F6Z1 UniRef90_A3JUZ4
UniRef90 K2KBY4 UniRef90-D014Z2 UniRef90-Q0K6A5 UniRef90-R4VLY6
UniRef90 QOFQA1 UniRef90-A9XNS4 UniRet90_A2SCN7 UniRet90-AGFEX7 UniRet90-FORP18 UniRef90 WUHGP5
UniRef90 AOYES UniRef90-U1MDQ9 UniRef90 J2llJ8
UniRef90-A5DC66
UniRef90-B518S2
UniRet90_UPI0004797A4E
UniRef90 A5DZ68
UniRef90-UPIOOO36E3456 UniRef90-UPIO00414C6B1 UniRef90-P70758 UniRef90-11DXS7
UniRef90-UPIO0035D60C9 UniRef90-D8FZ15
UniRef90_O93SW6 UniRef90-YOKEF3
UniRef90 UPIO003 UniRef90_L8GC67 UniRef90-UPIO002FDB785 UniRef90-A0A016XK63 UniRef90_UP10002FCA1E7 UniRet90-G8ZPX0 UniRef90_S4XXS7
UniRef90 F7ZLP3 UniRef90-R1ENLO UniRef90_E1X2U4 UniRef90-H5SFT7 UniRef90-DOJO26 UniRef90_UPIo0046396B9 UniRef90-W6VYZ2 UniRef90-H3A401 UniRef90 UPIO002E47DD5 UniRef90-K6H1V6 UniRef90_UPIO004695EE1 UniRef90 UPIO0041D61C2 UniRee90-UPIOOO46A9B4F
UniRef90-M2TPF0



UniRef90 D5VD62
UniRef90-K016M1
UniRef90-S3DKY7
UniRef90 ${ }^{-}$K7SLX2
UniRef90 Q21U78
UniRef90-M0CIV3
UniRef90-A3PBI5
UniRef90_A1U3H6
UniRef90 M5DN30
UniRef90_UPI0003765489
UniRef90 UPI0003793BC
UniRef90 B7RTL5
UniRef90-N6W9C9
UniRef90-B5JRP1
UniRef90 UPI00036EC4A7
UniRef90- F 3 LCl 5
UniRef90_C6HY64
UniRef90_W9TX57
UniRef90 P95521
UniRef90-UPIO00365EF00
UniRef90-B5Y3C8
UniRef90 F3L1M3
UniRef90 A4YUT2
UniRef90-M8D5C0
UniRef90-UPI0002E2ED04
UniRef90 UPIO004765436
UniRef90-12JGK5
UniRef90-N2JCY2
UniRef90 A0A011PQV8
UniRef90 B8HNR
UniRef90-A4RS90
UniRef90-B2UEZS
UniRef90 A1K4U7
UniRef90-B2UDT7
UniRef90_KODQX9
UniRef90 G9QP5
UniRef90 L2F6Z1
UniRef90-A3JUZ4
UniRef90-K2KBY
UniRef90 D014Z2
UniRef90 Q0K6A5
UniRef90-R4VLYE
UniRef90 Q0FQA
UniRef90 A9XNS4
UniRef90-A2SCN7
UniRef90-A6FEX
UniRef90 FORP18
UniRef90 W4HGP5
UniRef90-AOYES1
UniRef90_U1MDQ9
UniRef90 J2llJ8
UniRef90-A5DC66
UniRef90-B5I8S2
UniRef90_UPIOO04797A4E
UniRef90 A5DZ68
UniRef90-UPIO0036E3456
UniRef90-UPI000414C6B1
UniRef90 P70758
UniRef90-11DXS7
UniRef90-UPI00035D60Cs
UniRef90 D8FZ15
UniRef90 Q93SW6
UniRef90-YOKEF3
UniRef90-UPI0003B37CA5
UniRef90 L8GC67
UniRef90-UPI0002FDB785
UniRef90_A0A016XK63
UniRef90 UPI0002FCA1E7
UniRef90 G8ZPXC
UniRef90_S4XXS
UniRef90-F7ZLP
UniRef90_R1ENLO
UniRef90-E1X2U4
UniRef90-H5SFT7
UniRef90 D0J026
UniRef90 F7QJH:
UniRef90-UPI00046396B9
UniRef90_W6VYZ2
UniRef90 H3A40
UniRef90 UPI0002E47DD5
UniRef90-K6H1V6
UniRef90 UPI0004695EE1
UniRef90 UPI00041D61C2 UniRef90-UPI00046A9B4F
UniRef90_M2TPFO
UniRef90 C4R0S5
UniRef90 C0N8W2
UniRef90-K1ZZZ9
UniRef90_F0W758
UniRef90 D6TR6
UniRef90-UPI000472136A
UniRef90_G3GWW7

UniRef90_UPI00047927E1
UniRef90_UPI000366E0E5
UniRef90_B3CME0
UniRef90-B6AUC7 UniRef90_UPI0003683478
UniRef90_IOG3E8
UniRef90-K4ZIW6
UniRef90 D5ANZ2
UniRef90_V4HWX3
UniRef90_C1BSB1
UniRef90 G4N4E1
UniRef90 A9H0G5 UniRef90_UPIO00478BCED UniRef90_W7IFK6 UniRef90 UPI0003663771 UniRef90-U4UVW2 UniRef90_W8SIL8 UniRef90_D8PBQ3 UniRef90 W9H4K0 UniRef90_S8E8U4 UniRef90-_T1PKU2 UniRef90_LOP896 UniRef90-UPI000364CCF2 UniRef90-C5FM53 UniRef90_UPI00039A9F2C UniRef90 U1IHT2 UniRef90_K0JWU4 UniRef90_K0SJ93 UniRef90_UPI00046E748A UniRef90_W6X5B3 UniRef90_K2DV42 UniRef90_A9UXZ8 UniRef90 L8HIC2 UniRef90_W2TG87 UniRef90_Q67JM2 UniRef90_G5ZZF7 UniRef90 A0A026WKI3 UniRef90-I2JWU8 UniRef90_UPI0003C2B14C UniRef90 UPI00030F0EB0 UniRef90-UPI000371414A UniRef90_V4QE69 UniRef90_A0A059FI15 UniRef90_UPI00040C9AF1 UniRef90_UPI0003B721F6 UniRef90_F4L9A8 UniRef90 B9XJX5 UniRef90-UPI000401CFAC UniRef90_A3V2L1 UniRef90_A0A059IR75 UniRef90 Q6VBC4 UniRef90_W2TBW1 UniRef90_R0DTH0 UniRef90 E3I0M2 UniRef90-M7NVZ5 UniRef90_A0A059F5Y9 UniRef90_UPI0002558961 UniRef90 W3VR21 UniRef90_M0SG26 UniRef90_UPI00044168DE UniRef90_A6TX15
UniRef90 A6GGF9
UniRef90-14EIZ6
UniRef90_E6TZH7
UniRef90_N1QDR3
UniRef90-A8TWZ4
UniRef90_UPI000368D47F UniRef90_B8GMK9 UniRef90_G3PJ66 UniRef90-B1Y4A5
UniRef90_Q1AS46 UniRef90 Q0FDH6 UniRef90_UPI0003B58B2B UniRef90_-14X4X1 UniRef90_A6QU87 UniRef90 F8EUK4 UniRef90_Q0ARQ8 UniRef90_UPI0003B4D850 UniRef90_S8FT46 UniRef90 ${ }^{-}$D5BNZ6 UniRef90_D1A1S0 UniRef90_UPI000225E2A7 UniRef90 A5V644 UniRef90_UPI0001851034 UniRef90_F4Y0S1 UniRef90_B5XAY2 UniRef90_V7C495 UniRef90_H5WT65 UniRef90_D4Z5K5 UniRef90_UPI0003648FA5 UniRef90_UPI0003B7B287 UniRef90_UPI00037646F9



P WT S VY Y P S R $\square R$ P Q A S A

$\square V N M S A S A D V L A Q A K V E \square A \square S A \square P W R G K$ WRGQ WR G G WRGK WRGK
VD $\square$ S K $\square$ A E G Q S $\square \mathrm{T} \mathrm{V}$ K
PRRAE
 LIALASIEVDUSA!KEGQA■KTIFRRKQ

PDQSP WR GK
LIA L A S LEDDS STEPGSTVTVK
WR GK
PGDFLVSVDDDARPLTVADIEPHVFAWPH V DLSADQPGIKTTFRSQPLFVRHLTDK F P M VR F A VD P M L K K G E A G N F LDDVG $\square$ K VD E $\square$ T D T

UniRef90 UPIOOO47927E1 UniRef90_UPIOOO366E0E5 UniRef90- B3CMEO
UniRef90 B6AUC7 UniRef90-UPIO003683478 UniRef90-10G3E8 UniRet90-K4ZIW6 UniRef90_D5ANZ2 UniRef90-V4HWX3 UniRef90-C1BSB1 UniRef90-G4N4E1 UniRef90-UP1000478BCED UniRef90-W7IFK6 UniRef90-UPIOOO3663771 UniRef90-U4UVW2 UniRef90_W8SIL8 UniRef90-D8PBQ3 UniRef90_W9H4K0 UniRef90-S8E8U4
UniRef90
T1PKU2 UniRef90-LOP896 UniRef90-UPIo00364CCF2 UniRef90-C5FM53 UniRef90-UPIo0039A9F2C

```
UR
```

UniRet90-KOJWU4
UniRef90-KosJ93
UniRef90-UPIo0046E748A
UniRet90-W6X5B3
UniRef90-K2DV42
UniRef90-A9UXZ8
UniRef90-L8HIC2
UniRef90-W2TG87
UniRef90-Q67JM2
UniRef90_G5ZZF7
UniRef90 A0A026WKI3
UniRef90-12JWU8
UniRef90-UP10003C2B14C
UniRef90-UPIOOO30FOEBO
UniRef90-UPI000371414A
UniRef90-V4QE69
UniRef90-A0A059FI15
UniRef90_UPIO0040C9AF1
UniRef90 UPIO003B721F6
UniRef90-F4L9A8
UniRef90-B9XJX5
UniRef90-UP1000401CFAC
UniRef90-A3V2L1
UniRef90-A0A0591R75
UniRef90-Q6VBC4
UniRef90-W2TBW1
UniRef90-RODTH0
UniRef90-E310M2
UniRef90-M7NVZ5
UniRef90-A0A059F5Y9
UniRef90-UPIOOO2558961
UniRef90-W3VR21
UniRef90-MOSG26
UniRef90-UPIO0044168DE
UniRet90_A6TX15
UniRef90_A6GGF9
UniRef90-14EIZ6
UniRef90-EGTZH7
UniRef90-N1QDR3
UniRef90-A8TWZ4
UniRef90-UPlooo368D47F
UniRef90_B8GMK9
UniRet90-G3PJ66
UniRef90-B1Y4A5
UniRef90 Q1AS46
UniRef90-QOFDH6
UniRef90-UP10003B58B2B
UniRef90-14X4X1
UniRet90-A6QU87
UniRef90-F8EUK4
UniRef90_OOARQ8
UniRet90_UPIOOO3B4D850
UniRef90-S8FT46
UniRef90-D5BNZ6
UniRef90-D1A1S0
UniRef90-UPIO00225E2A7
UniRef90_A5V644
UniRef90-UPIOOOO1851034
UniRef90-F4YOS1
UniRef90-B5XAY2
UniRef90-V7C495
UniRef90-H5WT65
UniRef90-D4Z5K5
UniRef90-D4Z5K5
 PVVVVNRTEEYLKQVDDSKADEAVSAEWLTAENNKYRA: K PVERRKRKGEVEARALRDPESDEKRVYKGKDEWLIMM G
 TSVVRNASRLNEDMUIRLD AKHLDKLETVHNKP EDVPNGEGAVVTV DGKRAGAYRD PVFi RRRDEKD $\square E \square A R S V P G G A D R D T A E N A N K P G A E A T D$ PKML P VF F PVF RHRTS PESLARRDEANKIDVASLRRDPEADSDRVKKPEWLVIMLGV

 NVWVLK ATPKVLETVYQGKDMEFHDAAGKLIWTN $P V F V R R R T E E A S V N L A E L R D P Q P D S A R V K Q P Q W L V L V G V$
$P V F I R R R T E A N S V E V A S L R D P Q E D A B R V K D P E W L V V V G V$

 PVFRRHRTASEDQEAQELRDPQPDSDRVKNPEWLVMLGVD PIWVVRRTDEMI EGLSRITDRSEVEEQQPPYAQNEHRSID KTSVVRKGSRLNEVVLVKLDPSE PTLLRRLKPGEVGSAEEVPRGTGRLVRRGLGKVGVFAR PVFI DRRTPQNAELSAQLKDANSTANQQPSYARNWHRSLT
 PVFVRHRTAEEVTPLSELLDPETDQARVKKGHAQWLIVVG PLFVRHRTDAESAPLTDMRDPCPDAARRKADKPEWLIVLG PIFVKHRTKEKAVNVSEVRHAEHDDQRVKKDEWLVVLGV
PVFПRHRDEAKVADAD PLFVRHRTDESKVDVTSLRDPQEDSARVKDPKWLVIMG PVFIRHRTEANXVDISTLRDPQKDADRVIKPEWLIMVGV

 PLFVREDKEAEDVKLSDLKDPQTDADRVKKGKEQYLILVG PVFVRRRTDAEGEAAREVDTNAQNRNDMSLKATDQNRTLD
 PKVWRSVGKVDSFKIVRYDDASPEPWAGVTARTAAWLRRE PVFFVKGKVKRADKTVDDLGFDEGAIVNHNGEHVAAY RD AI DMARATPLDALVDQTDSAKENPNHPQTEPADASDANRS PLEVRHRDTENKVDATSLRDPQTDEERVKDPKFLIVIGV PVFIRHRTDAESEDVSSLPDTVARNPNGDVLATDANRAVA PIFVRNDGKAKAVDVADLKDPVARLLGSTAEDPASAANIG
 PVFIRRRDAANEVDPASLPDPLARNGNDDAGAPDPNRALA

 VGQRSEFGPEPVKVDUYADRVDAWNKTRNVKLGSVE
 PVERRHRTADEGKDWKTLRDPQPDSDRVKKPEWLIMLLGV PVFI WNRTKAQVEELSQLPDKSARNENLPSDATDPNRAAK PVWI VRRTDALPTLNPRLRDPESELEQQPSYARN円HRSTK PLFVRHRTEEEAVNIAELRDPQHDRERVLNSKWIIVLGV PVWVVRRTPAMLAALAELVDPQSARQQQPAYAANPARALH PVFTRRRKAARAVPLADLPDVDARNANTET GAFLVRLRPTKRGGVDALEPGEGKIVR PVFTRHRTDAAVADITEEPVRVDFTFEQTDAWYVSEAWVY PVFI RHDTKANAVSLSDLRDPETLSQRTKPGKSNWLVTM
PVFIRHRTEEEAVELDALPDEDARNDNLPAGVPGTDANRV PVWIFKRNAEQLKVLPRLKDPKSDNADQPAFAKNEARALK PVF VRHRTADEDARAETANGDDLRDPQPDDARVQRP
PA $\quad$ AE
PA EMEAADAVPLSALRDPQTLAERTKDGHHDLLVTMG PLFVRHLTAADKVDPSTLRDPQTLEQRTVDGKKQWLITMG

 PVFIRRRTEDDHKLANSVDVLSLRDPQQDADRVK
PSAKRNRDASRLNR ERAEADKVDPASLRDPQTLEERTVDGKKQWLVTMG
P 1 FVIHRK

UniRef90 UPIO0047927E1 UniRef90-UPIOOO366E0E5 UniRef90-B3CMEO UniRef90_B6AUC7 UniRef90 UPI0003683478 UniRef90-10G3E8
UniRef90-K4ZIW6
UniRef90-D5ANZ2 UniRef90-V4HWX3
UniRefofo-C1BSB1
UniRef90-G4N4E1 1
UniRef90-UPIO00478BCED
UniRef90-W7IFK6
UniRef90-UPI0003663771
UniRef90-U4UVW2
UniRef90-W8SIL8
UniRef90 D8PBQ3
UniRet90 W9H4K0
UniRef90- $88 E 8 U 4$
UniRef90-TTPKU2
UniRef90 UPIOOO364CCF2
UniRef90-C5FM53
UniRef90_UPIOO039A9F2C
UniRef90_U11HT2
UniRef90-K0JWU4
UniRef90-KoSJ93
UniRef90'UPIO0046E748A
UniRet90-W6X5B3
UniRef90-K2DV42
UniRef90-A9UXZ8
UniRef90-L8HIC2
UniRef90-W2TG87
UniRef90-Q67JM2
UniRef90-G5LZF
UniRef90 A0AO26WKI3
UniRef90-12JWU8
UniRef90-UPIo003C2B14C UniRef90_UPIOOO30FOEB0 UniRef90 UPIOO0371414A UniRef90-V4QE69 UniRef90-A0A059FI15
UniRef90 UPIO0040C9AF1 UniRef90-UPI0003B721F6 UniRef90-F4L9A8
UniRef90-UPI000401CFAC
UniRef90-A3V2L1
UniRef90-A0A059IR75
UniRef90 Q6VBC4 UniRef90-W2TBW1
UniR Refo-RODTHO
UniRef90-E310M2
UniRef90-M7NVZ5
UniRef90-A0AO59F5Y9
UniRef90-UPIOOO2558961
UniRef90 W3VR21
UniRef90-M0SG26
UniRef90-UPIO0044168DE UniRet90_A6TX15
UniRef90 A6GGF9
UniRef90-14EIZ6
UniRef90-E6TZH7
UniRef90-N1QDR3
UniRef90-A8TWZ4
UniRef90_UPlooo368D47F
UniRef90-B8GMK9
UniRef90_G3PJ66
UniRef90-B1Y4A5
UniRef90 Q1AS46
UniRef90-Q0FDH6
UniRef90 UPI0003B58B2B
UniRef90-I4×4×1
UniRet90-A6QU87
UniRet90_F8EUK4
UniRef90-Q0ARQ8
UniRef90_UPI0003B4D850
UniRe90_S8FT46
UniRef90-D5BNZ6
UniRef90-D1A1SO
 PEYLIVVAS CTHLGCMPLFKPTAGRKDWGDSVPENGGW ETGEWLVMMGVCTHLGCVPLGD ADYGV F ITI CTHLGCIPNLRD【P VDG LAYSALCSHAGCPVTAW EQGTLHIVDTTCTHMGCELEWNH ENRTLPAFDGVCTHLGCVPMGDKS GFGEKVEGADFGGW
 CTHLGCVPAANGAGEFGGY PEFGVVV G $\square \mathrm{CTHLGCVPTYSPAPDPATP} \mathrm{\square ANWP}$ GEPTYVGLVNDCTHLGCTFPWNPF CTHLGCVPD

GEAGEYKGF K K G N WLI LIGG GCIPKGQAMGDSKG AGFGGW EAGEWLVMMGVCTHLGCVPLGD GAGDFNGW
 CTHLGCVPWGQKPTDPKG DGQVF CTHLGCIPAPNABYGGW - C ANS

GEAGDYRGW
EQGELRALDAK
K C
PE FLVVIGDCTHLGGCSPTYRPEDGDPEMGAEAGDFGGW

 EHSNLLVVVG

V C T H
1
$V$
$V$
$C$
S E D G $\square$ MA $\square$ Y WK

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

$\square \square_{C}^{C}$
$K E N W L V M V G / V C$
PE IGVLIPICT
SNPA ILITS GVCTHLGCVPT F

PE LFVCVGIVCTHLL
SENTFVAFSINCTHLGGCVRWLFETGGGAGMPGNWQGG F
PDGNVSLVGSNCTHMGCTVNWN E GWLV GMNWN
$E D G V W L V Q M G V C$
$E A G E W L I V I G U C$

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


K C

PE GE WL $V$ MMGVC
$C$
$C$
$C$
ENGETHVVDTTC
REGQLVAFSTVC
NKEGLLALYWKCPHLGCTVPWNASAS
KEGDVIALSPVCTHLGCTVNWDTNEDHP
PEQLIVV GVCTHLGCVPLGQKPSDPRG DKENWLVVVGVCTHLGCIPLANPEVAPDAYGGW PE DLVLIGVCTHLGCSPAYRPEVAPDDLGPEW RGGF PEVFVADGDCTHLGCVPTEVPQGTANPSDPAAGDYGGY
 EAGALHRHSSVCTHLGCEVHFN KEGDLIALSPVCKHLGCTVNW

ADCTHLGGClPDGGNGEPRG
DRPEFLIVKGNCTHLGCV PE LAVIVGDCTHLGCSPGYVPEMVPQAYD
TEGTELLVVVGVC

## TGE

$V$ THLGCVP LGAAEGENKGEFGGY
EKGEVIALSPICKHLGCTVNWNNEDHP
SNNSLVAVNPRCTHQGCSVDWKQ
CTHBGCVPDAN

## DPEWLIVVGVCTHLGCIPLPN <br> AEGVLAYSGVC

VCTHLGC
NKGETVALSPTCKHLGCTVDWNTSKQHP
EGNEILALSPVCKHLGCTVSYNTNPQFK

UniRef90 UPIOOO47927E1 UniRet90 UPIOOO366EOES UniRef90-B3CME0 UniRef90-UPIO003683478 UniRef90-10G3E8
UniRet90-K4ZIW6 UniRef90_D5ANZ2 UniRef90-V4HWX3 UniRef90-C1BSB1 UniRef90-G4N4E1 1
UniRet90 A9H0G5 UniRef90-UP1000478BCED UniRef90-W7IFK6 UniRef90-UPIOOO3663771 UniRef90-U4UVW2 UniRef90-W8SIL8 UniRef90-D8PBQ3 UniRef90-W9H4K0 UniRef90-S8E8U4
UniRef90 - T1PKU2 UniRef90-LOP896 UniRee90 UPI000364CCF2 UniRef90-C5FM53 UniRef90-UPIO0039A9F2C UniRef90 U11HT2 UniRef90-K0JWU4 UniRef90-KOSJ93 UniRef90-UPIO0046E748A UniRef90 W6X5B3 UniRef90-K2DV42
UniRef90 A9UXZ8
UniRef90-L8HIC2
UniRef90-W2TG87
UniRefolo-Q67JM2
UniRef90-G5ZZF7
UniRef90 A0A026 WKI UniRef90-12JWU8 UniRef90-UPI0003C2B14C UniRef90_UPIOOO30FOEBO UniRef90_UPI000371414A UniRef90-V4QE69 UniRef90-A0A059FI15 UniRet90_UPIO0040C9AF1 UniRef90 UPI0003B721F6 UniRef90- F4L9A88
UniRef90-A3V2L1
UniRef90-A0A0591R75
UniRef90-Q6VBC4
UniRef90-W2TBW1
UniRef90-RoDTH0
UniRef90-E310M2
UniRef90-M7NVZ5
UniRef90-A0A059F5Y9
UniRef90-UPIOOO2558961
UniRef90-W3VR21
UniRef90-MOSG26
UniRef90-UPIO0044168DE
UniRet90-A6TX15
UniRef90_A6GGF9
UniRef90-14EIZ6
UniRef90-E6TZH7
UniRef90-N1QDR3
UniRef90-A8TWZ4
UniRef90-UPIO00368D47F
UniRef90_B8GMK9
UniRef90_G3PJ66
UniRef90-B1Y4A5
UniRef90 Q1AS46
UniRef90-Q0FDH6
UniRef90_UPIo003B58B2B
UniRefofo-14×4×1
UniRef90-A6QU87
UniRef90-Q0ARQ8
UniRef90-UP10003B4D850
UniRet90_S8FT46
UniRef90-D5BNZ6
UniRef90-D1A150
UniRef90_UPI000225E2A7
UniRef90-A5V644
UniRef90_UPIOOO1851034
UniRef90-F4YOS1
UniRef90-B5XAY2
UniRef90_V7C495
UniRef90-H5WT65
UniRef90-D4Z5K5
UniRef90 UPIIO003648FA5
UniRef90_UP10003B78287
UniRef90_UPIOOOO 7646

##  <br> 

FCPCHGSK ${ }^{130}$ FCPCHGSKF
HCPCHGSMYD
FCPCHGSYYD FCPCHSYYD
FCPCHGSYYD
FCPCGSHC
FCPCHGSQFD G
KCMCHNSEYDPRA
KCMCHNSEYDPR
DCPCHGSRFSD
FCPCHGSKFDMA
FCPCHGSKFDMA
YCPCHSHDDA
FCPCHGSHYD

## 

## צ

## A <br> 

なo
CR 140 ( 150
160
SARVIN GPAPHNLHLMPYKYLT ETKVV TSGRVIGGPAPKNMA
 GA G R V L R M P A P Y N L P V

 | $D$ | $G$ | $V$ | $M$ | $E$ | $G$ | $P$ | $A$ | $K$ | $K$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $P$ | $L$ |  |  |  |  |  |  |  |  |
| $S$ | $A$ | $G$ | $R$ | $I$ | $R$ | $K$ | $G$ | $P$ | $A$ |$P$

## S

## S G R V F Q N P A P L N L E V V P P Y T F <br> 

$\mathrm{V} D E T$


F C P CHGSSHY D $\square$
Y C P C H G S H Y D A
F C P C H G S HY D
$T$
$T$
$T$
$T$

$T$ SGRI RKGPAPL $\begin{array}{llll}G K & V & L Q & G P\end{array}$

 $F V S D N$
 D

| E |
| :--- |
| E V |
| V |

$\square A$ A A VF P DE G T L
$E Y D F \operatorname{L}$ S D D K
$L N S E G K R D S$
 D GDVLE GPATDP L PTLDPDV
SGRIIRKGPAP L N L E I P P P Y K F
$G R V Q K G P A P Y N L P V P P$
GRVFKKPAPQNLDVPRYRFES
S GRVVRRGPA $\quad$ R L L
S GRI RK GPAPENL E IPP EHS FEDN
T A G R $\quad$ I $\quad$ R K G P P A P K D T

S

S GRNIRA G

GRVYS GPAP LDLQ

## 


TAARIVRKGPAPKNLVEVPVVYEFTSDTVV
MA GRVYK DKPAPDNLEVPPYQYLS DTRDI
ENGDVA A GPPERPLTRYPVRV
NGEVDEGPAVKSLPP


GS G R $\quad$ R $\quad$ R K G P A P
TA GR I RK GPAPENLHDPTMSVSED



## TA GR RKGPAPQNLPVPVAAFDGET




$D G A P E E G P A P R S L D A L E L S N D E D G G G L$



$\qquad$
GAGRVYKNKPAPTNLEDPPHFYASAT RDGTVLEGPAVRPLAR

$$
E K N G Q N \text { A } A \text { G P P }
$$

SGRIIRKGPA PLDNLEVP P
T A GRII R R GPAPTNLVVPPYAF DSNS V

 TS GRI R K GPAP T N L EVVPP YT F L S D S


 D G K V T K G P A DK P L K S Y E T K E E D N SGRI RKGPAPLNLEVPYYEFPDEDTVI SGRIRKGPAPYNL
AK GAVVVAGPAPRALDWDALRSDAGRLVL

## TAARIRKGPAPKNLEVPKFSFTSDTALL

F C P C H GS S Y D
Y C P C H G GR Y EKNGRNVPGPPSAAPLDAFATKV
FCPCHFGRY TKDGTNVPGTPPAKPGDRYETKIE

UniRef90 UPI00047927E1 || L V IG VD
UniRef90_UPIO00366E0E5
UniRef90-B3CME0
UniRef90 UPI0003683478
UniRef90-10G3E8
UniRef90_K4ZIW6
UniRef90-D5ANZ2
UniRef90-V4HWX3
UniRef90_C1BSB1
UniRef90-G4N4E
UniRef90 A9H0G5
UniRef90-UPIO00478BCED

UniRef90_W7IFK6
UniRef90 UPI0003663771
UniRef90-U4UVW2
UniRef90-W8SIL8
UniRef90 D8PBQ3
UniRef90 W9H4K0
UniRef90-S8E8U4
UniRef90-T1PKU2
UniRef90_LOP896
UniRef90-UPI000364CCF2
UniRef90-C5FM53
UniRef90_UPI00039A9F2C
UniRef90 U1IHT2
UniRef90-KOJWU4
UniRef90-K0SJ93
UniRef90-UPI00046E748A
UniRef90-W6X5B3
UniRef90_K2DV42
UniRef90-A9UXZ8
UniRef90 L8HIC2
UniRef90-W2TG87
UniRef90-Q67JM2
UniRef90_G5ZZF7
UniRef90 A0A026WKI3
UniRef90-12JWU8
UniRef90_UPI0003C2B14C
UniRef90_UPI00030F0EB0
UniRef90-UPI000371414A
UniRef90_V4QE69
UniRef90-A0A059FI15
UniRef90 UPI00040C9AF1
UniRef90-UPI0003B721F6
UniRef90-F4L9A8
UniRef90 B9XJX5
UniRef90_UPI000401CFAC
UniRef90-A3V2L1
UniRef90_A0A059IR75
UniRef90 Q6VBC4
UniRef90-W2TBW1
UniRef90-RODTH0
UniRef90_E310M2
UniRef90-M7NVZ5
UniRef90-A0A059F5Y9
UniRef90-UPI0002558961
UniRef90 W3VR21
UniRef90-M0SG26
UniRef90-UPI00044168DE
UniRef90 A6TX15
UniRef90 A6GGF9
UniRef90_14EIZ6
UniRef90-E6TZH7
UniRef90 N1QDR3
UniRef90-A8TWZ4
UniRef90_UPIO00368D47F
UniRef90 B8GMK9
UniRef90_G3PJ66
UniRef90_B1Y4A5
UniRef90_Q1AS46
UniRef90 UPI0003B58B2B
UniRef90_141000
UniRef90 ${ }^{-}$A6QU8
UniRef90 F8EUK4
UniRef90_Q0ARQ8
UniRef90_UPI0003B4D850
UniRef90_S8FT46
UniRef90-D5BNZ6
UniRef90-D1A1S0
UniRef90_UPIO00225E2A7
UniRef90 A5V644
UniRef90-UPIOO01851034
UniRef90-F4Y0S1
UniRef90-B5XAY2
UniRef90_V7C495
UniRef90-H5WT65
UniRef90-D4Z5K5
UniRef90 UPI0003648FA5
UniRef90-UPI0003B7B287
UniRef90_UPI00037646F9
$S \nabla A G F \square G K \nabla G G$

I LVGEEEEV
$L \vee \vee G$
V
$\overline{\mathrm{V}} \mathrm{V}$ V $G$

V V
$\angle \vee \square G$
AGSAARPAQQRSDD $\square$

| $L I V$ |
| :--- | :--- |

AAP
$\square R \square G T D E$
VLVGVD
$V$ V I G
$V$ NTGK $\square$ T ERPRHEPE
$\mid K V^{G}$
V V VG
V
VT $\square$ S $\square$
$\overline{\mathrm{V}} \mathrm{K} \square^{\mathrm{G}}$
V G VD E D
$\bar{V} \mathrm{VI}$
1

V

L LGGGT
|LVIG

LVVGEDE
1 V
RSAG $\square$
$\mathrm{A} \square \mathrm{G}$
$\square \mathrm{S} \square \mathrm{G}$
LIVGVAP
$\underline{L} \vee \mathrm{I} G$
V
VQVG

V

AS GFNQPPGG
V

UniRef90 W4YOP7 UniRet90-W7TQL4 UniRef90-AOCD74
UniRef90_A8FEJC
UniRef90 Q07JII UniRef90-M4AX14 UniRef90-W5Y5H3 UniRef90 UPIO0036E802D UniRef90 ${ }^{-}$X6GEB2 UniRef90_O7PWI1
UniRef90 E9FW02 UniRef90 Q5NNY0 UniRef90-B3GUZ5 UniRef90_-V8FYX8 UniRef90 UPIO0040E2A17 UniRef90-U6IX86 UniRef90-G7WII1
UniRef90 B6S352
UniRef90 A9IR65
UniRef90-14DKU3
UniRef90-G2TFQ5
UniRef90 D3GOJ2
UniRef90 U5LF29
UniRef90-M9R6F7
UniRef90- J9HSCO
UniRef90 EOIC63 UniRef90-D3DBS2
UniRef90-A0A059E265
UniRef90 UPI0004174376
UniRef90- G7URD2
UniRef90-B3RVC6
UniRef90- ${ }^{-1 B 3 P 6}$
UniRef90 M7YA89
UniRef90- BoUHS3
UniRef90-Q0PWT1
UniRef90 A7H7VO
UniRef90 G7Y965
UniRef90-UPIO00367D396
UniRef90-U9VJE4
UniRef90-A4X9H2
UniRef90 C6CUE8
UniRef90-UPIO004685E1A
UniRef90-UPIO00376415A
UniRef90 E6PKG8
UniRef90-U6H 46
UniRef90-UPI0003654607
UniRef90 B8MU14
UniRef90-D0LZD1
UniRef90-C5PAX7
UniRef90_UPI000377AC53
UniRef90 D6TNQ8
UniRef90 ${ }^{-}$W8S3F7
UniRef90-UPIoo0469ADBF
UniRef90 C7LYV8
UniRef90 UPI00029AC507
UniRef90-W6EER1
UniRef90-B9XS40
UniRef90 C5BVY8
UniRef90_U5WWL3
UniRef90-A0A01 1PRL
UniRef90 DoMH23
UniRef90 H1FTV5
UniRef90-UPIO004626A37
UniRef90-H1YG90
UniRef90-L9WB65
UniRef90-UPIO00348AB25
UniRef90-KOIHK6
UniRef90 UPIO00299EA61
UniRef90 UPI00047EOA7B
UniRef90-D9T519
UniRef90-UPIOOO3612CC6
UniRef90_K2R790
UniRef90-A0A037ZK71
UniRef90-A9A4Y6
UniRet90_B1M3H5
UniRef90 W8PN84
UniRef90-UPIO0034807AO
UniRef90-U9U698
UniRef90-A4YU96
UniRef90- F2THI8 UniRef90-A4WIA4 UniRef90_E6JDW3 UniRef90 D3D439 UniRef90-W9CBY2 UniRef90-A3ZQU2 UniRef90_Q2JG72 UniRef90 A6Q5D3 UniRef90-K7FMW4 UniRef90-B8KHO6 UniRef90 B1ZIQ2 UniRef90_WORJN3
UniRef90_M4FSD7



VDVSS $\square T P G V K W R G K P V V V R N R T E Q$ TKLADIPEGKS LALAKIEVKLNDDPE GKNVTF KWRGK VDUTVPPGQTV KVVW RDQ WRNK WQGK

TLAMANVEVNLANDPEGKN\|VVK WRNK
VeTsLaAVpegknavfew
RNK VDLSGIDEGMSVTVK
$\square K \square A D \square P E G K S$
VTFKWRGK

S K

$\nabla A \square A A C N P T E P A S D T P A V G D S \nabla P A S E A$ S G D E GT
AEVVAAGAPDEVDLTP $\square Q \| V N V F W R G K$
 GLTNAPAAALRVVSELRAEKMSERPRWMTQWGRGT

PKKALLD
A ATY Y DT TS LP L NE $\square$ A YS WQK K

WQ G R
WR G K
TAADVPAGGPPV HAWPK D LSSCGSGAKNNDPSP QNNPPATGS

LD R T

H A D Q

NQASLEKVPVIL PDGTQANVNTYPDEVITYPATGD
G T
A N S
HEGA

VD R LIE G L P R V F F GKPS $\square$ T GS
FF QPPEAAD
ARNAVP $\square F A D \backslash P \square Q$

\section*{UniRef90 W4Y0P7} UniRef90-W7TQL4 UniRef90-A0CD74 UniRef90-Q07JI1 UniRef90-M4AX14 UniRef90-W5Y5H3 UniRef90 UPIO0036E802D UniRef90_X6GEB2 UniRef90-Q7PWI1 UniRef90-E9FW02 UniRet90_O5NNYO | UniRef90_B3GUZ5 |
| :--- |
| UniRef90 V8FY | UniRef90 UPIO0040E2A17 UniRef90-U6IX86 UniRef90-G7WII1 UniRef90-B6S352 UniRef90-A91R65 UniRef90-I4DKU3

UniRef90-G2TFQ5
UniRef90-D3GOJ2
UniRef90_U5LF29
UniRef90 M9R6F7
UniRef90-J9HSC0
UniRef90-EOIC63
UniRef90-D3DBS2 UniRef90-A0A059E265 UniRef90_UPIOO04174376 UniRef90_G7URD2 UniRef90-B3RVC6 UniRef90-X1B3P6 UniRef90-M7YA89 UniRef90-BOUHS3 UniRef90-Q0PWT1 UniRef90-A7H7VO UniRef90-G7Y965 UniRef90-UPIooo367D396 UniRet90_UgVJE4 UniRef90-A4X9H2 UniRef90-C6CUE8
UniRet90-UP10004685E1A UniRef90_UPIooo376415A UniRef90 E6PKG8 UniRef90-U6H 146 UniRef90_UPIOOO3654607 UniRef90-B8MU14 UniRef90-DOLZD1 UniRef90-C5PAX7 UniRee90-UPI000377AC53 UniRef90 D6TNQ UniRet90-W8S3F7
UniRef90 UPIO00469ADBF UniRef90 C7LYV8
UniRef90_UPIO0029AC507
UniRef90-W6EER1
UniRef90-B9xs40
UniRef90_C5BVY8
UniRef90_U5WWL3
UniRef90-A0A011PRL1
UniRef90-D0MH23
UniRef90-H1FTV5
UniRef90_UPIO004626A37
UniRef90-H1YG90
UniRef90-L9WB65
UniRet90-UPI000348AB25
UniRef90-KOIHK6
UniRee90-UPI000299EA61
UniRef90-UPIO0047E0A7B
UniRef90-D9T519
UniRef90-UPIO003612CC6
UniRef90_K2R790
UniRef90-A0A037ZK71
UniRef90-A9A4Y6
UniRef90-B1M3H5
UniRef90-W8PN84
UniRef90-UPIO0034807AC
UniRefto YeU6988
UniRef90-A4YU96
UniRef90-F2THI8
UniRef90-A4WIA4
UniRef90-E6JDW3
UniRef90-D3D439
UniRef90-W9CBY2
UniRef90-A3ZQU2
UniRef90-Q2JG72
UniRe90
UniRet90_K7FMWW4
UniRef90-B8KHQ6
UniRef90-B1ZIQ2
UniRef90-WORJN3
UniRef90-M4FSD7

50
60
70
P पF VRHRTQEESVDVIASTRDPQHDKERVQKDEWLVLI GV
 $V Q V V S V D E \bar{L} T K E P$ KRFDFK $D D Q V D A W Y E S K E S$ RSAWVY PIFINHRTPKENADWKSFRDPQPDSDRVKAGHEQWLV




 DRLKSPLVI YNSPLAENSGWQSAAAARVWVKR PTFVRHRTPEEGVNVSQLRHPQPDSERVKKPEWLIVVG PVVIRNRTAKEAVNLSLLKDRQARNPNFEGEKEATSAGKG
 TPQKVSEDTAEPTRVDFKFEQQDAWYTAWVYKD

 KAlLDALPSEDGELRDPNSENEDQQPAYVLKGNPELRSTK PLFLRHRTAEQNVNLVDELRDREWDKDRNSDGVYVVRYGEG LIFVRKLGDMKAVPGSAMIDPAAFTTRVKNGHDQWLIVYG PLF RHARAEQAVAMSTLRDPQADSDRVKDPKWLVLIGVG PLFVRHRTQEEIERERSVPLHELRHPQTDESRVQRP

ARLQAKVGADIVGRPGEVSSPDAVEPGTAAVVRGVY

WVKVVEESKVTTEPQEKFQI HQVDGWYVSDPELSAWTTKD PVFVRHRKAQDEAAVGSRPDTNARNANLSDPEASAVVMPS PAMLVNRKESEAVKLSELTDPQPDSARVKEGHAKWLVVYG PLLFVRHRDQERSVPDSALRDPETDEQRVKDPKWLVCVGV KDUKSLRDIPNLEKVESEVEGVQDGKVLVVR

 PVFISRRTPELVDPVSRNPNGDFDAPATDLNRTLAPYEGD MVAVGNMKDFSEEPKVDFKLPVQDGWANYDVSLSAWVTKT VVNVGALTKT LREVLGDPSRGVRRLVVGHVEDVAGRR

 RDRTKEWTPVLPASSLNGKPVRVEVDGVGLVVCQT
 P $\| F / V L K K T A A M V A S Q T D$ PNTSVVRSASRLNEILITRL A 1 TFANLGTELLDHAVTATVGQ DPAELDEKTRARA SKTSN NADAENLHHVTAADDIEDGERVVVDIVGRETAVFY PRDWCDLGPLDGFPDDEVLNQEAGGVGGADAAGVPVVVAR

LKRDQDLSVGRPVMVPVLGSKQDAWVQSDQQVLGRVA VshLKTLQ VPKGTVISADVDGVQVAIVHG AHRGPNDWCDLGPDDDFSEGRPEVRDAGNVKVVVLR KLKGTDSLNLKNGDKQEVEVEGDENGKVLLVK MSDLDWISVGHVDDLPEGRVKTVTARTTSUCLVH A A

NQDKPREVRLALDALPGGKAEGKAGDDAVLFVRD PVFVRNRRAARVVRIRELKDRYARNANDNSNALAFDRNRQ
 PSGLVRLCHSD EIGEAQSRGFDPRDEGQDSLFVVR DGGP K 位APEWERVATVDERQDGKKMAVVGLWREVLLVP PTGAADAGGSGWRRVVAKARDADESALGVESVRPVGEATG
 $P \prod F \rightarrow\llcorner\mathrm{~K}$ KPPEENCHTMPDETKKRLVKVG PUTLQNLKDVVEASVCHVKDCENGQMREVDLGCGKALLI R AAGEDRARLEDDPGGGMAEGKAGDEAALFVR
K LK SVTS SDL KPGDKQEVEVEGLPDAKVVLLNAG




UniRef90 W4YOP7
UniRef90-W7TQL4 UniRef90-A0CD74
UniRef90-A8FEJO
UniRef90 Q07JII
UniRef90-M4AX14
UniRef90-W5Y5H3
UniRef90 UPIO0036E802D
UniRef90-X6GEB2
UniRef90-Q7PW11
UniRef90-E9FW02
UniRef90 Q5NNYO
UniRef90-B3GUZ5
UniRef90-V8FYX8
UniRef90 UPIO0040E2A17
UniRef90-U6IX86
UniRef90-G7WII1
UniRef90-B6S352
UniRef90 A9IR65
UniRef90-14DKU3
UniRef90-G2TFQ5
UniRef90 D3GOJ2
UniRef90 U5LF29
UniRef90-M9R6F7
UniRef90- J9HSCO
UniRef90 EOIC63 UniRef90-D3DBS2
UniRef90-A0A059E265
UniRef90 UPI0004174376
UniRef90- G7URD2
UniRef90-B3RVC6
UniRef90- ${ }^{-1 B 3 P 6}$
UniRef90 M7YA89
UniRef90-B0UHS3
UniRef90-Q0PWT1
UniRef90 A7H7V0
UniRef90 G7Y965
UniRef90-UPIO00367D396
UniRef90-U9VJE4
UniRef90 A4X9H2
UniRef90 C6CUE8
UniRef90-UPIOOO4685E1A
UniRef90- UPIO00376415A
UniRef90 E6PKG8
UniRef90-U6H 146
UniRef90-UPIO003654607
UniRet90 B8MU14
UniRef90-DoLZD1
UniRef90-C5PAX7
UniRef90-UPI000377AC53
UniRef90 D6TNQ8
UniRef90 W8S3F7
UniRef90_UPIo00469ADBF
UniRef90 C7LYV8
UniRef90 UPIO0029AC507
UniRef90-W6EER1
UniRef90- B9XS40
UniRef90 C5BVY8
UniRef90-U5WWL3
UniRef90-A0A011PRL
UniRef90 DOMH23
UniRef90 H1FTV5
UniRef90-UPIO004626A37
UniRef90-H1YG90
UniRef90 L9WB65
UniRef90-UPI000348AB25
UniRef90-K01HK6
UniRef90 UPIO00299EA61
UniRef90 UPI00047EOA7E
UniRef90-D9T519
UniRef90-UPIO003612CC6
UniRef90_K2R790
UniRef90 A0A037ZK71
UniRef90-A9A4Y6
UniRef90 B1M3H5
UniRef90 W8PN84
UniRef90-UPIO0034807AO
UniRef90-U9U698
UniRef90-A4YU96
UniRef90- F2THI8
UniRef90-A4WIA4
UniRef90_E6JDW3
UniRef90 D3D439
UniRef90-W9CBY2
UniRef90-A3ZQU2
UniRef90 Q2JG72
UniRef90 A6Q5D3
UniRef90-K7FMW4
UniRef90-B8KHQ6
UniRef90 B1ZIQ2
UniRef90-W0RJN3
UniRef90_M4FSD7

VD LS A $\square K$ A GEPET
FTWRGK
T R K
G K

G K

VIK A RVPEDQRVAVVSQGPVAGFV PDE E

ENE
KANGTARHFHVEER P $\underset{\mathrm{V}}{\mathrm{V}} \mathrm{A}$
VD $\square$ S S MKEGE VQT $\square$ Q WR GK
AAS
SGGT
SGEANK $D E \square A D \quad$ WRGK

[^0]UniRef90_B4VVG4
UniRef90-D8HMNO UniRef90-W6VJF8 UniRef90-F4CZ81
UniRef90-L2FIZ5 UniRef90-L2FIZ5
UniRef90 UPI0003792A75 UniRef90_UPI00036F745B UniRef90-Q28MM5 UniRef90_UPI00047ED360 UniRef90_A5KC70 UniRef90-F6D900
UniRef90-M5TXX0 UniRef90- МОМ0Т9 UniRef90-T0J4K7 UniRef90-UPI000363FAA1 UniRef90_C3UVE5 UniRef90 A0A024GXA0 UniRef90-M0E3U2 UniRef90-E2SA17 UniRef90-H5WYR1 UniRef90_A0NN04
UniRef90 F6DIR5 UniRef90-M0M3D8 UniRef90-UPI000376638D UniRef90-UPI00035E4167 UniRef90-FOMBP7 UniRef90_D8JA06 UniRef90-H3BCW2 UniRef90_W6RNTO
UniRef90 W6ETI1 UniRef90-W6ETI1
UniRef90-UPI0004410230 UniRef90_R4L8Q1 UniRef90-F1Z4V8 UniRef90_A5CFR4 UniRef90 W0JYS5 UniRef90_UPI0003B470F7 UniRef90-A0A023D1A3 UniRef90 UPI0003B5FD9D UniRef90-UPI00037E13A8 UniRef90_UPI000463CB98 UniRef90_UPI0001FFE571 UniRef90 UPI0004651470 UniRef90_U7FTX7 UniRef90-W6R1K0 UniRef90-B3QXT0 UniRef90-K8EBV7 UniRef90-Q0BVIO UniRef90-H5UTP9 UniRef90 M1Z1K2 UniRef90-K0EVK2 UniRef90-M0D309 UniRef90-K7SCK6

$P \vee F \| L K$
YTEDMKPTDGRSVKIG


UniRef90 B4VVG4
UniRef90 D8HMNO UniRef90-W6VJF8 UniRef90-F4CZ81
UniRef90-_2FIZ5 UniRef90-L2FIZ5
UniRef90-UPIO003792A75 UniRef90-UPI00036F745B UniRef90 Q28MM5 UniRef90_UPI00047ED360 UniRef90_A5KC70 UniRef90-F6D900
UniRef90-M5TXX0 UniRef90-M0M0T9 UniRef90-T0J4K7 UniRef90-UPI000363FAA1 UniRef90-C3UVE5 UniRef90 A0A024GXA0 UniRef90-M0E3U2 UniRef90-E2SA17 UniRef90_H5WYR1 UniRef90-A0NN04 UniRef90_F6DIR5 UniRef90-M0M3D8 UniRef90 UPI000376638D UniRef90-UPI00035E4167 UniRef90-FOMBP7 UniRef90_D8JA06 UniRef90 ${ }^{-}$H3BCW2 UniRef90-W6RNT0 UniRef90_W6ETI1 UniRef90 UPI0004410230 UniRef90-R4L8Q1 UniRef90-F1Z4V8 UniRef90_A5CFR4 UniRef90 W0JYS5 UniRef90_UPI0003B470F7 UniRef90-A0A023D1A3 UniRef90 UPI0003B5FD9D UniRef90- UPI00037E13A8 UniRef90_UPI000463CB98 UniRef90_UPI0001FFE571 UniRef90 UPI0004651470 UniRef90_U7FTX7 UniRef90-W6R1K0 UniRef90-B3QXT0 UniRef90-K8EBV7 UniRef90-Q0BVIO UniRef90-H5UTP9 UniRef90 M1Z1K2 UniRef90-K0EVK2 UniRef90-M0D309 UniRef90-K7SCK6



[^1]| UniRef90_B4VVG4 |  |
| :---: | :---: |
| UniRef90 D8HMN0 |  |
| UniRef90-W6VJF8 | VWVD Q P L D A H P P E D PR |
| UniRef90-F4CZ81 | VV |
| UniRef90-L2FIZ5 | YI T GEE |
| UniRef90_UPIO003792A75 | IRINVAKPGGAGGRTQETYQFRVVSN |
| UniRef90_UPI00036F745B | FVEWI |
| UniRef90_Q28MM5 |  |
| UniRef90-UPI00047ED360 | G N E G P E Y |
| UniRef90-A5KC70 | Y |
| UniRef90_F6D900 | Y |
| UniRef90-M5TXX0 |  |
| UniRef90-M0МОТ9 |  |
| UniRef90-T0J4K7 | A VP ETPPGPDERP |
| UniRef90-UPI000363FAA1 | AVEEVEP C ( F |
| UniRef90-C3UVE5 | F AT |
| UniRef90-A0A024GXA0 | $N$ LP G A D |
| UniRef90-M0E3U2 |  |
| UniRef90-E2SA17 | LVV |
| UniRef90-H5WYR1 | K A A GVK P |
| UniRef90-A0NN04 |  |
| UniRef90-F6DIR5 |  |
| UniRef90-M0M3D8 |  |
| UniRef90-UPIO00376638D |  |
| UniRef90-UPI00035E4167 |  |
| UniRef90-F0MBP7 | V L N GAEAPNFS |
| UniRef90_D8JA06 | YL T DGDVRF |
| UniRef90-H3BCW2 | R A |
| UniRef90_W6RNT0 | V V |
| UniRef90-W6ETI1 | GEEGPEYKK LVPKK |
| UniRef90_UPI0004410230 | T V |
| UniRef90_R4L8Q1 |  |
| UniRef90-F1Z4V8 | $C L V G V D$ |
| UniRef90-A5CFR4 |  |
| UniRef90-W0JYS5 | Y V |
| UniRef90_UPI0003B470F7 | VA |
| UniRef90-A0A023D1A3 |  |
| UniRef90-UPIO003B5FD9D | $W \square D S G D M \square Y R R A E E H K Q L L R E G L L S E D R W$ |
| UniRef90-UPI00037E13A8 | VLWVNPNARGGNK VQLYKDRLLN |
| UniRef90_UPI000463CB98 |  |
| UniRef90-UPI0001FFE571 | Y EVV $\$ D G D M V V VD T S R R R P  \hline UniRef90_UPIO004651470 &  \hline UniRef90-U7FTX7 &  \hline UniRef90-W6R1K0 & LA A G V I  \hline UniRef90-B3QXT0 &  \hline UniRef90-K8EBV7 & LV  \hline UniRef90-Q0BVI0 & A A  \hline UniRef90-H5UTP9 &  \hline UniRef90-M1Z1K2 & K A VGKEKNAVPDA $\square$ K F K $\square$ P T $\square$ Q K P $\square$ N P D |
| UniRef90-K0EVK2 | VAV |
| UniRef90-M0D309 |  |
| UniRef90_K7SCK6 | GEEGPEYKA |

[^2]|  |  |  |  |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

```
UniRef90_B4VVG4
UniRef90-D8HMN0
UniRef90 W6VJF8
UniRef90-F4CZ81
UniRef90-L2FIZ5
UniRef90 UPI0003792A75
UniRef90-UPI00036F745B
UniRef90-Q28MM5
UniRef90-UPI00047ED360
UniRef90-A5KC70
UniRef90-F6D900
UniRef90_M5TXX0
UniRef90- MOMOT9
UniRef90-T0J4K7
UniRef90-UPI000363FAA
UniRef90-C3UVE5
UniRef90 AOA024GXAO
UniRef90-M0E3U2
UniRef90-E2SA17
UniRef90-H5WYR1
UniRef90-A0NNO4
UniRef90-F6DIR5
UniRef90-M0M3D8
UniRef90 UPI000376638D
UniRef90-UPI00035E4167
UniRef90_FOMBP7
UniRef90-D8JA06
UniRef90-H3BCW2
UniRef90-W6RNT0
UniRef90-W6ETI1
UniRef90- UPI0004410230
UniRef90-R4L8Q1
UniRef90-F1Z4V8
UniRef90-A5CFR4
UniRef90 W0JYS5
UniRef90_UPI0003B470F7
UniRef90-A0A023D1A3
UniRef90 UPI0003B5FD9D
UniRef90_UPIO0037E13A8
UniRef90_UPIO00463CB98
UniRef90-UPI0001FFE571
UniRef90 UPI0004651470
UniRef90_U7FTX7
UniRef90-W6R1K0
UniRef90 B3QXT0
UniRef90_K8EBV7
UniRef90_Q0BVIO
UniRef90_H5UTP9
UniRef90 M1Z1K2
UniRef90-KOEVKK2
UniRef90-M0D309
UniRef90-K7SCK6
lupas_21
lupas_14
jnet
jnet
conf
sol25
sol5
sol0
jhmm
jpssm```


[^0]:    lupas 21
    lupas_14
    lupas_28
    jnet conf sol25
    sol5
    sol0
    jhmm
    jpssm

[^1]:    lupas_21
    lupas_14
    lupas_28
    jnet
    conf
    sol25
    sol5
    jhmm
    jpssm

[^2]:    lupas 21
    lupas_14
    lupas_28
    jnet
    col2
    sol5
    sol0
    jhmm

