## QUERY

UniRef90_UPI00032B0587 UniRef90-UPIO0042CAD21 UniRef90_UPI0003343915 UniRef90-K7E244

## UniRef90-UPI0003C2802A

UniRef90_Q8BH61 UniRef90-HOV529 UniRef90-HOYVP7 UniRef90_UPI000462CBD6 UniRef90-UPI0003D0897D UniRef90-G3VPQ0 UniRef90-UPI000258F1D1 UniRef90-E9QB19 UniRef90-D6WL52 UniRef90_C3YLF5 UniRef90_C3YLF6 UniRef90_Q05187 UniRef90_U4UVX1 UniRef90-W5K0A4
UniRef90 F6XR37 UniRef90-D6WH00 UniRef90-H2RL68 UniRef90-Q4RKY4 UniRef90-UPIO002C445D0 UniRef90_V3ZZF9 UniRef90-P52183 UniRef90-H2L772
UniRef90-UPIOOO3 UniRef90_UPIO0032B1095 UniRef90-F7DL32 UniRef90-UPIO00388B75D UniRef90-T1J480
UniRef90-H2MAP8
UniRef90-I3J425
UniRef90-W5N165 UniRef90-UPIO003EDD747 UniRef90-R7VGB5 UniRef90_C0H9Z9
UniRef90_EGGOP44 UniRef90_C3YD44 UniRef90_Q7PW40 UniRef90_Q173Z9
UniRef90 U3IRT3 UniRef90_UPIO004420013 UniRef90-UPIO003C17A74 UniRef90-T1KE84 UniRef90-H2VAN1 1 UniRef90_M4AE21 UniRef90_F1R1R7 UniRef90-E7F8E0 UniRef90_UPI0003F0B85D UniRef90-M7AU77 UniRef90-G3WD04 UniRef90_UPIO00252BD2E UniRef90_W5JD55 UniRef90_C3YLF4
UniRef90 F6SBT9 UniRef90-K7GB58 UniRef90-F1QRQ2 UniRef90_UPI000398F57F UniRef90-K7J8Z6 UniRef90_UP10001CBB009 UniRef90-G6D3A5 UniRef90_UPI0003835072 UniRef90-B7QJF3 UniRef90-W5KER5
UniRef90-T1IVX6 UniRef90-H2LUP5 UniRef90-H2MF16 UniRef90_UPI000462E432 UniRef90_UPI000328D2F3 UniRef90 G3Q5T2 UniRef90-A0A023F227 UniRef90_UPI00045DC749 UniRef90-H9IXJ3 UniRef90_UPIO003C29969 UniRef90-Q0GYS4 UniRef90_L8YEIO UniRef90_G6DFZ9 UniRef90_UPI00042C6DD6 UniRef90-A0A034WQ72 UniRef90_G3PMW5 UniRef90_B4JBZ4 UniRef90-D6WL51
UniRef90 E7FGH5 UniRef90_I3M5Y8 UniRef90_Q8T316
UniRef90-H9J0Y4F


T

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

 D $V$ V


NDN

 DVEFD L E LE R I K I G E GF CVVVV H M K N R S D KV R NI K A L L S A




S




A DVDTFDLNDTMVGKPFDVKMK』SNQSSEERTVKMTLTV
A DVELD MPLIEVRVGD DF ELK LEEFNNKS GQARTGDVYVS G

NEVYFNFELDDI KI GEPFSVILTVVNRSSENRVVEGSLHV
N EVVYF F N F E L D D I K I G E N F S V V L L Q I K N R S S E M HVVV K G S L NV


A D$D V S L E M E G D G P R M G E D A E L T I R L R N V S$N
S
N
N

| $T$ |
| :--- |
|  |

N
N D
N

A
S
A

A
A
A
N
N



## QUERY

UniRef90_UPI00032B0587 UniRef90-UPI00042CAD21 UniRef90_UPI0003343915 UniRef90_UPI0003292739 UniRef90-K7E244

## UniRef90-UPI0003C2802A

UniRef90_Q8BH61 UniRef90-HOV529 UniRef90-HOYVP7 UniRef90-H9GLY7
UniRef90_UPI000462CBD6 UniRef90_UPI0003D0897D UniRef90_G3VPQ0 UniRef90_UPI000258F1D1 UniRef90-E9QB19 UniRef90-D6WL52 UniRef90-B7PSF8 UniRef90_C3YLF5 UniRef90_C3YLF6 UniRef90-Q05187 UniRef90-U4UVX1 UniRef90-W5K0A4
UniRef90-F6XR37 UniRef90-D6WH00 UniRef90-H2RL68 UniRef90-Q4RKY4 UniRef90-UPIO002C445D0 UniRef90_V3ZZF9 UniRef90-P52183 UniRef90-H2L772 UniRef90_UPI00032B1095 UniRef90_F7DL32 UniRef90_UPIO00388B75D UniRef90-T1J480 UniRef90-H2MAP8 UniRef90_I3J425 UniRef90-W5N165 UniRef90-UPI0003EDD747 UniRef90-R7VGB5 UniRef90-C0H9Z9 UniRef90-E9GOP4
UniRefgo UniRef90-C3YD44
UniRef90_Q7PW40 UniRef90_Q173Z9 UniRef90_U3IRT3 UniRef90_UPI0004420013 UniRef90_UPIO003C17A74 UniRef90-T1KE84 UniRef90-H2VAN1 UniRef90_M4AE21 UniRef90-F1R1R7
UniRef90 E7F8E0 UniRef90-E9FR81 UniRef90_UPI0003F0B85D UniRef90-M7AU77 UniRef90-G3WD04 UniRef90_UPI000252BD2E UniRef90_W5JD55 UniRef90_C3YLF4 UniRef90-K7GB58 UniRef90-F1QRQ2 UniRef90_UPI000398F57F UniRef90-K7J8Z6 UniRef90_UP10001CBB009 UniRef90-G6D3A5 UniRef90-UPI0003835072 UniRef90_B7QJF3 UniRef90-W5KER5 UniRef90-T1IVX6 UniRef90-H2MF16 UniRef90_UPIO00462E432 UniRef90_UPI000328D2F3 UniRef90-G3Q5T2 UniRef90-A0A023F227 UniRef90_UPI00045DC749 UniRef90-H9IXJ3 UniRef90_UPIO003C29969 UniRef90-Q0GYS4 UniRef90-L8YEIO UniRef90_UPI00042C6DD6 UniRef90-A0A034WQ72 UniRef90_G3PMW5 UniRef90_B4JBZ4 UniRef90-D6WL51 UniRef90-E7FGH5 UniRef90-l3M5Y8 UniRef90_Q8T316
UniRef90_H9JOY4

NTT F Y T GVP ${ }^{5}$
50 KAEFKKETFDVTLEPLSFKKEAVLIQAGEYM NVVFYTGVSKAVFKNETFSVVLEPRSFKSEEVLVRASEYM
 SVVFYTGVPKAEFKNETFEVALEPLSSKKHKVLVTAGEYM NITFYTGVAKTEFKNETFDVKLEPLSVKKEEVLVQAGEYM


 NuFYTavSKNEKNEFNVTLEDKKAOTVEWLKSSEMM

 GS V Y Y N G G V K A N L L V K R A S G D



 G AVV L T G A A A G D I K R S Q G K F K I D A G K K D T A $V$ I M Y Y T G
 A V M Y Y T GVVVK GTI K K E Q I S V ELLQPN E EK T I E WVL P Y Q Q Y Q SVMYYTGVHKA II GRDRTDVDIQPNEDTALEWTLKYEDYK

 AVMYYT GVVNKATVVQKDKVEVEELPPNENTTLEWSMIDYNA YK


 S V M Y Y T GVVHKATVRTDTTDI EVLPNE EKILEWTLEYM DYK


 HTMYYT GVVPVTQFHKEKFVVTLQPNGQMTLHAQIEAAQYM DTVLYTGKDRESVKVDKFSVTLEPGTEESIRMIVEFHEYY
 WS TVVYT R R P V R E I WK D S IV V T L S P G S E K H F P V V K I S Y A E Y Q

 $N V V F Y T G V T S A E F M L R D P T V T M K P N E T V V K T V V V E S K K Y M$ AV MYY T GVVHKD TVKKDKVDEEVLPNEVNDLTWELKYDMYK $T V V Y Y T G V P S G E V V F K T P K V K L E P M Q S K E E K V L V R S E D Y M$
 T NF Y N GVKAHLVRHATATFVLQPMAREELRLPVSAKDYM HVCHY T Gl P V K NCCK D Q H D D L V L E P N S S S E A V K R V V C S D Y L
 ETVVLYTGRVVGEPVKRWSVDRVVRAAADVEVRMEVSWQEYG DTILYT GKNRESVVKVNTMSVTLDPGTTEQSVKMLVEFNDYY
 WSIVVYTRKPIHEVVWKDSSLSATLASEEEKRFPIGIAAYAEYQ


 WSTVVYTR RPDHEI EAVHYT GNKKK QVKDESYEVVLLKPNSKEEVGMLVTYEEYE TV V V Y Y T G VVP S A E V V F Q T P TVV E L





 S S F Y Y N GIVK F D I I K K DE G K L Y V V G P Q K N E E V S L V V K V E D Y L WA IVYTRKP IVREI WKDTGSVTLAANEEK QLDPIVKI TYAE Y Q

 S S CYY T G AVVSSR L R R A Q GEFIVVRAGQK E V L L K L L H V T A Q E Y M
 A V M Y Y T G V L K A T V R K D VLDDV E L Q P S E VK S L E W S L D Y QL Y R

 WT IVVYN GTLLVHEVVWK D SADIDSLESSE E EVVQHPVKI S Y GQ Y E



## UniRef90 S4RK25

 UniRef90-UPIOOO4409E3B UniRef90-A0A023EZ44 UniRef90_Q964D3 UniRef90 H9GRSO UniRef90_VGKHG5UniRef90 E9FUJ2 UniRef90-EOVU28 UniRef90-UPIO003COFBDC UniRef90-T1HFS7 UniRef90_UPIo0045D71A8 UniRef90-H2UUV1 UniRef90-13K585 UniRef90-UPI000350CA6D UniRef90-UP1000350CA6D UniRef90-K7F649
UniRef90-G3X211
UniRef90-M3z120
UniRef90-UPIo0032AF7EE UniRef90-Q68Y89 UniRef90-UPIO003592B17 UniRef90-Q9GRC2 UniRef90-L9JCN6
UniRef90 UPIOOO359FFOE
UniRef90 F1OHM3 UniRef90_C3ZB4 UniRef90_UPIO003333926 UniRef90-UPI0003F0E6D2 UniRef90-U312N1 UniRef90-T1PGW9 UniRef90-UPIIOOO3C29B1D UniRef90-UP100002C6682B UniRef90_UPIOOO3C19FC UniRef90-J9K0Q3 UniRef90_UPIO003333ECB UniRef90-F1QC84
UniRef90-UPIOOO3C2B724
UniRef90-」9PCH1
UniRef90-HOZ7B1
UniRef90-UPIO0046B5B8D UniRef90_UPI0003316FB3 UniRe990-HOX488 UniRef90-P21981
UniRef90
I3LXV2 UniRef90-U4UTTO UniRef90-G1TDR3
UniRef90
F6TFD4 UniRef90-UPIO00333F04D UniRef90 STN9R4 UniRet90-K7GAA2 UniR Refo -H3AQRO UniRef90-C08188 UniRe90--1NG12
UniRef90_UPIO003344BD6 UniRef90-F6Z5P5
UniRef90-X1YB88
UniRef90-x1YB88

UniRef90-UP10004421CDE UniRef90-ToMGL4 | UniRef90_UPIO0044221DB |
| :--- |
| UniRef90 | UniRef90 T1HFR9 UniRef90-li3MIC9 UniRef90-S4RNM1 UniRef90-H3A051 UniRef90-UP10003317DB2 UniRef90-UP10003317DCD UniRef90 L-5K4U9 UniRef90-UPIOOO38338C1 UniRef90-UPIoo03334A6D UniRet90_V9K8W8 UniRef90-UPIOOO34F8DB5 UniRef90-UP100034FD59F UniRef90-UPIOOO333E5CC UniRef90_UPIOOO1760C32

UniRef90-Q1ECX3 UniRef90-Q1ECX3
UniRef90 U3JOT6 UniRef90--27TH83 UniRef90-T1HFP9
UniRef90 H2ZTS7 UniRef90-G3WEW6 UniRef90-C4P259 UniRef90-G1KLT11 UniRef90-UPIIO0044219B9 UniRet90-UPIOOO2740247 UniRef90-H9GB666
UniRef90-M7BAE1
UniRef90_H3D373
UniRef90_UPI0003F07A7C

 QTMRYTGTPSGNIYKDQKEI QLQPNKEQSVPITIPFADYG
 WTIVYTGKPDHEVWKDSLALTLGPQEEKAFPIKISYADYQ SVDFYTGVPNSNFIDQTLKVFVEPHQVQQAQVKIKPKDYV DSVLYTGKLKSVIKKEVFQRTLKAGTAQNATLPVSYDEYA SAVGYTGVNKGTEKREQGEVVLGPCEVKEMVKMLKFEEEYD NIVKYTGVQHRKLRKEKDEVELKPKSTESVNVAVNPMESM SVTFYTGVTGT FKETKKEVELAPGPADRVTMPVAYKEYR
 QAVYYNGVLATDLWREKLSLRVSANKVHQKNLI LS SSSFE QVMTCNGYPLDQFWKDNMNVRLGPREVKTIPLHIPYDQYG RTVTYNGRLGPECKTEQLDSLAVEPGSEKT1PLRICYSEYQ SVVYYTGVSSNEFLFKTPTVTMPAQKSVKELMTIESRNYG SSMYYTGAPAFPVKRREGEVVLGVGETKNMTMEVTHGDYY STVYYTGVKKAKVSSYNGTLPLKAKETRVIPVTVPASDYL KTMFYTGVLADKIVSVPFENKIDKKGNSTVPVTVKAQDYL SAAYYTGILHKSLVKKDQTCFELKATETKVLEWSLKYEDYK QAMYYTGVSGGKFWNQRFTVRLTPNGDGEVEGR D DAD DYV QSLQHDGSPLPPFWQETAFITLCAKEAKTHPCKULYSQYS
 QVLTHNGCALDQFWKENTNVALGPREAKTVPGHISYNQYG YTVFYTGVKKDAFMDQTLSVVVEPGYFKNVDVHVKAKDYM SSTYYTGAKAYPGTRAEGEFVLKPNETKTLSLPVKYKDYF QAVFYNGAFAAKLWQQQNSFRLKANQVMRITTSLSFSYFE CAMYYTGLTASTFKLENYSSTVDAWQTTPVTMKVQAAEYM SSULYTRRTVAEDLQETASVELGANAEKHILLKFPYSRYG GSTYYTGAPAALINEVSAEFVLQPKEHKTLSLPVPYSQYY RAASHNGTRGPQCGTDQVDMDIEPRAEKRVPLRIVYEEYR
WTIVYNGTVVHEVWEDSVTMSLDPEEAEYPVKISYAQYE QSLLHDGSPLAPFWQDTAFFTLAPKEAKSHPCLVPYTQYS QAVYYNGVLAAKLWRESLSLKLSANLVRRDTTSLSFSLFE RTVSYNGVLGPECGTEDINLTLDPYSENSIPDRI DYEKYS QAVYYNGVFAAKLWRKKQFLTLSANLDMRITVSLSFSHFE QAMYYNGKLAATELKSEKKKVNVKPESTHEVKLTVTYEEYS
 RTVSYNGVLGPECGTEQAEVTLEPFSEKSVPLRIDYEKYC ATILYTRRPVAEILRESQAVRLGPEEEKKIPITISYSQYK STILYTRRAVAEILQEAVSVDLGSKEEKRIPLKISYAQYE
 SAVLYTRKPKAEILQWSRSVQLGAEEVKEDSFKITYTQYK RTVSYNGLLGPECGSNHLELPLEPFSEKSLPLRILYEKYS QAMKHDGKPAQQFWRDSMYVELGPHEEKWLLFKIPYAKYG
KHSDYTGKFSKLISNDPFNQSVGSNLEAPWMVELSYDEYG KHSDYTGKFSKLISNIPFNQSVGSNLEAPWMVELSYDEYQ AAVSYNGALGPECGKDLLNTSLKPHAEKVVPLRULYEKYG QAVYYNGVLAAKFWREKLLLTLRANSVETI STTLSSNL E SSVLYTRRAVREVLKEATTLSLGSKEEKHLPGRITYAHYG

A QS YYNGVLAAELWRKKMLLTLSGNLVQRITTSLSSSHFE
 HTVSYNGVILREFIKKTKNLVLEPASEENSIPLHVLYEKYG AAMVYNHAVRKPVLSNSAAVQLGPNEAKGVPVQVKYSQYE QSLLHDGSPLPPFWQDMVFITLTAEEEKTHPCKIPYTQYS EAVDYTEHHKAFDRKDQTRAQLKPHEDQSLEWILQYEEYK RAVSYNGVIGRECGKDLLNVELPPGGERKVPLRLNYSKYC VCSYYTGVTSERVATNHYTESLGPGENKKFDLYUSHEAYQ AAI YYTGVYKSCFKKKREEVQLSASEVRELELLVIK QSILHEGNPLPVFWQDTAFITHMPG QGMMQNGSSLDQLWKENMEVYLGPKKVEKVIEMI



## UniRef90＿UPIO00395BE1E

 UniRef90－UPIooo2C45344 UniRef90－R7UR17 UniRef90＿UPI0003B63BFF UniRef90－F6ZDW1UniRef90－UPIOOO3F10C29 UniRef90－P49222
UniRef90－${ }^{-13 A V Q 9}$ UniRef90－A0A023G034 UniRet90＿UP10003299E3E UniRef90－UPIO002655AAD UniRef90 L7N300
UniRef90＿UPIo003990F1B UniRef90－B1H2S4 UniRef90＿UPI000387163C UniRef90 ${ }^{-}$V4ACU3
UniRef90＿UPIOOO462C53F UniRef90－G3U110 UniRef90＿UPI0003834D09 UniRef90－B5X1F9
UniRef90－B7PJE4 UniRef90＿UPI0003F10E16 UniRef90－A7RXW8 UniRef90－G1NOF3 UniRef90－V3ZIG0 UniRef90－D2GW61 UniRef90－W5LYX2 UniRef90－X1WG26 UniRef90－M3YF93 UniRee90－UPI00034FF982 UniRef90－T1L447
UniRef90－UPI0003C281D5 UniRef90－B0W8U8 UniRef90－F1QSE3
UniRef90 VgLoF5 UniRef90－UPIOOO3DOE406 UniRef90－11G6C4 UniRef90＿B5DF57
UniRef90 L5LVW6
UniRef90－F6Z8B1
UniRef90－H2U848
UniRef90－UPIO003832D56 UniRef90－UPIo004447BCB UniRef90－W5JCY5 UniRef90－F7DVB0 UniRef90－UPIOOO359B232 UniRef90－UPI00038C3A66 UniRef90－13K6U6 UniRef90－K1PJP3 UniRef90＿W4XZ58 UniRef90－H2UTL4 UniRef90－UPIO002BCC7C2 UniRef90－W5L949 UniRef90－UPIOOO3941945 UniRef90－M3WIG0 UniRef90－F1S148 UniRef90－13KTG6 UniRef90－H9GPW7 UniRef90－V91305 UniRef90－UPI0001CB980B UniRef90－Q7PW42 UniRef90－UPI0003BC809A UniRef90－B7PSF5
UniRef90－H8ZQB6 UniRet90＿T1J2C6 UniRef90－HoZU99 UniRef90＿UPIO003501325 UniRef90－L9L388 UniRef90－I3Jov6 UniRef90－13JVG6 UniRef90－H2UUU9 UniRef90－M3ZUP2
UniRef90
L5K1D3 UniRef90 W5K018 UniRef90－UPI0003EBCF40 UniRef90－V517B3 UniRef90－F1R1A8 UniRef90－UP10003C274D3 UniRef90－K1QSW2 UniRef90－G3NHU9 UniRef90－V9KZC7 UniRef90－UPI000350BBC1 UniRef90－G3NLL8 UniRef90－UPIIOOO35A272D UniRef90－UPI000298F4A5 UniRef90 M7BTZ2 UniRef90－UPIO0038BE2C0 UniRef90－H2MFH5 UniRef90－UPIOOO4419779 UniRef90＿UPIO00333157B UniRef90＿W4ZHDO
KVRIKVEGINNGCDFDVFAVIKNNTAGKHWCEGKIGT

AFKVTGERVV

UniRef90_UPIOOO395BE1E UniRef90_UPIO002C45344 UniRef90_R7UR17 UniRef90_UPIO003B63BFF UniRef90 F6ZDW1 UniRef90-UPIIOOO3F10C29 UniReffo-P49222
UniRef90-H3AVQ9 UniRef90-A0A023G034 UniRef90 UPIIOOO329993E UniRef90_UPIOOO2
UniRef90 LTN300 UniRef90_UPIooo3990F1B UniRef90-B1H2S4 UniRef90-UPI000387163C UniRef90-V4ACU3
UniRef90_UP1000462C53F UniRef90-G3U110 UniRef9O-UPI0003834D09 UniRef90-B5X1F9
UniRef90-B7PJE4
UniRef90_UPIoo03F10E16 UniRef90-A7RXW8 UniRef90-G1NOF3 UniRef90-V3ZIG0 UniRef90-D2GW61 UniRef90-W5LYX2
UniRef90 $\times 1$ WG26 UniRef90-M3YF93 UniRef90_UPI00034FF982 UniRef90-T1L447
UniRef90-UPI0003C281D5 UniRef90-B0W8U8 UniRef90-1QSE3 UniRef90-UPI0003DOE406 UniRef90-11G6C4 UniRef90-B5DF57 UniRef90-L5LVW6 UniRef90-H2U848 UniRef90-UPIO003832D56 UniRef90-UPIOO04447BCB UniRet90-W5JCY5 UniRef90-F7DVB0 UniRef90_UPI000359B232 UniRef90-UPI00038C3A66 UniRef90-13K6U6 UniRef90-K1PJP3 UniRef90-j9JSL6
UniRef90-H2UTL4
UniRef90-UPIO002BCC7C2 UniRef90-W5L949 UniRef90 UPIOOO3941945 UniRef90-M3WIG0 UniRef90-F1SI48
UniRef90-I3KTG6 UniRef90-H9GPW7 UniRef90-V91305 UniRef90-UPI0001CB980B UniRef90-Q7PW42 UniRef90-UPI0003BC809A UniRef90-B7PSE5 UniRef90-H8ZQB6 UniRef90-TIJ2C6
UniRef90 HozU99 UniRef90-UPIOOO3501325 UniRef90-L9L388 UniRef90-I3JoV6 UniRet90-13JVG6 UniRef90-H2UUU9 UniRef90-M3ZUP2 UniRef90_W5K018 UniRef90-UPIO003EBCF40 UniRef90_V517B3 UniRef90-F1R1A8 UniRef90-UPIO003C274D3 UniRef90-K1OSW2 UniRef90-G3NHU9 UniRef90-V9KZC7 UniRef90-UPI000350BBC1 UniRet90-G3NLL8 UniRef90-UPIILOO35A272D UniRef90-UPIOOO298F4A5 UniRef90 M M BTZ2 UniRef90-UPIOOO38BE2C0
UniRef90-H2MFH5 UniRef90_UPIOOO4419779 UniRef90-UPloo0333157B
UniRef90_W4ZHDO
 QAVSYKGLLAAKLWREKQSFTLSTKLVDRKTYRLSFSSFE TAMYYTGVCGQELSNTTMCDELCPGEDRQKEWTREAKTYF QAMTYTGQPKGNIQNEVVQKQL DPGKDLTFPDQDPY LSYS QAVYYNGILAAELWRKKQFLTLTAKSVEKVSTSLSSSYFE QALYYNGVLAAELWRNKQQLRLGAKQV MRLTCSLSSSNFE QALYYNGVLAAGLWSKKQLFMLKPNQVMRLSTNLSFSCFE ETVTYTGVTKRALKHQNYPLNLMPGAEELLTLDVAFKDYS QAMRYNGSPVENIQSEVKEETLLPGKDLSIP LVPFLVYH QAVHYNGVLAAELWRKKLSTLSDNLEKTITIGLFFSNFE QAMQYNGTPLDQFWRKKFDVDVFPNQATDGQFPI HPLQYQ RTASYSGSVGPRLGRGQPXPLFPPPPEKRVPRRILYEKYG
SAILYTGRQRTMWTGGKLSLGPNLEKRFSVPVKYGYS QSLHYDGVPTTQLWKEEFHFILKSNEANNLQVFVPYSRYR CSCFYTGIPAKKIKSEKAYHVIKPKSECIVKFEISSSDYG RIVSYNGALGPECRKDNLGGTLEPYEEKA:PFQULYKKYG SAI LYTRKHKAEGLQLSRSIKLGSEEVKNISIKI SYSOYK RAVSYNG\|LGENCGKDLLNVQLAPGEEKRVALRMNYSKYA EVMSYTGANKMPIKVNSYNVMIPPGETQLVELPITYGDYA QAVYYNGVLAAELWRKKDPLTVNVNLEVTATI LLSFSNFE KSTFYTGRSNYNVTNGKDEVELEANKDET\|LAIKQADYR QSLHYNGVPIMQLWKEKFNFII RNNEVNTLQVFVPYSWYG VQSFYTGVPLNMVLAKTNTMSIP ESDVTMVLKCSEYD QA DYYNGLLAAELWKKKLSLMLDANKGEEIPEELSFFHFE RAAFYNSTTGKECGKDLLNVQLSPSEEKTVPLRLNYTKYG QVMRYTGAPAAAVWSHSTDVQLQDTEEKALSFTLPYSAYG QA YYYGALAAELWKRKQSLMLGPKAND ITSNLSFSHFE FSVLYTNKEMHQLLNETRTLCLKGKEEKEVPGTVGKYEQYE GSVLHDGAPLPPFWQNTLYMPFRPKEEKVIPWTVSYAQYG
 RVASYNGNVGPECGKDLLNVTLPPRGDKVVPLRVLYEKYG AATHYTGHNRKTFVSLQFEGSIAPHNTGEIVLTVTSRQYL A AMYNGVLATGLWRQKQFGMLGPNQVLRLSTSLSFSCFE RTVSSNGTLGPVCSKNLLDLSLEPHSENSTSDPLLYENYC CAVSYSGYVGGNCGKDLLNVELAPGGERKVPLRLNYSKYG RTASATGAVGPQCGKDLLNLSLEPYAGEDAPLR1LYEKYG QAMTYTGRLKENIKNEVIEKELLPGNDILTVPVQVPYSSYS RTVSYNGILGPPCGVDDRDFSLPARNDQTVPLRIGYHDYS LSSFYTG| PGKRVKGQQFTVDVNPNEESDLILEVTKSDYL
 ESCYYTGKAGSSVKREKQKVVLPGSNVEFVQTALTYFDYG KTVSYNGKLGESCGFASQKVEVAPGEDKRLSLLVEYDQYG QAVYYNGVLAAKLWTKKLVLTLRANSAEKISTFLSFSNFK RAITYDGTIGQECGKDLLNVELPPGGERKVQLRLNYSKYC QAMRYNGNPAGNILNKVQHVTLGSRQDVAIPLLIPFADYS QAMYYNGDLAAKLWKNKQFLTLGANMVYETTTSLSFSCFE QAVYYNGVLAATLWKDQFLLTVEANSAKKRHSFLSFSNFE ATALYTRRTVREVLKEATTFRLQGKEERQLPLRLTYGHYG NTVYYTGVKAHRVKVDKETLKIGPGETITHGLTIEVSDYQ NHILYTGKNIKTITSHPFTVEVEPSGEEVIEVPVAFDDYY QAMRYNGSPVENI QSEVKEGTL LPGKDLSIPFLFPF LVYH SSVFYTGGEYKQLKKGVDNGELQPGKTETGSVTVTPEDYQ
 SCILYTGRRINDIFQDQKSLIINPSQEGHISLQI PYSLYG RTVSYNGVLGPECGKDLLDLTLEPHQEKSIPLRILYEKYR RAVSYKGKQGDSCGVASDKVEVPSGEERRLSLKLEYESYG MAVTYSSRHRGNCQRQTTTVMVPAHKAQQEVLRLRYDDYA MAVTYNSLHQGECQRQMNNVTVSAQNAHKEVLRFRYDDYA QALYYNGVLAAELWRNKQQLRLGAKHVSVITCSLSSSNFE SVVYYTGVASTEFLFLTPRVAIAPKMNKKEVAIVESKKYM EVVTYTGKVGDNVKKETFTVS: KPEAVEEAKLLVTYEEYG QAVSYNGTLGETCGLGEFTISLASSEGGKVTLRLEYAEYS者ATKYTAVPLTELLKKEELQFTLRDNEEKTLSAQVPYLQYK DAMRYNGVLAVTVHNEVKETTLDPGTDGSIPVQUFSDYH QLQSYTGKVDASLGYDNETVKLEGKSEVRVPLKIKPDAYM QLKAFNSHPERSFWKTHKEVRVRPGEVLTLHHSIPPAEYE QAMRHNGTPAVNILSEVTEETLQPWKELSTSVLVPFLTYN QLLQCYTGKVEANLGSIKQIVQTESKPVIQLPLNLAADAYM QALLHGGSTREPFWRHAVHLSVVDFEKELQWPLLLPYSNYR
 KSSDYTGRTKATIKTEVIDIVLQGKESVTNVINVEYNDYG



UniRef90-F6YJ58
UniRef90-H2YCU3 UniRef90-W5MLN0 UniRef90_F6Z5U9 UniRef90-UPI00034FB3F1 UniRef90_UPIO0034FB3F1 UniRef90-UPIO003872942 UniRef90 ${ }^{-}$F1SI57 UniRef90-H3DMZ0 UniRef90-M4A620 UniRef90-M4A3V5 UniRef90-H0Z3E4 UniRef90_UPI000443DC26 UniRef90 F1NJH2 UniRef90_UPI0003AFD864 UniRef90_F6QUA3 UniRef90_UPI0004542209 UniRef90-H3CERO UniRef90-W5L922 UniRef90_UPI0003D07EE8 UniRef90-UPI00034FB726 UniRef90-UPI00042AACED UniRef90_UPIO0042BC396 UniRef90_B0S707
UniRef90-F6PT94 UniRef90-V8NRT6 UniRef90_UPI000203B29A UniRef90_P52181 UniRef90-H2ZHB4
UniRef90-K1QK12
UniRef90-K1QK12
UniRef90-I1FKF0
UniRef90-UPI000328F4E5 UniRef90_UPI0003F16891 UniRef90-UPI00038EB262 UniRef90_L9JGG1
UniRef90_L9JGG1
UniRef90_UPI0003317299 UniRef90-A2ART8 UniRef90_UPIO002039FDB UniRef90-H3AY69 UniRef90-G3TX93 UniRef90-R7VUC2 UniRef90_13LXW6 UniRef90-H2SQH9 UniRef90_UPIO00457337A UniRef90-UPI0003DF5196 UniRef90-F7EB11 UniRef90_V4AN19 UniRef90 UPI00046B47A9 UniRef90-UPI00033445A0 UniRef90_UPI000457381B UniRef90-I3K3U1 UniRef90_Q4SXY0 UniRef90-L5M9V3 UniRef90-W5UFH8 UniRef90-UPI0004626F2D UniRef90-W5M2B5 UniRef90-B7Q6S3 UniRef90-E5ST90 UniRef90_UPIO00393C822 UniRef90_W5KOI5 UniRef90-13JIC8 UniRef90-M4AEJ4 UniRef90_UPIO00443DA4E UniRef90_UPIO002B46860 UniRef90-H2UD12
UniRef90_UPI00034F5699
UniRef90-W5MJR4
UniRef90-H2LP41
UniRef90-H2TSZ9
UniRef90-UPIO003EE0937
UniRef90-K1QEF9
UniRef90-F7B5B4
UniRef90-UPI00042C8098
UniRef90-V8NA25
UniRef90-H2RQS1
UniRef90_UPI0004571B33
UniRef90-M4AY73
UniRef90-F6V6G1
UniRef90-H3CEF4
UniRef90-E6ZF43
UniRef90-UPIOOO20F5779
UniRef90_UPI0004626C43
UniRef90-H9G5G0
UniRef90-H3BTE6
UniRef90_UPI00042ABA07
UniRef90_UPI00045487AF
UniRef90_Q99041
UniRef90-A9JR91
UniRef90_UPIOOO440196A

S VVIE VVSLLTMKPP TMGENTEFTVINTTNKSNFAKVLRECVNG VAPPKFGDDVNLILSLRNSGQKSEALKVKLSS $E \square E \square G \square K Q P Q A V H G S D F D V Y V H V R N R G G E D E R G Q L T V I C A$ MYGEDI HFKVTVANVSWEERDFKMLVGA MYGEDI HFKVTVANVSWEERDFKMLVGA GIS GKLKLEPPVFGKDI NLILILNNLSFDRKTVKVDVSA $V Q L Q L H L T R P Q W G Q D L L L K L H A R R V T D R A H Q L V V R F C A$ $D M R K G C D F N V F A V V T N N T H S E K K C R L V F G S$
D EVELSLESETDRYSHDDKLNLKLSNRGRGVKSMSIVVNA

$\qquad$

```
S GVQLEDT
```

V V K |  |  |
| :--- | :--- | :--- | :--- |
| $P$ | $E N G K D V N L K M I$ |

 DTDMNFEVENVVLGRDFKVTITFHNRSPRRYSATAYLSG QV TKPEKGKDVELKLVVTSKTTAAGHLSDNLS V LKAPVMGGSI SFSVVTVNKENTPKTVREHVNA

## TGVAMRDRVEPVWGQDVFLTLHVRRDQDGAHRLEIRFCA

TGVAMRIRVESMSMGSDFDVFAHI GNDTSESRDCRLLLCA
DKHAPAIHGTDFDVII EVVNAGREDTADQLTVTS ADTVMKFKLNSPVYGEDTNLFLHLANLSHESRDLDREAAP

EKVVLGQPI H NI THI K SKSGDAQVVNLSAFC
Q LS $\square \mathrm{KHA}$

LD E D G
VSFSAK $V Q L Q L H L A R P K W G Q D L L L M L H A R R V P D R S H P L V L C F C A$ PQWGQDLLLTLHARRVSDGPDWLVERFCA
 QLQLHLTKVPWGQDLLLMLHVRRVPDRVHRLAVHFCA GHDLLLRLHARRVAARTHSLVVRFCA

 GQDLLLTLRVRRVPDRAHRLVLRFCA GNPLELABTVKTSTPGKWTINLVGSC V QLQ L H LA RMPVGQDVPLTLHVWRVPERAHRLVVRFCA $V N V V I H S N E V Y L G Y D I E L D V E F N P G G L E K M V N A L L S G$ PVYNGSTVKVFVKVSNKSADDRVYTLLKFCA DVEFDLDDERVNDGQPFAVIVNIKNKSNEKRTIQAILSA
 GQDLLLMLHIRRVPGRTHPLVVRFCA TLMVHLCA
 NFKVSKPMDGQDVSLKLVLNSESRTARPVSINISV VKVTMQAKEVFLEQDI VLDI GFRNDGVLDTVVNAHLS G
 IE E EKALVGQPi S LIKIVVRSMSTNAWTINLCVSC $S \square Q \square G F E S D K S L L G S P I T F Q I S L S N N S S Q S Q A V A L T A A C$ AMELK LEAVPVGEAIQAVCRATNNDKLPHDVTVSVRA DVKFLFTMDDVMLGEDFHFEIVLTNLSDENRDINLSLRIG ISM RF EVSKPMDGQDVSGKLVLNSESRTARPVSVNV
 G H D L L L R L H VVHN R T H P R GP I S L L V C A MGDDIVLTVR\|KNTMNKE DE IPILLA G $S G \square A V F \square T \square D K A P V G E P: R F T V N A V N K Q K V A K M M K V H L N A$ GNPLNALVEVTN LTD GDKTVDVIISC
SPVVGEPDRDTVKVTNRERVAKKVEVHINA SLEVSLDLDKVPLGDSITMCVTLTNQSGGPRILQEHVDA $T G V A M R I R V Q S M N M G S D F D V F A Y I T N N T A E S H T C R L L L H A$
 S IT GKFKVLEMVLGGDLRLVLFLANDTARVQRVQVNMSG
 ELELTINTVPASNGSNVKVMLVI SNKSNRKRVCRLLFAA
 QLSTKHTTAVFGTDFDVVVEVKNGQNSSAGGDLTVLA GVLVFLNLDKAPVGEAICFTVKVINKHSIAKMIKVHMNA $V K L Q L K L A K T P W G Q D L A F F L R A R R L Q G S E M G I N V V W C A$

LGEDVQVSLRVANWTGKERPLRVVLGA
 ANDELKIQAEAVWLGDPI RMSVIINNSSARSWTI K L GATC


## UniRef90 W5LYF6

 UniRef90-F6YJ58 UniRef90-H2YCU3 UniRef90-W5MLNO UniRef90_F6Z5U9 UniRef90-UPI00034FB3F1 UniRef90-UPIO0034FB3F1 UniRef90_UPI0003872942 UniRef90-F1SI57 UniRef90-H3DMZ0 UniRef90-M4A620 UniRef90-M4A3V5 UniRef90-HOZ3E4 UniRef90_UPI000443DC26 UniRef90-F1NJH2 UniRef90_UPI0003AFD864 UniRef90-F6QUA3 UniRef90-UPI0004542209 UniRef90-H3CERO UniRef90-W5L922 UniRef90-UP10003D07EE8 UniRef90_UPI00034FB726 UniRef90-UPI00042AACED UniRef90-UPI00042BC396 UniRef90_B0S707UniRef90_F6PT94
UniRef90-V8NRT6
UniRef90_UPI000203B29A UniRef90-P52181 UniRef90-H2ZHB4 UniRef90-K1QKI2 UniRef90-K1QK12 UniRef90-11FKF0 UniRef90_UPI000328F4E5 UniRef90_UPI0003F16891 UniRef90_UPI00038EB262 UniRef90_L9JGG1
UniRef90_L9JGG1
UniRef90_UPIO003317299 UniRef90-A2ART8 UniRef90_UPIO002039FDB UniRef90-H3AY69 UniRef90-G3TX93 UniRef90-R7VUC2 UniRef90-I3LXW6
UniRef90 H2SQH9 UniRef90_UPIO00457337A UniRef90_UPI0003DF5196 UniRef90-F7EB11

## UniRef90-V4AN19

UniRef90-UPI00046B47A9 UniRef90_UPIO0033445A0
UniRef90_UPI000457381B UniRef90-I3K3U1 UniRef90-Q4SXY0 UniRef90-L5M9V3 UniRef90_W5UFH8 UniRef90_UPI0004626F2D UniRef90-W5M2B5 UniRef90-B7Q6S3 UniRef90-E5ST90 UniRef90_UPIO00393C822 UniRef90_W5KOI5 UniRef90-I3JIC8
UniRef90-M4AEJ4
UniRef90_UPI000443DA4E UniRef90_UPI0002B46860 UniRef90-H2UD12 UniRef90-UPI00034F5699 UniRef90-W5MJR4
UniRef90 H2LP41 UniRef90-H2TSZ9 UniRef90-UPIO003EE 0937 UniRef90-K1QEF9 UniRef90-F7B5B4 UniRef90-UPI00042C8098 UniRef90_V8NA25 UniRef90-H2RQS1 UniRef90_UPIO004571B33 UniRef90_M4AY73
UniRef90_F6V6G1 UniRef90_F6V6G1
UniRef90_H3CEF4 UniRef90-E6ZF43 UniRef90_UPIO0020F5779 UniRef90_UPIO004626C43 UniRef90-H9G5G0 UniRef90-H3BTE6 UniRef90_UPI00042ABA07 UniRef90_UPI00045487AF UniRef90_Q99041 UniRef90_A9JR91
 SAMKYTGRPMSEMFSDQTSVTLGSMKEKQLPDNIAASQYE
 TAIVYNRAVSKEILTNNQPVTLAANKETSVNLTVEYSKYQ QPVHDHGFTQAQFWKEEFAFHFKPYEGCNLSUHLDHSSYE QPVHDHGFTQAQFWKEEFAFHFKPYEGCNLSSHCDDHSSYE QTLLHNGGTREPLWRQTSHLTLDFGEVIEWPLLLPYNNYR QVTNYTATKVTNVLHDSYVQKLMAGQAVNIPILPYSAYC QAMRFTGQPAGNLLSEALEQELDPGKDLIVPLLVPFSTYQ QAMKYTGQPAGNI QTEVTEQKL EPKKDLIVPIKVPYSVYH QLQSYTGKVHANLGYVKQTVKVEGQSEVHVPLKIMPDAYM
 NVFFTGVAQTEFKNHTFEVTLEP
QAMRHAGTPATNDQSQAKKHTLQPNSELSTSVLVPF LSYT QAKSYNHTPSDAFWEAHNTVQLAPNESKVLQHQVSYSRYA QALMHGGSTREPLWKQTVSLDLDFGKE LHWPLLLPYTSYG

## RTVSYNGVLGPECGSENLSLTLDPFSGKAVP <br> QAMYYNGULAAKLWKNKLFLTLGANMGNSKALDLSFSCFE NADTYNSIHRGECQRKTTSLTVPAYKAHKEVLRLQYDHYG

 QSKSHVGLETTPFGETDTFGFCEFSEKKVPLQQMYSQYG HLESYDGEIEARLGT QQTVQAEGKTVIQVPGKIPADAYM MAVTYNSLRRGECQRKTISVTVPAHKAHKEVMRLHYDDYV KSVQYNGSVVAQDLDVDLTKNLSGQKSHTFEVTLPFAAYK YTKRYTGDIVSHVTSHTFTIALDGKKGEKLTHEVKGETYV ETTTYTGVVGKEIKKSKSILRPNNNDTVDVTFVLKATEYR QAMLHRGGMRRPLWRQMVHLHDDLGEEVWWPLLLPYNNYK QTMLHGGFTREPLWRQVVRLNLDFGQVIQWPLLLPYNSYR QALLHRGSTREPLWKQAVHLDLDFGKELHWPLLLPYTNYR QALLHGGSAREPLWRQTVHLSDFGEETRWPLLEPNSYR QALLHGGSAREPLWRQTVHLSLDFGEETRWPLLLPYNSYR QALLHGGGTRKPFWRHTVHVNVDFEKEMQWPFLLPYSSYR QLESYTGNVEASLATVKQTVKTEGKPVIEVPLK ABADAYM QPLLHGGGTRKPLWRQMVHLSLDDGKEDQWPLLPYNNYR SVVYYTGITSNDLKETKFTATVAGNSKEHVRLTVMADDYM KKKRYNGTEKQNLKVEHKEDSIKSKKDETFTFELPYAGYG GSVYYKGПKAHLVKRASGDFVLEP
QLQAYTGKVIASVASDKQSVQVPGKKVAYTPVTVASEQYM LQIEYDGDIIGKVASKHFDEQIESRSEAKLTIDVLSEEYL QALLHGGGTREPLWRHMVQLNLDSGKETQWPLLLPYSSYR QALLHKGGTREPLWRQRMLLNLDFGEKDEKSLLLPYNNYR
 SVIYYTGAVANNLEDRKLTGTIMGNTVEHVKVMVPAHEYM ATLLYTRRPVAELLRESQAVRLGPEESVGOHQTSYSQY QAKCYDHSPSDTFWEADSDIQLAPHRSKVLQHQDSYSQY QLQTYNGKTLATVKALKQEVTVMANACTSVPVVIEASDYM SSVMYNNAAPEEVGCTSQRLKMAPGTVESVELTMFADSYL QAMRYNGSRVENLLTQTKEETLDPGKVNSETFEVVFMNPI QAKEYNHSPSDTFWENHGVLQLAPMEVKVVRQKMPLAQYE SPTYYTGVVADPGKVEDFRGDLDAFQSSIVVEELSPQEYV

 QAKDYSHNPSDTFWENHDVIQLGPMEGKVLRHQULPEQYE
QLKEYNSNPQSFWAHKEVHVQPQETH RTVSYNGVLGPECGTK
VNAYYTGVAGSRVKTQTFEETTKAKDEK\|VTMPVKGTEYH VNAYYTGVAGSRVKTQTFEETLKA ATULYTRRLVAE GLHESALVKLRPEEDKETPLT
ATVTYNALFRGECKRRSVRVHVHAHAVHSEVLRVLYEYA KAVTYNADFRGECKRRSVRVHVHAHAVHREVLRLRYADYA QAKEYNHSPSETFWDKHGVIQLAPMEVKVI QEHI DPAQYE QAKEYNHSPSETFWDKHGVIQLAPMEVKVIQEHLLDAQYE KVVNYTSLCRGECRRQSASVSVPARSAHKEVLRLRYEDYA QAKEYNHSPSDTFWETQGVIQLAPKEAKVIQQQILPAQYE QAKLHGGNAQTPGWRDKGSFSLVQGEEKELQQTLDFANYK QPLRHNGRPGAACALQRRHMTEGPKEEKELSWR1PFERYG QAVHYNGVLAAKLWRKKLHLTLSANLDARESRAVSTPHSL DLQTYTGNKKTNLGVIQKSVQUQGQESEVALSMDANSY1 DLQTYTGNKKTNLGVIQKTVQTQ
UniRef90_UPI000440196A

## UniRef90 W5LYF6

 UniRef90 F6Y Y58 UniRef90-H2YCU3 UniRet90 W5MLNO UniRef90 F6Z5U9 UniRef90-UPIOO034FB3F1 UniRef90-UPIOOOO34FB3F1 UniRef90- UPIO003872942UniRef90 ${ }^{-}$F1S157 UniRef90-H3DMZ0 UniRef90_M4A620
UniRef90_M4A3V5 UniRef90-HoZ3E4 UniRef90-UPI000443DC26 UniRef90 F1NJH2 UniRef90-UPI0003AFD864 UniRef90-F6QUA3 UniRef90-UPIO004542209 UniRet90 H3CERO UniRef90 W5L922 UniRef90-UPI0003D07EE8 UniRet90_UPIO0034FB726 UniRef90 UPIO0042AACED UniRef90-UP100042BC396 UniRef90-B0S707
UniRef90-F6PT94 UniRef90-V8NRT6 UniRef90-UPI000203B29A UniRef90 P52 181 UniRef90- H2ZHB4 UniRef90-K1QK12 UniRef90-K1QK12 UniRef90-11FKF0 UniRee90-UPI000328F4E5 UniRef90-UPIO003F16891 UniRef90_UPIO0038EB262 UniRef90 L9JGG1 UniRef90-L9JGG1 UniRef90-UPI0003317299 UniRef90 A2ART8 UniRef90 UPI0002039FDB UniRef90-H3AY69 UniRef90_G3TX93 UniRet90_R7VUC2 UniRef90_-13LXW6 UniRef90-H2SQH9 UniRe990 UPI000457337A UniRef90 UPI0003DF5196 UniRef90-F7EB11 UniRef90-V4AN19 UniRef90 UPIO0046B47A9 UniRef90-UPIO0033445A0 UniRef90-UPIo00457381B UniRef90 - I3КЗЗ1 UniRef90-Q4SXYO
UniRef90-L5M9V3
UniRef90-W5UFH8
UniRef90_UPIo004626F2D UniRef90-W5M2B5 UniRef90-B7Q6S3 UniRef90 E5ST90 UniRef90-UPI000393C822 UniRef90-W5K015
UniRef90-I3JIC8
UniRef90_M4AEJ4
UniRef90-UPI000443DA4E UniRef90-UPIO002B46860 UniRef90_H2UD12 UniRef90 UPI00034F5699 UniRef90-W5MJR4 UniR Refo-H2LP41
UniRef90-UPIOOO3EE0937
UniRef90-K1QEF9
UniRef90 F7B5B4
UniRef90 UPIO0042C8098
UniRef90-V8NA25
UniRef90-H2RQS 1
UniRef90-UPI0004571B33
UniRef90_M4AY73
UniRef90_F6V6G1
UniRef90-H3CEF4
UniRef90 E6ZF43
UniRef90-UPIOOO2OF5779
UniRef90-UPIO004626C43
UniRet90_H9G5G0
UniRef90- ${ }^{-13 B T E 6}$
UniRef90_UPIOOO42ABAO7
UniRef90-UPI00045487AF
UniRef90 Q99041
UniRef90 ${ }^{-}$A9JR91
UniRef90_UPIOOO440196A


KAMLDCESMK VVAQVTEEERAYLAKVDVVL
G GDGQLVNDAAVVMDVATQESLASEEFNL


QSPPENSFRRTATATASESSLSFAQEDTAD ACVSEHHMIRVTALLQPNDQDNLILQETNIPL RHLGOHNLLRVVAVEEPGCKGE1MLVDRDILL KVLEDQLLVKVNIFANIQETNEKLIK RCVSEHHLI RVKALLDDAPGENGPIMTVANDP政 ETIKGDNNVKFFILGGVTDTDQVFAEQ PHLVEQCAMEVRVTALIKENGVIYMKDEFRL PHLVEQCAMEVRVTALLKENGVIJYIKSDEFRL KHLGEQPLISVTILGYVEDPEQAWV


KSVEDEADFRTNADTENKETQE
AVSANHFSFKVIAFCIVKEERTAHVEYDDFR几

 PVLGSQLSLRFIVSLDAD SQSAAAMKVVNL


DGMNPEGRFQ $\square Y$ Y $\square$ GKN $\square \mathrm{DSGSMESTQ} \mathrm{\square SFVL}$
GCDTSDNMTKVTAVLQQAENQK■LLQVRDF
TCVSEHHLIRVEAFLT
DFPDPFNVLSLAALVVTDQNKDSAFSEKETSL HVEGDNLINLAVVLEDMSTSERVLASEEFNL DSTRGENDVKFFMLGGVTGNEQVFSEQD
DVVGDDLINLAVVLEDTASQDRVLASEEFNT DHI SDEKLIRLSGVVEDGQTRRKLLVMKDVSL PVLADGRQLHVTAVAEEGSSWHKALAEKTVT $P \bar{A}$
SQPPE
YKLDDEVVIKGF $\square 1$ AE $\square$ TETGDKAAT DTTL GSLVDDEVI
YKLVDDEMIKGFTIAETVDSGERVAT DTTL


UniRef90_UPIOOO2C43COC
UniRef90-UPIOOO3594CED UniRef90_UPIO003594CED UniRef90 E4X0M4 UniRef90-UPIOO03596195 UniRef90_UPIOOO3287EB6 UniRef90 UPIO00441CC2 UniRef90- G3HP45 UniRef90_UPIO001CBB008 UniRef90 UPIO0039594A6 UniRef90 UPI0003339FEA UniRef90-E9HAO1 UniRef90-G3UV95 UniRef90 UPIO0046B2860 UniRef90 G3NR42 UniRef90-H2YW70
UniRef90_G1TUJ1 UniRef90 UP10003330710 UniRef90-UPIO0035945DD UniRef90-D2K8K8 UniRef90 UPI00034FA71A UniRef90 Q311 W3 UniRef90-H2SQH8 UniRef90 E9NSK7 UniRef90 UPI00045D6646 UniRef90-G5DYL5 UniRef90-T1IS12 UniRef90-H9G8SO UniRef90 UPI0002C37325 UniRef90-B9W0S9 UniRef90-T1HLP6 UniRef90 F7EDB5 UniRef90 S4RRN8 UniRef90-HOWUI3 UniRef90 G3IYF4 UniRef90 A5FEF5 UniRef90-E5F2LE UniRef90-R2R7R9 UniRef90_UPIOO03F0C788

10

 S V E L G Y P I T L T L V L K R K T E V L L Q N V N I I S C S L L GVAMRDRVSGLNMGGDFDVFAFITNTTSESRSFRLLLCA V HF C V
 ELLVQEDPPVVGQDVLLTLTLKNLIADFKTVKVKLKA DVYF DII E EKVAWGQPFNLQVLVQRSS
S SVPLSGDGQLSVTLDNPTDEEKKVHLVIGA
QMIVQADHVLFGNAVNFTVTLKRKTATPQDVNISGSF GVLVLLSLDKAPVGEPVLFTVKVTNKQRVAKAMKVHVNA DVTINIKVGDATNGSDVSLKVDVKNAKDKACEATITTVA

ПQDEDKCEETTLGTTFQDEVVVCASASSVEVTGKLVL ELSMQEEPVLLGDPLSFSVTLWRRATPXTVTFSGSF HMSVQSDDVLLGNPVNFTVILKRKTAADQNVNDSGSF VNVVIHSNEVYLGYDLERDI EFHNPGGLEKMVNALLSG

TFEYSNAKLGEDFEVTVTVKNTSKSEEVVELYVAA
VQSHPVLLGDPVNFTVTLKRKTATPQHVTISASF G $\square \mathrm{T} \square \mathrm{K} L \mathrm{~K}$ GDGMNKGCDFDVYAVISNNTEVERQCRLMFCA

TEEEKALVGQPTSTK TVVRSMSTNAWT TNTCVSC
MYVQADPVLLGNPI KFTITLKRKTDSPKDCHISGSL
TQFADEVDKTKLGKTIHARLDIHPANGSGTVNVAWSA NDVKFEFQLDDVTVGSYSRYLTARNVMTNHNVSUILRS

HAQNHSKRRKCLSWNVEL
 DVKLS SPVFNNAMTVSVTVKNKTAGKEVVQVYLSA
TFEYSDAKIAQDTDVTVTIKNTGNGKEVVELYYSA VYSELTGNSKQMTEDLNISIKLKNTSSYEYLETVQLYA

[^0]|  |  |
| :---: | :---: |
| UniRef90-UPI0003594CED |  |
| UniRef90-E4X0M4 | RACFYTGEKRALVATQEADEQIAADQTSEYTMVVPYTDYG |
| UniRef90-UPI0003596 | DLQTYTGSNKTNLGIIDQKTVQVQ GQESEVILNMDANSY! |
| UniRef90-UPI0003287EB6 | HTVSSKGVLGPQCGKDLLSLTLE |
| UniRef90-UPI000441CC27 | QTLLHDGGTWEPLWRQIVHLTLDF GEETQWLLLLLYSN |
| UniRef90-G3HP45 | DLQTYTGGNKTNLG\\| H H TVVVQ GQESEVVLNMAAD |
| UniRef90-UPI0001CBB | Y GTQY T GS LK G C C KEKFEVTVP P G HVA DVAMTLYYEDYK |
| UniRef90-UPI00039594A6 | SAlL Y T RKPKAEILQLHRSVKL G S |
| UniRef90-UPI0003339FEA | DLQ SYTGRQLGHLGVVQKTMKVQEKVSNVVLTWESDTYT |
| UniRef90-E91 | S STWR PWDEYR |
| UniRef90_Q3UV | QALY Y NGVLAA GLWSKKQLFMLKPNQGNS |
| UniRef90_UPI00046B286C |  |
| UniRef90-G3NR42 | QAKEYNHSASETI WENHGVVQLAPMEVKLI HQQIPPAQYE |
| UniRef90-H2YW70 | HTMLIN EERKRLLLKRVRTV KKIMAGEVDEQTYKFTFEE |
| UniRef90_G1TUJ1 | QTLLHAGGTWGPL WXXXXXXWFLLCLEDWWPLLLPYSTYR |
| UniRef90-UPI0003330710 | DLQTYTGKRVASLGVIQKTVQIQ NPETEVVLTMNASSY! |
| UniRef90-UPI000359 | MFYTGVLADKIVSVPFKNKVLKKGEYDVPVIVKPQDYL |
| UniRef90-D2K8K8 | RDSDYTGRDMATLKVTPFAIKLEPRESKS |
| UniRef90-UPI00034FA71A | DLQSYMGKQLAHLGGIQKTVQI Q EEVSNVVLTWDSSTYS |
| UniRef90_Q311W3 | ELQLYY GKKVAKLCDLNKTSQI Q GQVSEVTLTTLDSKT |
| UniRef90-H2SQH8 | SVVYYTG\\|ISNDLKE!KFTATVAGNSSEQQNLSLS |
| UniRef90-E9NSK7 | P DSKAANKPAKELKAFAKTKLLKPGESETLTTLHVKAAD |
| UniRef90_UPI00045D6646 | DLQS Y G F KVE HLDVLHKS\\|EIHDE VTE\|ILTLDSNTYV |
| UniRef90-G5DYL5 |  |
| UniRef90-T1IS12 | DT |
| UniRef90-H9G8S0 | HLESYTGKVQAGLKAVQQTVKTEGKP T S FPLRTHYTD |
| UniRef90_UPI0002C37 |  |
| UniRef90-B9W0S9 | HIDT Y T GKPVTVLAKS A TVKVTK G T S A NVP F ELAPETYV |
| iRef90_T1HLP6 |  |
| UniRef90-F7EDB5 | WLN ERTARGYFP AEK Q 1 P $\square$ S 1 P Y S D Y M |
| UniRef90-S4RRN8 | VK T L Q LP P S SVK NVTRRI K Y K D Y G |
| UniRef90-HOWUI3 | VVRFHSAPPGPDLLIF TPFV L F GTEEKSIPLDRILYEKYA |
| UniRef90-G3IYF4 | A SVT R P NKQLLK A FKK VELNPGQSE |
| UniRef90-A5FEF5 |  |
| UniRef90-E5F2L6 | PDNKAANKPAKELKAFAKTKLLKPGESET |
| UniRef90_R2R7R9 | QDIT GSVVPVKELKKYQK VKLSPNEEKII EFQLQRND |
| UniRef90_UPI0003F0C788 | DLQS Y T GSEAVPVNSLLNNIEMK QAVTEFTLTLDPNTYM |

[^1]

|  | UniRef90_UP |
| :---: | :---: |
|  | UniRef90-UPI0003594CED |
|  | UniRef90 E4X0M4 |
|  | UniRef90_UPI0003596 |
|  | UniRef90-UPI0003287EB6 |
|  | UniRef90-UPI000441CC27 |
|  | UniRef90-G3HP45 |
|  | UniRef90_UPI0001CBB008 |
|  | UniRef90-UPI00039594A6 |
|  | UniRef90_UPI0003339FEA |
|  | UniRef90 E9HA01 |
|  | UniRef90-Q3UV95 |
|  | UniRef90_UPI00046B286C |
|  | UniRef90_G3NR42 |
|  | UniRef90-H2YW70 |
|  | UniRef90-G1TUJ1 |
|  | UniRef90-UPIO003330710 |
|  | UniRef90-UPI00035945DD |
|  | UniRef90_D2K8K8 |
|  | UniRef90 UPI00034FA71A |
|  | UniRef90 Q311W3 |
|  | UniRef90_H2SQH8 |
|  | UniRef90_E9NSK7 |
|  | UniRef90-UPI00045D66 |
|  | UniRef90_G5DYL5 |
|  | UniRef90-T1IS12 |
|  | UniRef90-H9G8S0 |
|  | UniRef90_UPIO002C3 |
|  | UniRef90-B9W0S9 |
|  | UniRef90_T1HLP6 |
|  | UniRef90_F7EDB5 |
|  | UniRef90_S4RRN8 |
|  | UniRef90-HOWUl3 |
|  | UniRef90_G3IYF4 |
|  | UniRef90_A5FEF5 |
|  | UniRef90-E5F2L6 |
|  | UniRef90_R2R7R9 |
|  | UniRef90_UPI0003F0C788 |

 GKFDDQMSMRLDAC V TTGGKTFTE
$N K L M D E K L I C V S G \square A K V E E S G R S M L V L K D \square S L$ YKLDDEMVI KGFII AEVMETGDKAAT DMTL TFIQD H TALKFF I A VRKD

GSLDDEPVIKGF $\square$ MAEVVETKETMATE
DKIVDYGHIK IVAMASVQETKQSWSEEDDFQL
DRLDDDP\IRGF!ISE\|VESGE!IASE
$\square$ D G GENLI NLAVVVLEDASHEQVLASEEFND


EKLKDCCMLDVSVWASVKETNQCFVTKSDCRL T M D NSLDDEPVIRGFIIAE IVESKE $\square$ MASE

NRLTDEPVIKGFVVAEILESNETVASQ
GK $\square$ Q D Q GS M $\square$ MS A M $\square H \square K E T G Q T Y H A E D D F R \square$

P Q
K DLTS SKKILVSAMVLVFKGEKTLL EKDVTL


S F Le N K N A
KDMTEPGDFlVFVGRNANDTQQ
K K


```
B
```

lupas_21
lupas_14
lupas_14
lupas_28
jnet
jnet
sol25
sol5
sol0
jhmm


[^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
    SOIO
    jhmm
    jpssm

