QUERY
UniRef90 A0AO24HHU7 UniRef90-M4WXH6 UniRef90-V4RON8 UniRef90_JTGGL8 UniRef90-X7ZJLO
UniRef90-D6THI UniRef90- ${ }^{-}$5LGD9 UniRef90-B2JKZ1 UniRef90-Z5XGK6 UniRef90-W9GX40 UniRef90 R4SVA1 UniRef90_UPI000361051C UniRef90-UPIOOOO3470019 UniRef90-UPIOOO463597A UniRef90_UPIO00382B5F1 UniRef90_A1UN32
UniRef90-J1T384
UniRef90-C0ZM58
UniRef90-14YUX9
Uniinefol-F6BUN8
UniRef90 W8HWN1
UniRef90-H8N173
UniRef90-LOJ436
UniRef90-H2CLU7 UniRef90-A9D185 UniRef90-E4WBY4 UniRef90- $6 \mathrm{KFYQ5}$
UniRet90
U3H5S UniRef90_G9EX29 UniRef90-A0A024RHT3 UniRef90-W4BHH8 UniRef90-M3J505 UniRef90-H6N098 UniRef90_DOLCC5 UniRef90_L7KSCO UniRef90-UPIO0036964E1 UniRef90-AOB186 UniRef90-S6AT11 UniRef90-L8DCZ6 UniRef90-L9ZQ10 UniRef90-K2KK79 UniRef90-Q745R2 UniRef90-V5X6U8 UniRef90_K9DGI8 UniRef90-UP10003704E64 UniRef90-UPIO0036F9EE7 UniRef90-M2X0H9 UniRef90-UPI0003AA876E UniRef90-D5P957 UniRef9-J7T124 UniRef90-UPIOOO371D517 UniRef90-U2U3J1 UniRef90-E8TLH6 UniRef90-A9ALY1 UniRef90-K5BIG6 UniRef90 M7AO28 UniRef90-G7GM46
UniRef90 A0A016QL6 UniRef90-Q67PY6 UniRef90-UPIO00412CDC5 UniRef90-W8Y135 UniRef90-UPIOOO41C4866 UniRef90-H8MQF7 UniRef90-UPIOO04766361 UniRef90 - X6H4766 UniRef90-C7PF77
UniRef90-H8389 UniRef90-K6WZ83 UniRef90 F2LLI7 UniRef90-H5UGS2 UniRet90_M3UV96 UniRef90_HoR540 UniRet90_S4MFY9 UniRef90-H6R8K4 UniRef90_UPIOOO369F414 UniRef90-UPIo00376DC01 UniRef90-B1MFG5 UniRef90-F7Y485 UniRef90-UPIOOO475EEF5 UniRef90-UPIO00248CBC3 UniRef90-UP10002E2B8DC UniRef90- J3A194 UniRef90_UP10004093D97 UniRef90-×6DNH2 UniRef90-UPI00035E3796 UniRef90_UPIOOO4767507 UniRef90_F6EF71

SRDRTYT
20
30
40 NRVLTWEGI WQAPAASWERLQLQDGRADSQLRVAAADG KSFNWEGLWQLPTASWESLQLGDGCAQSQLRAVGEGG PRAVRWAPLG APGDEHLALTPMDWGTDAEGIVVGEAD RTICWQPTWNSQGMGLEHLLLAQGQADSVVLAVDE D WPAMLTWRAHDARMESVRIQLSGANGRIVAAATAS
 ATESAWPAILTWRADDSRMESARVQLSGAYGRIVAAAAET ADEHTIVARRDWAGEGLEHLLLQVGVSG\|VAEATVIGTDD PRVWPAMLT WRAQDSRMESVRVQRDRANGRDVAAATAN WPA ILT WRAPDVRMESVRVQLSGAYGRIVAAATE SGGSTWRWASA WAD WPAVLTWRRDVPRMESVRVQLSGAYGRIVAAATAS $K N T W P A V L T W R A H D A R M E S V R V Q L S G A Y G R L V A A A C D A$
$K Q T V E W T D W N G G G L E R L S I L H N D E G V F A E G V V T G Q F E$ SGDASWPAVLT WQAHAPRMESVRVQLNGASGRII GGACSE RTDRWSA WGGCQAGMEHVRPADGGLADSGVVIAQEE
 TVRWRP EGEGLEHLTLTQTDLRAVGVLIGNRG TRELDWRRVMDELGFEHARVRRGQEGTELSGVILVAEQ
 KTVRWRPVEGEGDEHLTLRQTANSRAESVVVGSEA TALWQHLWRAPGLGGLEHLVFDRDAAGVTGTVIGERQ VMWKKFS GVGLEHLFLSKDDENIKVVILTMRE ETRQVRWASLGEGDGVEHLTFNRRDDGVVVESAVVGQRY
 KTMLTWRGV DTDRLEQVRLNVQGARGRIIAAATAD MITWRGVGV DRLEQVRLHVSGAYGRIISAATAD RP听TRWRSLETDGGDDHVTVEVAQDRLVARGAVVGSRG TALWSHLWRAPTQGLEDFRLEGRRADS GMLVARDDD KTWPSILTWRAHDPRMESVRVQLSGAAGRIIGAECAD NRDVFWIPA AGDGDESLHLLEDSSAVNAESVVVGVAD RTLMWRRDWDGNSMEQATFRRGEDGIEDAGTVLLAEK REVRWASL EHDGIEHDAFERHARGSVAESVVVGRAG RRVWQAMLTWRAQDVRMESVRLQVSGANGRTVAAATDA ERRLRWA TEEGNGLEYVAIRGTPQGVVAEGVVIGPDS TVARWRPL WRREEGLEHLTLDGAGIRATSVLIGERG QRSYRWA NRDKASGRIIGGECAD MLT WR AQDVSRMESVRIQVSGANGRIVAAATAT VMWK TFNGVGLEHLLLNHENDKVNSVILTMRD TVRWRPL EGDGLEHLTITP TINTAAGAA DRACGTRG RDVRWAPVSEA GLEHLHLTTTPDGVVARSAVIGERG RLRALVWRRMDSPGSEYFELRQHTEGWELTGSVVVVLE THCVAWQ 1 AQTWHAAEWCRLVDGRDGDELSGSVAGADD KTLLTWRGDEGVN RLEQVRLNVNGARGRIIAAAHGD MVTWRGL DA $\square R L E Q V R L Y V S G A R G R I I A A A H D D$ VLWRGLDPAR PSLEHLHLTP WTRAEGVVVGLED RQTLRWAAVDSTETEELVLQTEGGGVADAVVSGVQG MVRWR EWEGEGLEHCALRFDDDGLTLEGVVVTTDE SRLWRLDEPFLIEHCRLVQEGRLLAGSIVGRLG WPA ILTWRADAPRMESVRVQRIDRANGRIVAGATAD
 TRR\|LWKG』YYN TLEYLHLQSDGHTTEGNDTGLVN KTMMTWRGEG ADRLEQVRVLVTGAYGR\IAAATDE REVRWASDD SDGDEHLTLSRDGDGYLAESVIIGHDD
 K SMI TWRRLTNS DTDRLEQVRLVVSGAYGRII AAATDE RVITWDVSASRGVETAWVELGDGVMRARGRAVGTVV VVWEN KETFGCEYLKCLITDTAVLAESTVVYGEP RTVTWE VFESRGYETAWAEFGEGSLRARGRAVGVA
 VLWRRL ADVEGHDACLLSDDGFRLKGQAGASVAD $\square V W S R L D V V E G L G L G T L I A E T D G F R L E A T E V V V D R$

> RDIYWE WDH V DWK P DRHVRWAP KIVRWR EWDGEGSGLEHLRLLHRSGAQADSVVIGGDE $K Q T V \square W K R D N G G E G M E Y C N D S E T S L S T E G K V I S G E N$

UniRef90_A0A024HHU7 UniRef90-M4WXH6 UniRef90-V4RON8 UniRef90-JTVTGL8 UniRef90-X7ZJLO
UniRef90-D6THI UniRef90- ${ }^{-}$5LGD9 UniRef90-B2JKZ1 UniReffo-Z5XGK6 UniRef90-W9GX40 UniRef90-UPIOOO361051C UniRef90-UPIO003470D19 UniRef90-UPI000463597A UniRef90_UPIoo0382B5F1 UniRef90-A1UN32 UniRef90-J1T384 UniRef90-C0ZM58 UniRef90-14YUX9 Uniinefol-F6BUN8 UniRef90 ${ }^{-}$W8HWN UniRef90-H8N173 UniRef90-LOJ436 UniRef90-H2CLU7 UniRef90_A9D185 UniRef90 E4WBY4 UniRef90 X6FYQ5 UniRef90_U3H5S7
UniRef90 G9EX29 UniRef90-G9EX29
UniRef90-A0A024RHT3 UniRef90-W4BHH8 UniRef90-M3.J505 UniRef90-H6N098 UniRef90-DOLCC5 UniRef90_L7KSCO UniRef90-UPIO0036964E1 UniRef90-AOB186
UniRef90_S6AT11 UniRef90-L8DCZ6 UniRef90-LLLZO10 UniRef90-K2KK79
UniRef90_W6B899 UniRef90-Q745R2 UniRef90-V5X6U8 UniRef90_K9DGI8 UniRef90 UPIOOO3704E64 UniRef90_UPIOOO36F9EE7
UniRef90-M2XOH9 UniRef90_UPI0003AA876E UniRef90_D5P957 UniRef90-J7T124
UniRef90- 89.9913 UniRef90 UPI000371D517 UniRef90-U2U3J1 UniRef90-E8TLH6 UniRef90-A9ALY1 UniRef90-K5BIG6 UniRef90-M7AO28 UniRef90-A0A016QL65 UniRef90-Q67PY6 UniRef90-UPIO00412CDC5 UniRef90-W8Y135 UniRef90-UPI00041C4866 UniRef90-H8MOF7 UniRef90-UPIOO04766361 UniRef90-X6H476 UniRef90-C7PF77
UniRef90-H81389 UniRef90-K6WZ83 UniRef90 F2LLI7 UniRef90-H5UGS2 UniRef90-M3UV96 UniRet90_HOR540 UniRef90_S4MFY9 UniRef90-W3AH52 UniRef90-UP1000369F414 UniRef90-UPIO00376DC01

UniRef90-B1MFG5 UniRef90-B1MFG5 UniRet90-7Y485 UniRef90 UPIOOO475EEF5 UniRef90-UP1000248CBC3 UniRef90-UPIO002E2B8DC UniRef90_ J3A194 UniRef90-UPIO004093D97 UniRef90-×6DNH2 UniRef90 UPIOOO35E3796 | UniRef90_UPIOOO4767507 |
| :--- |
| UniRefgo F6EF71 |

UniRef90_F6EF71

GLP Y QLDYRLR WDADWHLREAVFHVESETGVRKLHLLADG QPPYQLEYRLEWDSAWCLREAELAVEAESFQRHLLLLADG ASSYQLEYQLDWDDAWRLREARFGVEAERGVRQLHELADG GTGYGLVYGLAMDEQWRTRRLDDRSAGAG NPAFGAYYDLQTDETGATKRLGLTVTLAERERQLSVARDE GMPLRAHYVVRCNSDWQVTRFDVDILGRLQA DDHARADG GRAYGLMYRVKCDLQWRTGRASLKLVGGA ERELEGGGG NPAFSASYDLVTDETGATKRLSMSVTLAERDRQLSGARDE NPAFGAHYDLQTDETGATKRFGLTVTLAERERQLAIARDE HPAFSASYDLVTDESGATKRLSLTVTLAQRERQLSIARDE GKPYGLFYQVRCDLQWRTGRAYLKIAGGG HPAFSASYDLVTDEAGATRRLSLTVTLAERERQLSVARDE HPAFSASYDLVTDEHGATKRLAMTVTLAERERQVSFARDE
 ATAYGARYR|CDDAGWRVFSFLIETTAGMGQRLHLMSDG GTPYGVRYGI DCDAGWLVRKLMVDTTDG RSLHPRSDA GAPLRAEYSVGCDGAWRTRRVSVTQSWRGEHRTLTREHDG HPAFSASYDLVTDEAGATKRLSLTVTLAERERQLSUARDE GETFGUHYQUDCDGWHVRAFALQSTSGDR QEMQSDG HPAFSASYDLVTDENGVTRRLSLHTALAAGERHMSTSRDE GQAYGMRYRVRCAMDWTVREVAIDVGGG KIRLEADG GSPYRLGYRLEYSQHWRPRHLHVRVDDERGTRELRLHCNR
 GRAYGLAYRVVCDPEWRALHAVLKVMGGG EVVLELRSDG DVPYGVRYSUDCASDWRVFHFLI ETTSGL M MLEKSD HDAFSASYELVTNDAGVTKRLSTHEVQAGGETQLGMARDE SEAFSASYELITNDAGVTKRLSIHLLRESGESQLGLSHDD GTPYGVYYRTDMTHGWGVREVAL GAADGRGLHVLTDG GKPYRLSYNLEYEKGWEPRAFSATVRDARGSRSLALRRDG HPAFSASYDLVTDEYGVTKRLSVRTSLASGDRQASVSRDD GESFRVRYEVDCDHHYRVQRVEVATLGRESERSLSLQADG GLAYGLAYRVVCDERWRAKHVIVKMMGGG TLELRADG
 GTPYGCSYAI HCDAHWRVRQVQVRLAGGA HLLLRADG GRPYGVRYVI DCDPQWTVLAFTIETTGEGQRLSLTSDA GKPCCLAYEVDCDAGWRTRSARVDGFRGMRKGHYAMERRA GELFGVAYVVRCDAHWRVREVEVQVAGGA SLLLGADG NPAFGAYYDLQTDETGATKRLGMTVTLAERERVLSIARDE NMPVRDLYNMYCDDDWKVKKFDVELFCDKHKNLDLQSDG GRPYGVSYEIRLDADWQVQSFDIRAAHGDR RRGALTQSA
 GTPFRVDYA ACDADWLTRSARVTRWIGAAARQIDLRCDG HPAFSASYTLVTDESGATKRLSMSVTLAERERQLSI ARDE
 GQPFTLAYGLEAQPDGHPSCLRLSLRAG RALTLHRDG GDGTDVTYHLELDPRWQVLRLSVT SEPVSCTYLIKTCPDWLTREVSVELAYGGEEARLHLEADG
 AEDARLSYE1 DCDAGWDTRTASVKGSDGAAVVDLQCRDA GKPCCLGYEVICDVGWRTRSARIDGFLGTRKLHYADERDS
 HEAFSASYELVTNDAGVTKRLSVHLLRVSGDTQLAMTRDG GRRYGLAYRLACDGHWRTTRATLSVGMMGGATSLLRDR QEAFSASYELQTTDAGVTKRLTVHLIREAGETQFGUTRDG YEPYSASYELVTNDAGVTRRLSLHEVQAGGESQLAMTRDG HPAFSASYDLVTDENGATRRLSLRSTTAAGERHAS SRDE PEPYWISYELETGDDFVTRRLVVTAETGPGTRTLDLAHDG HEAFSASYDL1TTDTGLTKRLSLHLVRASGDTQI SITRDG HPAFSASYDLVTDETGSTNRLSLSTTVAERERQLSUARDE GTRYSCRFTVWADLAWVTRGARVEILSPNGVRTLELASKG
 DASLRTQYEVVLDSNWVTREVSMGMGEEG ALHLSSDG
 NEKSFIDYTVKCDQEGNTSEVILSVQNENSSQTLQVDRDN


UniRef90_A0A024HHU7 UniRef90-M4WXH6 UniRef90-V4RON8 UniRef90-J2TGL8 UniRef90-X7ZJLO
UniRef90-D6TH3 UniRef90- X5LGD9 UniRef90_B2JKZ1 UniRef90-Z5XGK6 UniRef90-W9GX40 UniRef90-R4SVA1 UniRef90_UPI000361051C UniRef90-UPI0003470D19 UniRef90-UPI000463597A UniRef90-UPI000382B5F1 UniRef90_A1UN32 UniRef90-J1T384 UniRef90 C0ZM58 UniRef90-14YUX9 UniRef90-F6BUN8 UniRef90_W2SRT2 UniRef90-W8HWN1 UniRef90-H8N173 UniRef90-L0J436 UniRef90-H2CLU7 UniRef90_A9D185 UniRef90-E4WBY4 UniRef90_X6FYQ5 UniRef90-U3H5S7 UniRef90_G9EX29 UniRef90_A0A024RHT3 UniRef90-W4BHH8 UniRef90-M3J505 UniRef90-H6N098 UniRef90_DOLCC5 UniRef90_L7KSC0 UniRef90-UPI00036964E1 UniRef90-A0B186 UniRef90-S6AT11 UniRef90_L8DCZ6 UniRef90-L9ZQ10
UniRef90-K2KK79 UniRef90-W6B899 UniRef90_Q745R2
UniRef90-V5X6U8 UniRef90-UPIO003704E64 UniRef90_UPI00036F9EE7 UniRef90-M2X0H9 UniRef90_UPI0003AA876E UniRef90_D5P957 UniRef90-J7T124 UniRef90_UPI000371D517 UniRef90-U2U3J1 UniRef90_E8TLH6 UniRef90-A9ALY1 UniRef90-K5BIG6 UniRef90-M7A028 UniRef90_A0A016QL65 UniRef90_Q67PY6 UniRef90_UPI000412CDC5 UniRef90-W8YI35 UniRef90-UPI00041C4866 UniRef90-H8MQF7 UniRef90-UPIO004766361 UniRef90_X6H476 UniRef90-C7PF77
UniRef90-H81389 UniRef90-K6WZ83 UniRef90- F2LLI7 UniRef90-H5UGS2 UniRef90-M3UV96 UniRef90-H0R540 UniRef90-S4MFY9 UniRef90-H6R8K4 UniRef90-W3AH52 UniRef90_UPIO00369F414 UniRef90_UPIO00376DC01 UniRef90-B1MFG5 UniRef90_F7Y485 UniRef90_UPI000475EEF5 UniRef90_UP1000248CBC3 UniRef90_UPI0002E2B8DC UniRef90_J3A194 UniRef90-UPI0004093D97 UniRef90-X6DNH2 UniRef90_UPIO0035E3796 UniRef90_UPIO004767507
UniRef90_F6EF71

90
100
110
120
RGHWQDGDGEALPAFDGCLDDD

 K GHWQDGEGRPLAELDGCMDIIDIWPTPFTNSFPILREPLAA


## \section*{,}

$A$
E
E
E
E

## ா

Q G S W W
H G H
GHWRKA
PGQWATS
E GHWQ

## 

 $\mathrm{N} G$P
N E

GRWTI

E HNWQTA DGT $\square R S D F N G A E D I D D A L S$



$$
\begin{aligned}
& \text { E NMWT D } \\
& \text { H Q RWWR }
\end{aligned}
$$

## D

## 

## แ

E
E
S
H

## ,

Q D
D G

KGHWH A
DGQWT R
NNRWT
N


UniRef90_A0A024HHU7 UniRef90-M4WXH6 UniRef90-V4R0N8 UniRef90_J2TGL8 UniRef90-X7ZJLO
UniRef90-D6THI3 UniRef90-X5LGD9 UniRef90-B2JKZ1 UniRef90-Z5XGK6 UniRef90-W9GX40
UniRef90 R4SVA1 UniRef90_UPI000361051C UniRef90_UPIO003470D19 UniRef90-UPI000463597A UniRef90-UPI000382B5F1 UniRef90-A1UN32 UniRef90-J1T384 UniRef90_COZM58 UniRef90_14YUX9 UniRef90-F6BUN8 UniRef90 W8HWN 1 UniRef90-H8N173 UniRef90-L0J436 UniRef90-H2CLU7 UniRef90_A9D185 UniRef90-E4WBY4 UniRef90_X6FYQ5 UniRef90_U3H5S7
UniRef90_G9EX29 UniRef90_G9EX29
UniRef90-A0A024RHT3 UniRef90-W4BHH8 UniRef90_M3J505 UniRef90-H6N098 UniRef90-DOLCC5 UniRef90_L7KSC0 UniRef90-UPIO0036964E1 UniRef90-A0B186
UniRef90_S6AT11 UniRef90_L8DCZ6 UniRef90-L9ZQ10
UniRef90-K2KK79 UniRef90-W6B899 UniRef90_Q745R2
UniRef90- V5X6U8 UniRef90-K9DGI8 UniRef90-UPI0003704E64 UniRef90_UPIO0036F9EE7 UniRef90-M2X0H9 UniRef90_UPI0003AA876E UniRef90_D5P957 UniRef90-B9J9L3 UniRef90-UPI000371D517 UniRef90_U2U3J1 UniRef90_E8TLH6 UniRef90-A9ALY1 UniRef90-K5BIG6 UniRef90-M7A028 UniRef90_G7GM46
UniRef90-A0A016QL6 UniRef90_Q67PY6 UniRef90_UPI000412CDC5 UniRef90-W8YI35 UniRef90_UPIO0041C4866 UniRef90-H8MQF7 UniRef90-UPIOOO4766361 UniRef90_X6H476 UniRef90-C7PF77
UniRef90-H81389 UniRef90-K6WZ83 UniRef90- F2LLI7 UniRef90-H5UGS2 UniRef90-M3UV96 UniRef90_H0R540 UniRef90-S4MFY9 UniRef90-H6R8K4 UniRef90_UPIO00369F414 UniRef90_UPIO00376DC01 UniRef90-B1MFG5 UniRef90-F7Y485 UniRef90_UPIO00475EEF5 UniRef90_UP1000248CBC3 UniRef90_UPI0002E2B8DC UniRef90_J3A194 UniRef90-UPI0004093D97 UniRef90-X6DNH2 UniRef90-UPI00035E3796 UniRef90_UPIO004767507
UniRef90_F6EF71



UniRef90 F8C6F6 UniRef90-UPI00037D203A UniRef90-MOBED7 UniRef90-KoUQV1 UniRef90-A4JMR4 UniRef90-U5E3H8 UniRef90-A0A038GY33 UniRef90-UPI00047BAC23 UniRef90 V9XFX6 UniRef90-UPI000464B7DA UniRef90_UPIO004186B41 UniRef90-UPI0004710A22 UniRef90-H1GX67 UniRef90-UPIO0030BC6B8 UniRef90-UPIO002891BEB UniRef90-UPI00047B5521 UniRef90-M5F5F9 UniRef90_UPIo00367FB46 UniRef90-W8H3V1 UniRef90-F3YYS6
UniRef90-UPIOOO46F2658 UniRef90-UPI0002627D27 UniRef90-UPI000307FC8C UniRef90-I2MTZO
UniRef90-V9VT07
UniRef90-K4Z8M3 UniRef90-A3PQY7 UniRef90_UPIO00262F5F6 UniRef90-X5QPE4 UniRef90-U4WXA8 UniRef90_UPIO00367DOF3 UniRef90-K2JP54 UniRef90-K119H2 UniRef90-UPI00047ED37E UniRef90-G6Y9K5 UniRef90-UPI000375FE4E UniRef90-li3RKE8 UniRef90_UPIo0035FF1DF UniRef90-UPIO003620168 UniRef90-L5MWN1 UniRef90-D5UNC7 UniRef90_UPIO00376056C UniRef90-R9F2P8 UniRef90-UPI0003B689BE UniRef90-s33ZH93 UniRef90_UPIO0040073CF UniRef90-L7UMD9 UniRef90-MOQGE7 UniRef90_S9T7Z9 UniRef90-UPI0003B3EDFB UniRef90 - 15 C 7 H 1 UniRef90-U1ZY83
UniRef90-F3НКМ7 UniRef90 UPI00035FE567 UniRef90_UPI00047EF8EB UniRef90-UPIOOO364A5E0 UniRef90-W7SIO8
UniRef90-W6UBM2
UniRef90-UPIO00348BOBB UniRef90-UPIo0047AE260 UniRef90-U5VNS0 UniRef90-G8TZB2 UniRet90-W5T7T5 UniRef90-F4CQK5 UniRef90-D8HTH5 UniRef90-F1YPL5 UniRef90-W7ZL98 UniRef90-D6ZC81 UniRee90-D2BDI3
UniRef90-UPI00035E8ED8 UniRef90-H0E269 UniRef90-UPIO003770BEA UniRef90_UPI000376E014 UniRef90-UPIOOO4177A4F UniRef90-UPI000463802E UniRef90-K8Z0X0 UniRef90-G8S9F8 UniRef90-M4ZZ25 UniRef90-K9ADD8 UniRef90-U2YVD3 UniRef90_D7W645
UniRef90_UPIO00363440F UniRef90-V6KYH5 UniRef90_UPIO004799E33 UniRef90_UPI0002F2EC79 UniRef90_C4RJW6 UniRet90-KOJNP6 UniRef90-Q1IVSO UniRef90-UPIO0035DBBCB UniRef90-A0A028V642 UniRef90-UPIO0047C174F UniRef90_Koev76
 SGERRDVWR R SEDAPTLETCVVHDDRREAEGVVAGMIG ERDVYWRPVD SVGLE HLHYVETEAGVEATGLVLAHAD RCVA WQVLHT WQAAEWCRLAPAPAGDDLSGTIAGADD AWRHQQARTGFEVTYFRDDERGILVEGCATAVED
 VI RVTWEVTASGGYETA WAELDGDSLRARGRAVGTLD LIASULWRRDLEGHDACLLTEGGRSLKGQALFVQD EKNVWTGV DNLSDEKCVLIDKGTHSKGELVGNKN RKNVIWESL DNIGQESLLII DDNLIVESVVLGVSK KII WMGESLSLEKCQVIEQSFHCRGEIVGNKN MMWSAL A WPATEHLALRSDATSVVADGVVVALDE $V A S L L W R R D L E G H D A C R L L E S D A G L S G Q A L F I Q D$
$A W L H Q D S R Q G E V A F F R V T D D G R I D G H A V A E D$ AWLHQDSRQGFEVAFFRVTDDGLRIDGHAAVAED
 REVVWE NKETFGCECLFT IENMI HVVSTVIYMNQ
 $\checkmark$ 1wk DWEGRGLEHCLCRETA
T L LWRRL
DGAGHDACRWQRQ
VAS LWRRDOEGHACLISESGSRAHGRAVGT D IFWRPSDGSGYEHLRLVKDDHKDSLVIGKTDE
 TWLGID TISVEHLTCIEKEGSYHCKGERVGNKN MWEH VRWR $\qquad$ RGPGVE पWE WDGE YTLSNNAFVLEGTVLLE

```
KAVRWQS
SWRHQDA
V WKP
PRMLTWRS
\(V\) WWS
\(V V W S R G D V\)
``` WD GE RSGFE
STGAG R VLT WQ \(K R V V W R G \square\)
\(\qquad\)
KTLITWRGEG DDGNGEHLAGSESEEQLT
 ERATVWEGLDAWRAEVAVVRLEADRVRATGTQLGV D QQTLFWRRTD MDGLERLTLS RQQGVEARSTVLCLES QQTLVWKP WSNPGV ETLRLSQDEAGMHASSHLMQS

HSWQG DDDPDR LDTATINDETGRLTAHGTSR LP QSRLWQRDVAGAEQVFFDDSGLRAEGTIVAAER MVIWEGLT GPRLESARLNRIGK
TI IWKGIFY QSL EAR
A WTRTDVP
HWQG \({ }^{\text {T }}\) DD EGLAGLGTLL

DRGLG RRDTAGAEHA LVDIGGAGRVRGAGAVA TWRSNHLSLESCRVTGGGTTIITGVVGNLQ
WPAVLTWRAHDARMESVRVNRDRASGRIIAGDCGE
\(M V T W Q A E D E V G L E G A R V L I G P T G F R A L G R V V R T G P\) A WRHEDARTGFEVTRFRRHEGGWLVEGATTAVED MLTWRGV VWQNTEQM MLTWQS SDATRLESVRVNLSGAYGRIIAAANED RGLVWM KDEGAEYAEVGL ASELTAVGVAIGT D ERVLTWQ VTESGGQETSWVELGQSRLSARGEALGTAT \(\square V T W K G L E E G V G A E D A T I E L D D D G V R A E G T Q V G A D\)
LPASLFWRRDTSGSEHALVDRGGLYARGTVLA DD ETEVVWRGMLDEPD VERCRVTEDAEGVRVHSEDEAD VASWRHEGARVGFEAAFFADDERGLQVEGTTTATED
\(V A S L W R D A P G H D A C R L Q R N A S A W Q L G A A V E H\) RRDVPGSEHVRLDRNGLYAQGTALAAA TARWQTWDGDGDETVTLRWENEGWTALGEVTRER ARSRQVSWVG DDPARRDSAD\|LLDDG LRAFGRQV
 GAELVEVKLARGRLSATGSAIGGAD TRRHVLTWEV PAGATGWETAWVETSGTSDHAHGAFGLR RTIVWEGTDAWRAEVAVVDLGVDRVRATGTQDGV E TKVLWSSF DGAQKEYCLVKDDGLRGQITSSGTAD TKSLFWA QIVTWQGY
 QQTLVWKP WYTPGVETLRLSQDANGIHATSHLMQVI K M1 WAGTDEWR

40 DDGNLLESVRVQVTGAYGRIDAAVIGAD
 DWRSNHLGSLE S C R LV V R R Q F \(\mid\) V \(\mid W A\)


\footnotetext{

}
 UniRef90_A0A038GY33 UniRef90_UPI00047BAC23 UniRef90_V9XFX6 UniRef90_UPI000464B7DA UniRef90-UPIO004186B41 UniRef90-H1GX67 UniRef90_UPI00030BC6B8 UniRef90_UPI0002891BEB UniRef90_UPI00047B5521 UniRef90-M5F5F9

\section*{UniRef90_UPI000367FB46}

UniRef90-W8H3V1
UniRef90-F3YYS6
UniRef90_UPIO0046F2658 UniRef90_UPI0002627D27 UniRef90_UPI000307FC8C UniRef90-I2MTZO
UniRef90-V9VT07
UniRef90-K4Z8M3
UniRef90-A3PQY7
UniRef90_UPI000262F5F6 UniRef90_X5QPE4 UniRef90-U4WXA8 UniRef90-UPIO00367D0F3 UniRef90-K2JP54 UniRef90-K119H2 UniRef90_UPIO0047ED37E UniRef90-G6Y9K5 UniRef90_UPIO00375FE4E UniRef90-I3RKE8 UniRef90_UPI00035FF1DF UniRef90_UPIOO03620168 UniRef90-L5MWN1 UniRef90-D5UNC7
UniRef90_UPIO00376056C UniRef90-R9F2P8 UniRef90_UPI0003B689BE UniRef90_S3ZH93 UniRef90-UPIO0040073CF UniRef90-L7UMD9 UniRef90-S9T7Z9 UniRef90_UPIO003B3EDFB UniRef90_15C7H1 UniRef90_U1ZY83 UniRef90-F3HKM7 UniRef90_UPI00035FE567 UniRef90_UPIO0047EF8EB UniRef90-UPIO00364A5E0 UniRef90-W7SI08 UniRef90-W6UBM2 UniRef90_UPIO00348B0BB UniRef90_UPI00047AE260 UniRef90-U5VNS0 UniRef90-G8TZB2 UniRef90-W5T7T5 UniRef90-F4CQK5 UniRef90-D8HTH5 UniRef90-W7ZL98 UniRef90-D6ZC81 UniRef90_D2BDI3 UniRef90_UP100035E8ED8 UniRef90-H0E269 UniRef90_UPIO003770BEA UniRef90_UPIO00376E014 UniRef90_UPIO004177A4F
UniRef90-UPI000463802E UniRef90-K8Z0X0 UniRef90_G8S9F8
UniRef90-M4ZZ25 UniRef90-K9ADD8 UniRef90-U2YVD3 UniRef90_D7W645 UniRef90_UPIO00363440F UniRef90_V6KYH5 UniRef90_UPIO004799E33 UniRef90_UP10002F2EC79 UniRef90-C4RJW6 UniRef90-KOJNP6 UniRef90-Q1IVS0 UniRef90_UPI00035DBBCB UniRef90-A0A028V642 UniRef90-UPI00047C174F
UniRef90_K0EV76



 THAFGLVYRIECDARWQVTRLALKLAGGA R ALDLHRRD QTSFAVRYRIECDANWRARS VTVDMIGSGQTLILVSDR HPAFSASYDLVTDENGVTRRLSVRTTLASGERHMSLTRSE

 NQVYGAEYQVVVDQRWETRFFDIT CKVGHKHYT I HGYK ELPYRDWYSI TCDKKWTVREVTIKS DEMNCKEDKLISDG NQ ITYGVDYQLVADDSWKTRFFSIE CKQGHKNYSLHAHK R P T RLA YRI ECGPDWT T RRLELRPHGEPG LVLHRRD GKPCSIAYRVECDAGWHARSACADGFDGMQEDHYAIEQDD GDAFAVEYEI ELDDPDWRTRTARVRGRSPSGSRTVVLETDG HPAFSASYDLVTDESGVTRRLSLRTSVAAGERQMSISRDE GVPACLAYQVECDAKWRTSKGTVQGWVGARAVDLLI QRTP
 GASWIVDYV H L D E S WRTRSARI T GRSGAATRVRLI EADG

 GGAAALSYRLDCGPDWASRSTRVAGWDGARRFDLRLDRQA
 \(G A D F R V Q Y Q \| I L N T N W I V R K\) V HEAFSASYDLVTDDAGVTRRFSVHLLRESGETQQSVGSRDT
 EAPYLVHYQI ELLNRHWKFRELRAEADSG KQUVLRSND
 \(G L P A R V A Y K I D C D R H W K T R A V T I R Q E R S G N T N H L T L K A S N\) GDAFAAHYQLSCHPNGHLAEARVAVVRGNGPSIALHSDG


 GK YGAYYSVRADAQFRTREVLVKYIGGQTHVLAD G
 \(G T L G R V N Y E V R C A Q D G S T Q G V A V Q F S T L R T T E S E L E L L D R E T\)


 G GCRID YSWTLDAAWHTQSLTVERWNGEGHGQLHLERAG GDS IVAASYLLDCDPRWRFRRLWLKVDNH GPRKLCLLQRDGL G D Y G A H Y F V R T D A L F R T R E V R V E Y V G G P R K K M H V S A D G
 TADYAVSWALATKPGWVTQRLTVTVHGQGWSRHLELVRSD


 TDS Y AMSWALTTTTD GWVTRRRLTATVVHGHGWSRHLEELERRD D \(P\) L A Y S A A Y E L DT EA G G STK SF E V S A E GAGWA R T L R L A A E

 GAAWAVRYSLTVSPQWTLRSARIAGGLGRELEDEADG
 HEAFSASYDLVTNDEGDTERLSVSVLRASGDQQVSSTMDA PVPYRLEY ILRTLPGYMTELLSVRVHGADWHRALDLRRSA PRSYRLTYELETARQYVTTRLRVVAQGAGETRRLDLRRTA







 P V P Y R L E Y I L T T G D F Y V T S S L R R V H T S GH G WR R S L E M M R D G
 PVPYRL E Y E L E T S A GWETHRLT AR S S GA GWSRELLDLMRHDG
 DEQFS GS FEVVSVGETGAVTRLLLRTATVVSEERQISVVRSS


UniRef90_F8C6F6
UniRef90_UPI00037D203A
UniRef90_M0BED7
UniRef90_K0UQV1
UniRef90_A4JMR4
UniRef90_U5E3H8 UniRef90_A0A038GY33 UniRef90_UPI00047BAC23 UniRef90_V9XFX6 UniRef90_UPI000464B7DA UniRef90-UPI0004186B41 UniRef90_H1GX67 UniRef90_UPIO0030BC6B8 UniRef90_UPI0002891BEB UniRef90_UPIO0047B5521 UniRef90_M5F5F9
UniRef90_UPI000367FB46 UniRef90_W8H3V1 UniRef90-F3YYS6 UniRef90_UPIO0046F2658 UniRef90_UPI0002627D27 UniRef90_UPI000307FC8C UniRef90_I2MTZ0
UniRef90_V9VT07
UniRef90_K4Z8M3 UniRef90-A3PQY7
UniRef90-UPIOOO262F5F6 UniRet90_- 5 QPPE4 UniRef90-U4WXA8 UniRef90-UPIIO00367DOF3 UniRef90-K2JP54 UniRef90-K119H2 UniRef9O-UPIOO0047ED37E UniRef90-G6Y9K5 UniRef90-UPIo00375FE4E UniRef90-li3RKE8 UniRef90-UPIO0035FF1DF UniRef90_UPIO003620168 UniRef90-L5MWN1 UniRef90-D5UNC7
UniRef90-UPIO00376056C UniRef90-R9F2P8

ERRWWKGd \({ }^{90}\) EVVAh
AGVWHDSAGAHLTALDGCLDVDIGATPFTNTLAIRRLALA GGNWTSRENTPDPALEGCDDVDVAVTPFSNTVPARRLGLD ENMWLVQEQTHRSHYDGALDVDVIFSPFFNTLPIRRTGYR AGRWTIEGAHAAALDGATDIDLGFSPSTNTLPIRRLGLT

E EGDWMSDNGHQRSTFGGALDVDVVFSPFFNALPIRRHDLQ DGQWTD NGARQADVAGLVDVDLGFTPASNLLADRRLDLG
 NGNWSI DTTVAENLEGCVDIDISVTPFTNTVIPIRRLNLE DNELWVIDECEYPDLNDCLDIDISVTPFTNTLPINRLKLE DGQWYDDAGAGRPELAGCVDVD:ALTPFTNTLP:RRLGLA SGHWAV DGKRAPYLEGCLDVDLEASALTNALPVRRLSLG AGVWTLH GEVVPHLDGCFDLDLGFTPATNLFOLRRAGH AGNWLDADGTPLPALQGCTDVDLSGSPFTNTLPIRRLGDA DGNWQV DGARAPQLQGCLDLDLEASAMTNTVPVHRLRFP KGEWFDQYGSKDDELNGAI DVDI SATPFSNSLPINRFDWE SGHWTV DGEQRPDLDGALDCDLGACPGTNTMPVLRHGLH



EGEWRDA

\section*{LINEQWMLD} QGNWS KDGVPVAELTGAMDP NNWSUNDKELQNAAD CIDLDLGFTPATNLAIRRLALA RQIWKTTKGSTVPFAAGIHDIDLEITPSTNTIPIRRIGLK DGLWRNSDGKRVPALVGADDVDLSASPVTNMLTIRRLGLA
 ESHWLVA OGARGFFSGALSVDVDRSAFFNATBRYNG EGEWRAAEGQPLPHLRGCTDVDIRATPRTATPIRRDDL SGQWTV NGEAAPELDGCVDVDVAAAPLTNTAIRRLGLA DGHWHDILGRSVPSLDGCFDUDIGVTPATNTLAIKRLGLA AGRWS ADGAALPALDGALDCDLGLCPLTNTMPVLRHGLH NGПWKV RGEQRADLANCLDVDUGTPSTNAMAIRRLRLQ EHNWLIQTGTIREDFSEAQDVDLALSPLFNALPIRRRRIA

TG
RGNWW
EGRWHDHNGERPDLQGCQHVMLSASPFTHTPLLQRCALE KGRWFNEKGEEYPAGCLDVDGCTPFTNSLP KRLKLR DGTWSSATGDTDPDLAGALDCDLGLCPVTNTMPI LRLPWQ HGSWRVTTEQEDPGLAGAVDVDLFASPLTNTMPI RRLGLA DGMWLIDRGRERRDFEGALDVNLQSSVLFNALPVRRLGLH GTWTDGEGRPNDALSNGCLDADVALASPLTNTLPINRLQLK DGVWSTAGECDLDALTGALDCDLGGCPVTNTMPALRLNNL

 DGFWLLDDGSTRSDYDGAI DVDLERSPGFNTLPIRRLGLH RGHWRLDGRPAPHDDGCLD LEASAMTNTFPVHRLALP DGRWMVQTSTVRSDFDGAEVIDLELSPFFKGLPVRRFGUA KGKWFDENGQTIQADEGAKDIDLSCTPFTNTLPLNRNKWQ HGTWSCETKEEMNVLNGALDCDLGLSPLTNTMPVLRHGLD DG GGT WVAQT AANWRV N RGHWKL
AGRWRVAA
AGRWGEVN
DTGWWASE DGAWTV QNHWKI \(\qquad\)
DGVW
AGRWRCA
NGLWF CTKESL
GRWRVTA
ESEWKV
RGNWWEVD
RGRWTAQGGVPRPDLQQCQHVMLSASPFT
UniRef90_K0EV76

UniRef90_F8C6F6
UniRef90_UPIO0037D203A UniRef90-M0BED7 UniRef90-K0UQV1 UniRef90_A4JMR4 UniRef90_U5E3H8 UniRef90_A0A038GY33 UniRef90-UPI00047BAC23 UniRef90 V9XFX6 UniRef90_UPI000464B7DA UniRef90_UPIO004186B41 UniRef90-H1GX67 UniRef90_UPI00030BC6B8 UniRef90_UPIO002891BEB UniRef90_UPIO0047B5521 UniRef90-M5F5F9 UniRef90-UPIO00367FB46 UniRef90-W8H3V1 UniRef90_F3YYS6 UniRef90_UPI00046F2658 UniRef90_UPI0002627D27 UniRef90_UPI000307FC8C UniRef90-I2MTZO
UniRef90-V9VT07
UniRef90-K4Z8M3 UniRef90-A3PQY7
UniRef90_UPIO00262F5F6 UniRef90-X5QPE4 UniRef90-U4WXA8 UniRef90-UPIO00367D0F3 UniRef90-K2JP54 UniRef90 K119H2 UniRef90_UPI00047ED37E UniRef90-G6Y9K5 UniRef90_UPIO00375FE4E UniRef90-I3RKE8 UniRef90_UPI00035FF1DF UniRef90_UPIOO03620168 UniRef90-L5MWN1 UniRef90-D5UNC7
UniRef90_UPIO00376056C UniRef90-R9F2P8 UniRef90_UPIO003B689BE UniRef90_S3ZH93 UniRef90_UPI00040073CF UniRef90-L7UMD9 UniRef90-S9T7Z9 UniRef90_UPI0003B3EDFB UniRef90_15C7H1 UniRef90_U1ZY83
UniRef90-F3HKM7 UniRef90-UPIO0035FE567 UniRef90_UPI00047EF8EB UniRef90-UPIO00364A5E0 UniRef90-W7SI08 UniRef90-W6UBM2 UniRef90_UPIO00348B0BB UniRef90_UPI00047AE260 UniRef90-U5VNS0 UniRef90-G8TZB2 UniRef90-W5T7T5 UniRef90-F4CQK5 UniRef90-D8HTH5 UniRet90-WYPL5 UniRef90-D6ZC81 UniRef90_D2BDI3 UniRef90-UPIO0035E8ED8 UniRef90-H0E269 UniRef90_UPI0003770BEA UniRef90_UPIO00376E014 UniRef90_UPI0004177A4F UniRef90-UP1000463802E UniRef90_K8Z0x0 UniRef90_G8S9F8
UniRef90-M4ZZ25 UniRef90-K9ADD8 UniRef90-U2YVD3 UniRef90-D7W645 UniRef90_UPIO00363440F UniRef90_V6KYH5 UniRef90_UPIO004799E33 UniRef90_UP10002F2EC79 UniRef90_C4RJW6 UniRef9O-KOJNP6 UniRef90-Q1IVSO UniRef90_UPI00035DBBCB UniRef90-A0A028V642 UniRef90_UPI00047C174F
UniRef90_K0EV76
\(\nabla\) GQA OVI 130
140
140
LP QRYTRTA \({ }^{15}\)
50
160 VGQAADVRAAWLR|I PSLLTLEVLPQRYTRLAETRYRYESN N

 VGASAVI HTAWLRFPEFELVRGEQRYTRTAERVYRYES VGDAADAPAVYVGATDDALRRGPQHYRRAADGAGHRYDYR


RAGEREFLMAWVSVPGLRVVPSWQTYTHLGPRRVRYAS

 VGEQKEI SVLY I NPLEERFTPLDQQYERI SEDDTYLYRNL \(V G A S A D V R M V Y V Q L H G L A V S T D D Q H Y T R L G R D T Y R F R S\) VGAATPAPAAYLTEPELKLVRMEQTYRRLDEARYAY A A AP
 \(V G Q S A A L P V A W L D V A D S A L Q V L Q Q R Y E R R N A G M Y W Y E A P\)
 PNQKVSFEMVYI SVVSSLKFQKVKQTYSY IDEGENYDY A AP
 KGQQAAVTAAWVCFPQFTVQPLLQTYARTGNNTYDYRSA


 VGDDRTVKVLWYRFPQGYFEVVEQNYAHLAPQLYRYTN

 VGARSPAPAAWLDFPDFMLKRLE EGQSASVDA VYVRDPDLK ERLQQUYTRISRRLYKYEC


 PGEHRDVHVAWVDVPTLKVRRMRQRYTRDPSDRYQYRDSG


 VHEEHDLLMAWVDVPSDQLVPSWQRYEHRSRGEVRFSTRD PGEHDTLDTAFI DGPALTVARSRQRYDRQGPNTVHYDDDG
 RNDARDLEMVFLSVPDLAWKKVKQRYQLLEEAVGRRFHYK SGAAAPVDMAWVEVPSLRVVPITQVYSHVRAARGVLYSSG EGTRHEI LAAWVMLPSLQVIPSKQSYTALGGGRVRYAS
 SEELLAPVAMAWVDVPSLQVKRSSQMYSQLDRNGVVLYSSQ PGVAHRVSVAWVLLPSLEVIQADQDYTAAGDGRVRFANE

 AGGRAEAPAAYVRAADLGVDRLEQTYEHLAPGRYGYAAAP
 KCERMDFVMAWVQVPHLHVIRHPQRYTHLAPGAVRYESE ETGRHRFLMAFVAVPELVVKPSWQTYTHLDGARVRFES
 A GVSHR SSAAWVLVPSDEVVQADQDYTPLGGNRDRYASE
 VGEGAEAPAAWVDLDGGTLSELMQRYARTADDAYAY QAK SGESHRLSVAWVLVPSLEVVQADQDYTPDGEGRDRFASE

 KGDPVDLVMAWVSVPDLTVTPSAQRYSPLSTDESSVVRFE EPGGRALVTAWISVPDLVVRVSRQHYTHLGPGRSRVR YA L H E E H DMLMAWVDVPS LAVTASAQRYTHLGRGTVRYTGED

EPGEQELPVVYVTLPDLSVRLVRQTYRTVSGDEQSVVSFE





UniRef90_U3HJ93 UniRef90_JOTZE1
UniRef90-HOHSZ2 UniRef90-UPI0001FFDF5C UniRef90- M3VAZ5 UniRef90-MODDG8 UniRef90-W4HIM1 UniRef90-UPI00047647F6 UniRef90 D3FQ34 UniRef90_UPIO004206C6F UniRef90-UPI0004666B36 UniRef90- HOROV1 UniRef90-A0A024KDG4
UniRef90_UPIO0047C5AOF UniRef90 U1AHL6 UniRef90-UPI000369CDC6 UniRef90-N1V748 UniRef90_UPIo0047E2382 UniRef90_W0ZCX5 UniRef90-U2RV92 UniRef90-E5XTT5 UniRef90 UPI00047DA71E UniRef90 A3K2N1 UniRef90-W7ZB30 UniRef90-UPIoo037A078A UniRef90_UPI0003792AA7 UniRef90_QOFI62
UniRef90-D3F680
UniRef90- X6KY81
UniRef90-UPI000479AED5 UniRef90-F4FCI
UniRef90-K2LCl8
UniRef90-A0A010PGF4
UniRef90-U1FWJ5
UniRef90-I1ATJ3
UniRef90-G7H183
UniRef90_10KV13
UniRef90-J7L8V5
UniRef90-ADA024PJK4
UniRef90-UPI00041DEF58
UniRef90-D7WDS6
UniRef90-C5C4V2
UniRef90_DOD4L3
UniRef90-S6AW31
UniRef90-UPIO0036A72C5
UniRef90-U3AYJ9
UniRef90-L7LBS1
UniRef90 C3PKV8
UniRef90_UPIO0039F252F UniRef90 N1MAI4
UniRef90 W4ETW1
UniRef90-Q5LWT3
UniRef90-UPIO0029A59EA
UniRef90_W7IZX1
UniRef90-X7F617
UniRef90-C8X773
UniRef90-V2GS35
UniRef90-UPI00036BC45A
UniRef90-C6WDY9
UniRef90-UPIOOO370FA23
UniRef90 X6GDT7
UniRef90_L5N393
UniRef90-X7EDC1
UniRef90-UPI000366AB66
UniRef90 E8S7C6
UniRef90-UPI0002D3A439
UniRef90-UP10003716A222
UniRef90_UPI00047557A8
UniRef90_V9G3V1
Uni Ref90- \(\mathrm{HSSL46}\)
UniRef90
WiN441
UniRef90-UPIO0045E6D41
UniRef90 G8AYK0
UniRef90-UP10003762E3E
UniRef90-UPI00046ACD52
UniRef90 UPIOOO29ACBOD UniRef90_UPIO00469FC04 UniRef90-A0A024F074
UniRef90-R4L2R0
UniRef90-E3B8W5
UniRef90-W4T8N7
UniRef90-W7ZSP1
UniRef90 A0A017HFF6
UniRef90_A3W709
UniRef90-A0A022L4B8
UniRef90_LOSV41
UniRef90-UPIO00363539B UniRef90-UPIO003606F68 UniRef90-G8S9W1
UniRef90_Q5YVC4

1302030 TAQTLVWKP WTNPGIENLRLHIIDAAGIUHASSHLMLSAG TAHHTFYWRRDYS PGSDVCRVHDGGWDLRGMAVFHDE
mLVATAFWRRDTEGHDGCRLTRDGWRLSGSTUFDHQ KTMFTWRS PDGGRLEQVRLKSGGAYGRIICAASAD YCWEPVG AVGFEDCAVAFTSGLRADGLVVAVDEG RTAE 1 A WQALDR VAWTRVDDARGTAVGALVPERSGHRMEGGETAADG VMWKHVKQ WAG GFECCLLTSEDAELTAQGTTTSP LF WA
prma Wr hivl allerle
VIF WR RTDISGLERLALTRDDGIAVSSSLVCLE A WEHRGARAGFEVAWFRSGDGGSVLTGCTAAVED \(K Q M \square F W Q R L\) DCPGLEQAEDEGAGLSLSASGSLLHA ESRTHAWLGQDDPRRADTATINLQPE RLTAHGAAR TGHTTANE S
RHVEWVGDEDPERLEAATVTLAPDRDDALGVSRTTD SGPKSWPTMLT WNGHTATLESARVNRDRAYGRII SAATAD VVTWQGT APTSLESVRLGRVRASGRLIVAASSG TVWKSLDRFEGEDEYVRARLDSGWMLVGHARRD MISWLGT DADRWETASIDPSGDNGFVATGFQAD TTRWRADDR DGEDKCRLAHHDGGYMLVGHARRD MVLWSGLDVW TAEAARVELNDDGLRATGTQLGAEQ WRALDR DGEDKCRLARAGGGFMLVGHARRD KSLLWTRUDTAGAEHALADDSHGLAAHGTQVAAD

\section*{LS WS GLDDPDRSDHACDELSE}

S SMHA \(\square\) GSTQ ARKRTYAWRGWDEPDLVNTATVAFHRNHLD ATGVQE T L R WRALDR DGEDKCR LDAHGAGFMLVGHARRD AD GASVERCHVVENVRDTRVTSVLA RTDTAGSEQALFTDGDGLAARGTLLAVD EQRVDW GHGDSAGAEHLTLKKLSGHMEV \(\operatorname{RGTVLLVEQ}\) MLTWRS
ERSYEWEHVSDR
DGRRLEQVRLNVNGRV
TRETVTLAAARSDGWQLAGVVTGTPDD
QQTLVWWKP \(\quad\) TLDRT DGEDKCRLALLN GGYMLVGHARFRDG
 MLTWRG WT ADGGEMESVRLASRGGSASGQLAQSIR

A WTHTGVRAGFEVVFAEQTFRGHVLRGHTTAVEG

REAVATAHWRRDGEGSDRCTDSRDAQGWVGHAHWRDE \(K T I W W K G \square Y Y K\) ALDEYFQLSETNDNLQVKSRIIGTFE VITWQG

GPPTTDESVRLTRDRASGRLIAAAESG
TMRWRALDR
RFFA WS S
QLVAWSWLT RT GLDDVAAVTRTADRVRVEGRVQAQWD AGDAQWPT ILTWRADEPRMESARVQRVRAAGR\VAAQSPL AAARMVTWQGCSV PRLEQVRVLVSEHKDRASGRIVAS VYTWQGA RPTTLESVRLLLADGRLRASGRLIAAVG
EQKLLWTNFEDQGAEFVTIKHQKDYMQAEGTVLLVRE
 AGAHAVLWTG RAHAGTDACRFIATGNGLLI EGSASLA \(R T D T A G S E H V V L D D G Q G L T A Q G V A L A V D\) QHSWQGEDDRLDTATUNLES WTGETNGGRSEVLHYEQHGNARSVEGVIAGAHV

YRWRRL
MTWQHL
EHETLFWR
K R S V VWV

DEPGDETLELERS \(\square R G Y R A T S V A T F G\) A AS GRE QVNVSL GVGLTLVACGTLC RTDVQGLERLLLSVDVVLIESTVICVED
 ЏWEWHDGSYDRAQ』IRETQGWR SAPRLYTWDSTGRLIDQVRVVSRGDAARARGRUVAAAHTD

QDVVWESLK
MA WQG \(L\)
DDETR \(\square D V A S \square D F A D E G G F V A T G R Q S\)

A G A H A V V WV
R LDDRDGTDRCRLARDDAGWLIVGHARWD VAS L DWR EQVR VRSRARGRIVSAAHPE LVWQ LVWQ
L F WRRV
LTWQ
RRFVWAG \(\square\)

RRDAPGHDACRLQRNASAWQLDGAAVEH RTGTVGTELVLRDGVAPGVVTGAVVVGG
\(R T D T V G T E L V F P R G S R P H G S A G V A G A R\)

\section*{UniRef90 U3HJ93}

UniRef90-JOTZE1
UniRef90-HOHSZ2 UniRef90_UPI0001FFDF5C UniRef90_M3VAZ5 UniRef90-M0DDG8 UniRef90-W4HIM1 UniRef90-UPIO0047647F6 UniRef90-D3FQ34 UniRef90_UPI0004206C6F UniRef90_UPI0004666B36 UniRef90-H0ROV1
UniRef90-A0A024KDG4
UniRef90_UPI00047C5A0F UniRef90-U1AHL6 UniRef90-UPI000369CDC6 UniRef90_N1V748 UniRef90_UPI00047E2382 UniRef90-W0ZCX5 UniRef90-U2RV92 UniRef90-E5XTT5 UniRef90_UPI00047DA71E UniRef90_A3K2N1 UniRef90-W7ZB30
UniRef90_UPI00037A078A
UniRef90_UPIO003792AA7
UniRef90-Q0FI62
UniRef90-D3F680
UniRef90-X6KY81
UniRef90_UPI000479AED5
UniRef90-F4FCI8
UniRef90-K2LCl8
UniRef90-A0A010PGF4
UniRef90_U1FWJ5
UniRef90-I1ATJ3
UniRef90-G7H183
UniRef90_IOKV13
UniRef90_J7L8V5
UniRef90-A0A024PJK4
UniRef90-UPI00041DEF58
UniRef90-D7WDS6
UniRef90-C5C4V2
UniRef90-D0D4L3
UniRef90_S6AW31
UniRef90_UPIO0036A72C5
UniRef90_UЗAYJ9
UniRef90-L7LBS1
UniRef90-С3PKV8
UniRef90_UPIO0039F252F
UniRef90-N1MAI4
UniRef90-W4ETW1
UniRef90-Q5LWT3
UniRef90_UPI00029A59EA
UniRef90-W7IZX1
UniRef90-X7F617
UniRef90_C8X773
UniRef90_V2GS35
UniRef90-UPI00036BC45A
UniRef90-C6WDY9
UniRef90_UPI000370FA23
UniRef90-X6GDT7
UniRef90_L5N393
UniRef90-X7EDC1
UniRef90_UPI000366AB66
UniRef90-E8S7C6
UniRef90_UPI0002D3A439
UniRef90_UPIO003716A22
UniRef90-UPI00047557A8
UniRef90_V9G3V1
UniRef90-H3SI46
UniRef90-W1N441
UniRef90_UPI00045E6D41
UniRef90-G8AYK0
UniRef90_UPI0003762E3E
UniRef90-UPI00046ACD52
UniRef90_UPI00029ACB0D
UniRef90-UPI000469FC04
UniRef90-A0A024F074
UniRef90-R4L2R0
UniRef90-E3B8W5
UniRef90-W4T8N7
UniRef90-W7ZSP1
UniRef90 A0A017HFF6
UniRef90_A3W7Q9
UniRef90-A0A022L4B8
UniRef90_LOSV41
UniRef90-UPIO00363539B
UniRef90-UPI0003606F68
UniRef90-G8S9W1
UniRef90_Q5YVC4
 HSGFQLDYEWLLDHEWRTTSLEMHKYGPSGRQDVRMERVG GVGDSATYDIIVDERWHVRSADIEAKGRDESWTLAVRSDG A GGFRLDHHWQLDPNWRAQRVSVERWNGDGHKTLDLERAG GQPWSVDYEDGLDPSGRTRRASLAGRSSAGAPALVLTTAA
 TAEYAAS WAL RCGEDWITEHFEI SVHGHGFSRHLWLDRAA TPEYELSWDLRVDPGWITRRLRVSVVS
GALDWSVGYDLTVDPSWTTVSVRASRLGAQGTGETTVTRDA
 GEPYSASYEASLDKGEESVRLLLRTTTAEQERQLSLSRAE GTGWALDYVVRMGEDWRTRSADIVGAYAGDTVAWKLLRMK PEPYQVFYTLDVRPGFIHGQLTVKATGNGWHRELVLRRDE PRPWSARFSVVVDARWQTRACFLEADGGDGLDRVTLTADA GAGWALDYVVRINGDWQTCSADVTGTHAGEEVALKLTR E VPYRLDYALDTGPGFATRHMRVAAAGEGWRRSIDLLRDD GQGWALDYVVRLDEDWHALGADVSGDYGGEAVAWRLAREG \(\begin{array}{ll}G E P S C V R Y A L E L G P D W S T R S G S & E G F Q G A R A V T S R \\ P \\ \square & P\end{array}\) TRHFSSAWEDDVASGWMT EVVKVSYVGGE QMHVTSDG CPHYAARWELITDSHWDTREIVIVEVAGNGWGRTLRLVRRR GAGWA LDYVVRDGADWATLSADVTGRHGDDDVAVKLSRGA GGAVACSYTLHATSAWEFTSLVLVTDR P I P FTARYRLTTAPDWSTARVEVEAEGSGWDRRVTLERAA EERFLTRFTVWTDLAWATTRVHAEVLSAAGTETVTLQAQG GVPHHLTYDMKLGLDWKTKK IVIIYQEGVPEPFIVQAEK REAYSASYELVTTDSGVARRDSVRLLREPGESALDVSRDM GSDYKAEWQLDARDNWTTQRVAVSVVGEDWKRSLILSRSA

 TTDYVTSWAL ETGPDWVTSRLSVSVAGRGFTRWLVLTRST GNS IAATYLLTYDERWRFRRLWLKVDN QGQRSLELRRDD
 EEAWSVGYRIEVVDSHWRTRRAEVEAVTAAGAGRTVLERDP


 EGASSIDYVIRCDPDWQTLVADLSGSWRDTPLALHVAR

 GPAFNGSFELSVGEDGAVTRLLLRTATVAEERHVSLSRSS
 ERPVR RYSI KLGSDWKTKK V K K IYKEDREEPFVVQTEK
 PDPYTCRYRLTVGPDWSTNRLEVESEGAGWSRSVRLERGR
 MRRDE
\(K\) SPLTLCYQWH LDDRQWRTRHLSLQR LRPS SQQLHARRHA HEDTGLSYRMCTNRKGWVNQVVIDAAMPLNAK LKLQRRT G GYRLDHRWTLTPDWRALSLDVERWGAAVHTRLTVERT \(P F P Y R G L\)
\(D\)
 GK \(\square Q R \square K Y S I T M D D S Y S V Q N F H V Q S D T H P N Q K\) PVGYTATYAVRTDASWVATLLDVSVEGAGWARTLRLEAEG TETWRVQWDLVVDS LWRTKFVTLDAEGPVWQRHLNLWRRD

GEEMALDYALRCDPGWNCRSVDTTGLRGDRAVAYRTARQG AD WN ILRYRVRARGDGTTRRARITGRGSKARIFAVARAG HPAFTLEYQVELGSDLDAPCRVQLTVSTEEYERTIDLVRDD GRDGQLQYRVQCDDHWHTQWGTVRGWDGGGTVDLABARDD \(\begin{array}{ll}H Q P Y T S R W H A D L D G A W R V & R A L T V\end{array}\) AYSLT WQAEVTSTSEVTSLHVTSSQGGWSRELWLDRGA GLVYELRWELDGPA

\section*{UniRef90 U3HJ93 UniRef90-JOTZE1
UniRef90 HOHSZ2 UniRef90-UPIO001FFDF5C UniRef90_M3VAZ5} UniRef90_MoDDG8
UniRef90 W4HIM1 UniRef90_UPI00047647F6 UniRef90 D3FQ34 UniRef90_UPIo004206C6F UniRef90_UPIO004666B36 UniRef90- HOROV1
UniRef90-A0A024KDG4
UniRef90-UPIO0047C5AOF UniRef90 U1AHL6 UniRef90-UPIO00369CDC6 UniRef90-N1V748 UniRef90-UPIOOO47E2382 UniRef90_WOZCX5 UniRef90-U2RV92 UniRef90-E5XTT5 UniRef90-UPI00047DA71E UniRef90 A3K2N1 UniRef90-W7ZB30 UniRef90-UPIooo337A078A UniRet90_UPIO003792AA7 UniRef90_QOFI62
UniRef90-D3F680 UniRet90 - X6KY81 UniRef90 UP1000479AED5 UniRef90-F4FCI8
UniRef90-K2LCl8
UniRef90-A0A010PGF4 UniRef90_U1FWJ5 UniRef90-I1ATJ3 UniRef90-G7H183 UniRef90_10KV13 UniRef9- JJL8V5 UniRef90-A0A024PJK4 UniRef90-UP100041DEF58 UniRef90-D7WDS6 UniRef90-C5C4V2 UniRef90-DOD4L3
UniRet90_S6AW31
UniRef90-UPIIOOO36A72C5
UniRef90-U3AYJ9
UniRef90-L7LBS1
UniRef90-C3PKV8 UniRef90-UPIO0039F252F UniRet90-N1MA14 UniRef90-W4ETW1 UniRef90-Q5LWT3 UniRef90-UPIO0029A59EA UniRef90-W7IZX1 UniRef90-X7F617
UniRef90-C8×773 UniRef90-V2GS35 UniRef90-UPIO0036BC45A UniRef90-C6WDY9 UniRef90-UPIO00370FA23 UniRet90-X6GDT7 UniRef90_L5N393 UniRef90-X7EDC1 UniRef90-UPIO00366AB66 UniRef90-E8S7C6 UniRef90_UPIOOO2D3A439 UniRef90 UPIOOO3716A22 UniRef90-UPI00047557A8 UniRet90_V9G3V1 UniRef90-H3SI46 UniRef90-W1 N441 UniRef90-UPIOOO45E6D41 UniRef90-G8AYK0 UniRef90-UPIO003762E3E UniRef90-UPIO0046ACD52 UniRef90-UP100029ACBOD UniRef90_UPIOOO469FC0
UniRef90 A0A024F074 UniRef90-AOAO24FO
UniRetgo- R4L 280 UniRef90-E3B8W5 UniRef90-W4T8N7 UniRef90-W7ZSP1 UniRef90-A0A017HFF6 UniRef90_A3W709 UniRef90-A0A022L4B8 UniRef90_LOSV41 UniRef90 UPIOOO363539B UniRet90_UPIOOO3606F68 UniRef90-G8S9W1 UniRef90_Q5YVC4


\section*{UniRef90 U3HJ93 \\ UniRef90-JOTZE1
UniRef90 HOHSZ2 \\ UniRef90_UPI0001FFDF5C}

UniRef90_M3VAZ5 UniRef90-M0DDG8
UniRef90 \({ }^{-}\)W4HIM1 UniRef90_UPI00047647F6 UniRef90-D3FQ34 UniRef90_UPIO004206C6F UniRef90_UPI0004666B36 UniRef90-H0ROV1
UniRef90-A0A024KDG4
UniRef90_UPI00047C5A0F UniRef90-U1AHL6 UniRef90-UPIO00369CDC6 UniRef90_N1V748 UniRef90_UPI00047E2382 UniRef90-W0ZCX5 UniRef90-U2RV92 UniRef90-E5XTT5 UniRef90_UPI00047DA71E UniRef90_A3K2N1 UniRef90-W7ZB30 UniRef90_UPI00037A078A UniRef90_UPIO003792AA7 UniRef90_Q0FI62
UniRef90-D3F680
UniRef90-F4FCl8
UniRef90_K2LCl8
UniRef90-A0A010PGF4
UniRef90_U1FWJ5
UniRef90-I1ATJ3
UniRef90_G7H183
UniRef90-IOKV13
UniRef90-J7L8V5
UniRef90_A0A024PJK4
UniRef90_UPI00041DEF58
UniRef90-D7WDS6
UniRef90-C5C4V2
UniRef90-D0D4L3
UniRef90-S6AW31
UniRef90_UPIOO036A72C5
UniRef90_U3AYJ9
UniRef90-L7LBS1
UniRef90-C3PKV8
UniRef90_UPIO0039F252F
UniRef90-N1MAI4
UniRef90-W4ETW1
UniRef90-Q5LWT3
UniRef90_UPI00029A59EA
UniRef90-W7IZX1
UniRef90-X7F617
UniRef90_C8X773
UniRef90_V2GS35
UniRef90-UPI00036BC45A
UniRef90-C6WDY9
UniRef90_UPIO00370FA23
UniRef90-X6GDT7
UniRef90_L5N393
UniRef90-X7EDC1
UniRef90_UPI000366AB66
UniRef90-E8S7C6
UniRef90_UPIO002D3A439
UniRef90_UPIO003716A22
UniRef90_V9G3V1
UniRef90-H3SI46
UniRef90 W1N441
UniRef90_UPI00045E6D41
UniRef90-G8AYK0
UniRef90_UPIO003762E3E
UniRef90_UPI00046ACD52
UniRef90_UPI00029ACB0D
UniRef90_UPI000469FC04
UniRe990-A0A024F074
UniRef90-R4L2R0
UniRef90-E3B8W5
UniRef90-W4T8N7
UniRef90-W7ZSP1
UniRef90-A0A017HFF6
UniRef9O-A3W7Q9
UniRef90-A0A022L4B8
UniRef90_LOSV41
UniRef90_UPIO00363539B
UniRef90_UPIO003606F68
UniRef90-G8S9W1
UniRef90_Q5YVC4

 UniRef90 LOSV41 UniRef90-UPI000363539B UniRef90_UPI0003606F68 UniRef90_G8S9W1 UniRef90 Q5YVC4

```

