ouery
UniRef90_L9L2V0 UniRef90_C2M8F6 UniRef90_C2M8F6 UniRef90 K1P9Z2 UniRef90_A0A026W3L2 UniRef90_W5JW93 UniRef90 F7C8Z2 UniRef90 T1IWS2 UniRef90_L1P7FC UniRef90_A0A022T284 UniRef90 UPI000333AB3E UniRef90º Q95116
UniRef90_E0VQ35 UniRef90 B0WRS6 UniRef90-UPI000443BD3C UniRef90_UPI00042BD5E5 UniRef90_S4RGZ6
UniRef90 F3Y0J4 UniRef90 E7F1S4 UniRef90_B3PHS4 UniRef90-B4HXW4 UniRef90 H3DGQ1 UniRef90 ${ }^{-13 K 831}$ UniRef90_Q9VM97 UniRef90 Q16ZU9 UniRef90-M7BIB1 UniRef90_UPI00021A7491 UniRef90_W5KY6 UniRef90 L5ME05 UniRef90_E2BCC9 UniRef90_I3NDL3 UniRef90 M4LY86 UniRef90 C7M75 UniRef90-T1K4U1 UniRef90_D6WTME UniRef90 L1P6X6 UniRef90_F4X8G0 UniRef90_H2M4S8 UniRef90 10 WHR 9 UniRef90_Q172A7 UniRef90_Q172A7 UniRef90_UPI000392D5AA UniRef90 UPI000375102D UniRef90 H2Z1B0 UniRef90_T1P950 UniRef90 G6D8F9 UniRef90 B0XAV3 UniRef90_B4N172 UniRef90_L5KIU0 UniRef90 H2T9X5 UniRef90 ${ }^{-}$Q5M7J5 UniRef90_E2ACG0 UniRef90 -P49744 UniRef90 U4U162 UniRef90_UPI0002A479DD UniRef90_D2SSM2 UniRef90 M4A015 UniRef90 ${ }^{-17 P K Y 4}$ UniRef90_R9R483 UniRef90 T1IBK5 UniRef90 E9IBR5 UniRef90_H2T9X7 UniRef90_Q06441 UniRef90 Q75WG0 UniRef90-UPI0003AFE2C3 UniRef90_UPI0004572866 UniRef90_Q75WG1 UniRef90 Q75WG1 UniRef90_UPI00029D5EDA UniRef90_W5MG03 UniRef90 U3JJU4 UniRef90 ${ }^{-}$W5U912 UniRef90_B0WVE0 UniRef90_B0WVE0 UniRef90 Q75WG2 UniRef90_M4AP73 UniRef90_K7J3X4 UniRef90_K7J3X4 UniRef90 H9K9R1 UniRef90_E2MZN1 UniRef90_M7BH55 UniRef90 UPI0003F0A15D UniRef90_UPIO003598BA3 UniRef90_H2UJX9 UniRef90 F1CKY8 UniRef90 U6D8V5 UniRef90_UPIO003C2928E UniRef90_H0V498 UniRef90 UPI0003DF52C4 UniRef90_H2THY8

1
ALAD NCPLEHNPDQLDSDSDR\|GDTCDNNQD\|DEDGHQNN CDNCPYVHNPAQUDTDSDGDGCGDACSVDIDGDDVENE MMDGDGILDS
VCDNCPNVANADQSDVNADGVGDLCHTDNDKDGDGVLDG CDNCPKVANVRQTDTDKDGKGDECDPDMD DDRDTVGDA ADNC $\square \mathrm{NV} V \mathrm{PNSGQEDADNDG} \mathrm{\square GDACDPPDADNDGILDA}$ GDGIICGEDSDLDGWPN N
WAGNGKVCGPDRDLDGWPDE
GEKVIVKIDDEDS DGDGLLD DNCPD $\square P N S E Q T D S D H D G \square G D E C D N D A D N D G V P N H$ NAT VK DNCPLLPNSGQEDFDDNCQLLFNPRQFDYDKDEVGDR DNCDSI PNSGQEDADGDRIGDACD PDADNDGILNS CDNCPRVRNPDQKDSDGNGVGDACWSELDSDGDGIQDD EDSDLD GWPNKNLVCANTSQHCVQ
CDNCPYVHNPAQ QDTDNNGEGDSCACVDDDGDDVFNE DNCPDYSNPDQADTDHDG $\square$ GDACD PD DDNDG DPNE DNCKLIPNANQ DDTDFDGLGDGCDCGEDFDVDGWPNQ CDNCPNLPNPDQKDRDMDFVGDACHRDIDGDDDGVPNS CDNCPYEHNPAQDDTDHNGEGDACA VD\DGDGILNE
 $V C D N C V L K Y N P R Q L D T D E D G L G D E C D \quad G D \square D N D S D P N A$ $D N C P L V H N P D Q L D T D K D G G G K Q G D A$ ADNCRLTPNSGQEDADNDGVGDQNKDQQNSDTDSFGDA DNCPFDPNTGQEDADRDGLGDACDPQEDSDHDSVGDA CDNCPYDSNPDQ】D T DNNGEGDACA DD CDNCRHAPNSNQMDEDGDGVGDVCDNDMDKDKDGVQDN VKDNCPQLPNSGQEDFDKDGVGDANPRQSDYDKDEVGDR CDNC $\square N A R N P T$ QADRDGDG! GDACDYNEDTDRDG\|DDR
 D C R N Y SCECKT GWA GNGLYC GPDHDLD G WS D K

 CDNCPYEHNPAQ $\square$ DTDHNGEGDACTD QKDTDMDGVGDQ FCVE GPF QLD S D G D G I LDV | $G N$ | $G$ | $V$ | $L$ | $A$ | $K$ | $D$ | $S$ | $D$ | $Q$ | $D$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $G$ | $G$ | $Y$ | $P$ | $D$ | $T$ |  |  |  |  |  |
| $C$ | $A$ | $K$ | $D$ | $S$ | $D$ | $Q$ | $D$ | $G$ | $Y$ | $P$ | WA GDGYIC GK DVD VD GYPNE DNCPEIPNPDQADLDKDGDGDVCDDDLDGDG VPNT C D N C P L V H N P T Q N D R D S D K V G D A C D S N L D D D E D GI Q N N

 DNCKMLPNSGQEDTNGDGVGDACPKQEDSDGDKI GDA $C D N C \boxtimes S I S N A R Q \square D A D N D G \square G N E C Q N Q S D V D Q D G V G D A$ D NCRYTPNSGQEDADNDGVGDQCDEDADSDSDSYGDA WA GNGYTCGRDTDLDGYPDE

DNCKYVPNSGQEDADRDG $\square$ GDACD EDADGDG $\square$ LNE CDNCPFESNTLQKDTDDNGEGDACTDQRDTDMDGDE DNCDNRPNSGQEDADGDGDGDACPKQRDGDSDGRSDL D NCPY DP NANQADHDKDGKGDACDHDDDNDG IPDD D NCPDDANSDQLDTDEDGRGDACD FDKDNDGVPDS
 A D N C P TVV N S GQEDAD EDGワGTYNPNQQDSDNDK $\square$ G D A

 $D N C P M L P N S G Q E D D D A D G Q G M Y N P R Q F D S D R D G V G D S$ D NCMFVPNSGQEDADGDGGLNAQDNCQNTDQDSYGDA GDGVVCGPDSDIDGYPDS
CDNCRSQKNDDQKDTDKDGRGDACDDD DDGDR $\square R N P$ $D N C V Y V P N S G Q E D A D R D G V L T P N V N Q K N N D R D G F G D A$
CDSCPEMSNPT QTDMDSDLVGD DCDTNEDSDGDGHQDT DNCPKLANSDQLDTDGDGRGGDLCDCGKDTADDAYPDK DNCPKLANSDQLDTDGDGRGDLCD PDADNDGILNA VD NCPGLHNSAQVDVDSDGAGDVCD SDSDNDGIVDD

D NCKNDPNPSQTDSDNDGIGDECD DNCKNDPNPSQTDSDNDGIGDECD E EDADND DRLNH
 DNCRFVPNSGQEDADGDGLGDACD EDADGDGIDNE CDNCPTVPNPDQTDTD DDGEGDGFCGEDCD
 DNCVNVPNSGQEDVDRDGVY DRNDDQRNS DQD IVGDA


CD SCPDDISNSNQSDSDDDLVGDTCDD
$\mathrm{V} D \mathrm{~N} C P \mathrm{R} V \mathrm{P} N \mathrm{~S} D \mathrm{Q}$ K DSDG

|  |  |
| :--- | :---: |
|  |  |
| QUERY | L |
| UniRef90_L9L2V0 | R |
| UniRef90_C2M8F6 | Q |
| UniRef90_C2M8F6 | Q |
| UniRef90_K1P9Z2 | V |
| UniRef90_A0A026W3L2 | C |
| UniRef90_W5JW93 | C |
| UniRef90_F7C8Z2 | K |
| UniRef90_T1IWS2 | Q |
| UniRef90_L1P7F0 | Q |
| UniRef90_A0A022T284 | F |
| UniRef90_UPI000333AB3E | K |
| UniRef90_Q95116 | C |
| UniRef90_E0VQ35 | P |
| UniRef90_B0WRS6 | R |
| UniRef90_BPI |  |

LDNCPYVPNANQADHDKDGKGDACDHDDDNDGワPDDKDNC RDNCPYVYNTEQRDTDGD GVVGDHCDNC




 QDNCPYTSNSGQEDSDNDGVPNFNQEDSDDDGIGGDACDNC
 K D N CP HLPNSGQEDFDKDG $\square F N P R Q F D Y D K D E V G D R C D N C$



 K DNCPHLPNSGQEDYDKDNMFNPRQYDYDRDDVGDRCDNC K DNCPFVKNPSQKDLDKDGDGDACDDDVDGDGVPNDKDNC DDNCPTLPNSGQEDFDNDGMYNPRQYDYDKDDVGDRCDNC LE LDD P Y DPS DA DRDED GDGVPNGFE DRSGFA PP DKADT H $L D N C P M V S N S D Q L D T D G D G T G D E C D D D M D G D G \square P N Y K D N C$ NDNCP YVYY T D QK D T D M D GVGGDQCDNCPDED GHQNNQDNC $C D N C R T V E N P S Q R D T D R D G L G D E C D D D M D G D G L K N D L D N C$ $L D N C P$ L L P NPS QS DVD CDNCPTIAN $\quad$ CD QH DVV G D G $\square G D A C D P D \square D N D G I L N E R D N C$ CDNCPNVPNNDQRDTDSNGEGDACDND\|DGDGIVNVLDNC

 LDN CP S V $V$ P N P G Q N D V D R D G M G D E C D D D D I D D


 LD N C LDDVPN S GQED S DG D GVVGDAC DNDAD K D R I P N DK D N C DDNCPATPNPDQKDTDSDGIGDVCDDDRDGDGIPNDRDNC


## 

|  |  |
| :---: | :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |



| QUERY | D I S E |
| :---: | :---: |
| UniRef90_L9L2V0 | N A S Q |
| UniRef90-C2M8F6 | N P D Q |
| UniRef90-C2M8F6 | N P D Q |
| UniRef90-K1P9Z2 | N A D Q |
| UniRef90-A0A026W3L2 | NKDQ |
| UniRef90-W5JW93 | NS D Q |
| UniRef90-F7C8Z2 | N T D Q |
| UniRef90-T1IWS2 | N Y D Q |
| UniRef90-L1P7F0 | N S G Q |
| UniRef90-A0A022T284 |  |
| UniRef90-UPI000333AB3E | N T D Q |
| UniRef90-Q95116 | N A N Q |
| UniRef90-E0VQ35 | N P D Q |
| UniRef90 B ${ }^{\text {B }}$-WRS 6 | F VK Q |
| UniRef90-UPI000443BD3C | NTDQ |
| UniRef90-UPI00042BD5E5 | NS NQ |
| UniRef90-S4RGZ6 | N V D Q |
| UniRef90_F3Y0J4 |  |
| UniRef90-E7F1S4 | N T D Q |
| UniRef90-B3PHS4 |  |
| UniRef90-B4HXW4 | M |
| UniRef90-H3DGQ1 | N A D Q |
| UniRef90-13K831 | NS NQ |
| UniRef90-Q9VM97 | NS D Q |
| UniRef90-Q16ZU9 | NS D Q |
| UniRef90-M7BIB1 | NSSQ |
| UniRef90_UPI00021A7491 | NS G Q |
| UniRef90-W5KY61 | N A NQ |
| UniRef90-L5ME05 | NT D Q |
| UniRef90-E2BCC9 | L V |
| UniRef90-I3NDL3 | NAN Q |
| UniRef90-M4LY86 |  |
| UniRef90-C7M751 |  |
| UniRef90-T1K4U1 | N A D Q |
| UniRef90-D6WTM6 | NRDQ |
| UniRef90-L1P6X6 | NPTQ |
| UniRef90-F4X8G0 | N L D Q |
| UniRef90-H2M4S8 | N A D Q |
| UniRef90-10WHR9 | N P E Q |
| UniRef90_Q172A7 | N Y R Q |
| UniRef90-Q172A7 | N Y R Q |
| UniRef90-UPI000392D5AA |  |
| UniRef90_UPI000375102D | L |
| UniRef90-H2Z1B0 | Q 1 S |
| UniRef90-T1P950 | N A D Q |
| UniRef90-G6D8F9 | N P D Q |
| UniRef90-B0XAV3 | N T A Q |
| UniRef90-B4N172 | NANQ |
| UniRef90-L5KIU0 | $N \mathrm{~V}$ D Q |
| UniRef90-H2T9X5 | N S SQ |
| UniRef90-Q5M7J5 | $N P$ L Q |
| UniRef90-E2ACG0 | $N P N Q$ |
| UniRef90-P49744 | NS A Q |
| UniRef90-U4U162 |  |
| UniRef90-UPI0002A479DD | NK D Q |
| UniRef90-D2SSM2 | NS N Q |
| UniRef90-M4A015 |  |
| UniRef90-B7PKY4 |  |
| UniRef90-R9R483 | N G D Q |
| UniRef90-T1IBK5 | NS D Q |
| UniRef90-E91BR5 | N P G Q |
| UniRef90-H2T9X7 | E VT |
| UniRef90_-Q06441 | N S Q |
| UniRef90-Q75WG0 | NSAQ |
| UniRef90-UPI0003AFE2C3 | NSNQ |
| UniRef90-UPI0004572866 | NS S Q |
| UniRef90-Q75WG1 | NS NQ |
| UniRef90-Q75WG1 | NSNQ |
| UniRef90-UPI00029D5EDA | NS A Q |
| UniRef90-W5MG03 | NSSQ |
| UniRef90_U3JJU4 | E V |
| UniRef90-W5U912 | N P N Q |
| UniRef90-B0WVE0 |  |
| UniRef90-B0WVE0 |  |
| UniRef90-Q75WG2 |  |
| UniRef90-M4AP73 | N T D Q |
| UniRef90-K7J3X4 |  |
| UniRef90-K7J3X4 |  |
| UniRef90-H9K9R1 | N P D Q |
| UniRef90-E2MZN1 |  |
| UniRef90-M7BH55 | NSSQ |
| UniRef90-UPI0003F0A15D | $\mathrm{N} \boldsymbol{1} \mathrm{Y}$ Q |
| UniRef90-UPI0003598BA3 | N A D Q |
| UniRef90-H2UJX9 | N V D Q |
| UniRef90-F1CKY8 | $N S A Q$ |
| UniRef90-U6D8V5 | N T D Q |
| UniRef90-UPI0003C2928E | NS S Q |
| UniRef90-H0V498 | $N \mathrm{~V}$ Q |
| UniRef90-UPI0003DF52C4 | N L Q |
| UniRef90-H2THY8 | E |
| UniRef90_UPI00042BB24B | NPNQ |

UniRef90 UPIo002B4B252 UniRef90-UPI00032ADE4F UniRef90-B4GJY3 UniRef90-UPIO0034F7ED0 UniRef90 K1PQ45 UniRef90-H2M2С9 UniRef90_UPlooo36FC512 UniRef90-B3мкW6 UniRef90-Q1L8P7 UniRef90-H2THY7 UniRef90-H2Z1A9 UniRef90-UPI00032AFE2E UniRef90-A2SZ60
UniRef90-A2SY10
UniRef90-A9ULTO
UniRef90-BoxAV6
UniRef90_UPIO003F0C153
UniRef90 C3XRN3 UniRef90-L8IDW3 UniRef90_UPIOOO29D9228 UniRet90_V8NTV6
UniRef90 F1RF27
UniRef90-F6XC33
UniRef90-UPIO0044220BC
UniRef90-UPI0003EDEE5F UniRef90-13J1G3
UniRef90_H9GLB7
UniRef90 H2RCK1
UniRef90 BoXAV4
UniRef90-UP10003EBC3E5 UniRef90-G1RR19 UniRef90-UPI0001CB99F6 UniRef90-U3K415 UniRef90_UPIO002739F69 UniRef90_G3P149 UniRef90 13 K468
UniRef90_UPI000443ED68 UniRef90-A4C509 UniRef90-H2Z9K9 UniRef90-C3Z8H9 UniRef90-G1U1Q1 1 1-

UniRef90 A8UW49 UniRef90-H2SYV5 UniRef90_UPIOOO3317AB5 UniRef90-E9GPT7 UniRef90_F7B411 UniRef90-A2SY08 UniRef90-H3AOV4 UniRef90-s9WV00 UniRef90_UPIO003B2E613 UniRef90-UPIOOO3B2E613 UniRef90-M3ZEV3 UniRef90 H2LUR7 UniRef90_C3XRY3 UniRef90-G3NRJO UniRef90-M7AWD1 UniRef90 B3RLH2 UniRef90_UPIO00440DE25 UniRef90-UPIO003B6D525 UniRef90-UPI0003B6D525 UniRef90_L9KXD3 UniRef90-L9KXD3 UniRef90-UPI000328F7A4 UniRef90 E3FM54 UniRef90 B4LR91 UniRef90-B3PCH5 UniRef90-B3PCH5 UniRet90 $\mathrm{B} 3 \mathrm{PCH5}$ UniRef90-B3PCH5 UniRef90-B3PCH5 UniRef90 B3PCH5 UniRef90-V4AH87 UniRef90-UPIO0046CD3A5 UniRet90_U1M2P3 UniRef90-W5KLY6 UniRef90-G3H4888 UniRef90-UPI0002656FCB UniRef90-H2ZQX7 UniRef90-H2ZQX7 UniRef90-F7BBB2 UniRef90-UPIO0047654CE UniRef90-H2Z9LO UniRef90-E9K6N5 UniRef90-H2YAZ5 | UniRef90-H2YAZ4 |
| :--- |
| UniRef90 H3DD | UniRef90-B9M9E3 UniRef90-B0XAV5 UniRef90_R7XSE4

${ }^{1}$ पCDNCYKHRNPDQ ${ }^{10}$ DSD $\square^{20}$ NGFGDQCDVPYDFDGDG| ${ }^{30}{ }^{40}{ }^{40}$ DNCPGAYNTEQDDADG CDNCRNVKN DQTDTDRDGKGTPNYDQKDTDGDGVGDV CDNCPSVPNSDQEDTDKDGLGVDNPDQDDSDEDGVGDL GDGFLICGEDFDLDGWPDY SDNCPTVSNPDQTDTDGNGVGDACEPSVDTDGDGVADD CDSCPEVNDP LQSDMDNDLVGDVCDTNKDDDGDGYQDT DNCPRVPNPEQTD DNC 1 KTPNSGQEDADEDGQG $\square Y N P T Q S D V D R D A G D M$ GQG\|YNPTQSDVDRDAGGM LCDNCPFDFNPDQDDTDDDNVGDECDTDEDVDGDGHQDN ICDNCPVHPNPHQTDTDNDRVGEQCDNNDDKDGDGVQDN CDNCPNVPNDDQKDTDNNGEGDACD QDUDGDGVQNV VCDNCPKTANRDQKDTDTDQAGDGCDTDEDFDEDGLQDN CDNCVDปGNTDQTDSDHNGWGDACDDPDDRDGDGปPNF CDSCPEVSNPNQSDVDNDLVGDSCDTNQDSDGDGHQDS SDNCPLVRNPDQRNTDEDKWG GNGVICGEDSDDDGWPNE
CDNCPYNHNPDQADTDRNGEGDACA VDDDGDGILNE VCDSCPFTSNPDQKDTDHDLVGDPCDTNQDQDGDGHQDS DNCKYVPNSGQEDADRDGIGDACDEDADSDKDDFGDA NTCGMDTD DDGYPDRSLPCMDNDKHC K WAGNGYICGPDTDDDGFPDE CDNCPQKSNPDQADVDHDFVGDACDSDQDQDGDGHQDS CDNCARVRNDNQMDTDRDGMKAYNPKQEDTDRDGVGDL DNCVFTPNSGQEDADNDGTGDQCD EDADGDGIKNV $C D S C P D V S N P N Q S D V D N D G V G D S C D T N Q D S D G D G H Q D S$
$A D N C P W I V N G G Q D A D H D G I G N I D C D E D A D G D T V I G N A$ DNCVTVPNSGQEDADRDGUGDACDDQRNADRDNFGDA
DNCLTVPNSGQEDADGDGLGDACD EDADGDGLLNM WAGNGYVCGPDTDTDGFPDN WAGNGYLCATDTDIDGFPDN DAFPLD NSEWSDLDGDGDG DNSDTDRDGDGVANN CDNCDADPNFDQSN DNDGYGDACD पDKDGDGIENR CDNCPTDPNPNQEDADMDGYGDACDG SDKDGDGVVNT GDGLDCGEDSDGDGWPNS EDNCPLAFNPDQKNTDGDTDNLGDACDPDMDGDGVLDV DNCPTVPNSAQQDSDHDGQGDACDDDDDNDG $\Pi$ PD DNCPTIPNSDQRDADNDGLGDDCDPDADND GIRNE CDNCPYSPNPDQADTDNNGEGDACVDQKDSDMDGVGDH CDSCPRTSNPDQDDMDSDLVGDPCDTNQDSDGDGHQDT DNCLTVPNSGQEDVDRDGIGDACD SDADGDGVLNE SRDNGSPTQPETDNDADNDTVLDN SRDNGSPTQPEIDNDADNDTVLDN CDSCPYVPNPDQMDADNDLIGDPCDTNKDSDGDGHQDS DNCLTVPNSGQEDADRDGUGVPNVDQRNTDEDDLGDA CDNCPLEHNPDQFDSDSDRVGDKCDNNQDUDEDGHQNN DNCPSVPNSSQLDTDHDGLGDECDDDDDNDGDPDPPG ILDNCQRVPNTDQLDKDNDGVGDACDSCPEVDGDGHONT EDGDGHONT
DLDGDGVADK
DLGDGVADK

DNCLLTPNSGQEDADNDGVGDQNKDQQNSDTDSFGDA VSDQCPNVPETVNGFEDGDGCPDEVPAPVDSDGDGLTDD ADLCPDGSNAECVPTDNGWAGNGRVCGRDRDLDGWPDE
 DNCPTIANPSQADIDGDGUGDACD NDMDGDGULNA

 CDNCPTVANPSQADIDGDGIGDACD NDMDGDGILNA CDNCPTVPNPDQTDTDSDNLGDNCYDQSDVDGDGVGDA DAFPNDPSETTDTDNDGTG DNTDPD DDNDGIVNG DNCPT पINSSQLDTDKDGLGDECDDDDDNDG ILDE
CDNCANTANAPQTDANQNGFGDVCDTDVDRDGDGTLNG CDNCPLVYNPDQUDTDRDGQGDDCDPDADRDGDGLGDA CDNCPNVSNPKQHDTDGNGEGDKCDND DDGDGKGISNN CDNCPNVSNPKQHDTDGNGEGDKCDNDIDGOGKGISNN CDNCPLVHNPDQGDMHSDGVGDHCDNCTY亩ANGVGKR DRCPNDPEDKDGFQDEDGCPDGFTCGDNDRDGLPDA VCDNCPLNANPGQEDKDQDLLGDACDSNADLDGDGVDDG DNCPLVPNGNQPDSDGDGFGDACDCDPDSDGDGVIDT CDNCPNVANTWQSDTNQNGVGNACDNGKDKDGDSVLDF
CDCPDVSNNSDSDDDVGDTCDDNIDRGGOHODN CDSCPDVSNPNQSDSDDDLVGDTCDDNDDRDGDGHQDN
VCDNCPTVYNPYQVDSDGDEVGDACTTHDDSDGDGRQDD



| UniRef90 UPI0002B4B252 |  |
| :---: | :---: |
| UniRef90-UPI00032ADE4F | N A Q |
| UniRef90-B4GJY3 | NS D Q |
| UniRef90_UPI00034F7ED0 | NPDQ |
| UniRef90-K1PQ45 | NPDQ |
| UniRef90-H2M2C9 | NT D Q |
| UniRef90-UPI00036FC512 |  |
| UniRef90-B3MKW6 | N P N Q |
| UniRef90-Q1L8P7 | E V |
| UniRef90-H2THY7 | NPDQ |
| UniRef90-H2Z1A9 | NS NQ |
| UniRef90_UPI00032AFE2E | NSDQ |
| UniRef90-A2SZ60 | MlQR |
| UniRef90-A2SY10 | E V H Q |
| UniRef90-W5UFS7 | N S Q |
| UniRef90-A9ULT0 | N P D Q |
| UniRef90-B0XAV6 | N |
| UniRef90 UPI0003F0C153 | N |
| UniRef90-C3XRN3 |  |
| UniRef90-L8IDW3 | E VT |
| UniRef90-UPI00029D9228 | N SAQ |
| UniRef90-V8NTV6 | $N \mathrm{~V}$ D Q |
| UniRef90-F1RF27 | NSAQ |
| UniRef90-F6XC33 | E 1 |
| UniRef90-UPI00044220BC | QV |
| UniRef90-UPI0003EDEE5F | NSAQ |
| UniRef90-13J1G3 | NPMQ |
| UniRef90-H9GLB7 | NPDQ |
| UniRef90-H2RCK1 | E V |
| UniRef90-B0XAV4 | N P N Q |
| UniRef90-UPI0003EBC3E5 | NPMQ |
| UniRef90-G1RR19 | E VT |
| UniRef90-UPI0001CB99F6 | NTS Q |
| UniRef90-U3K415 | N S S Q |
| UniRef90-UPI0002739F69 | NPDQ |
| UniRef90-G3P149 | N A D Q |
| UniRef90-13K468 | N A D |
| UniRef90-UPI000443ED68 | $N \mathrm{~V}$ D Q |
| UniRef90-A4C509 |  |
| UniRef90-H2Z9K9 | N S S Q |
| UniRef90-C3Z8H9 |  |
| UniRef90-G1U1Q1 | N T D Q |
| UniRef90-A8UW49 |  |
| UniRef90-H2SYV5 | NVD Q |
| UniRef90-UPI0003317AB5 |  |
| UniRef90-E9GPT7 |  |
| UniRef90-F7B411 | D $\square$ S E |
| UniRef90-A2SY08 | NHDQ |
| UniRef90-H3A0V4 | E |
| UniRef90-S9WV00 | NSA Q |
| UniRef90-UPI0003B2E613 | NPS Q |
| UniRef90-UPI0003B2E613 | NPS Q |
| UniRef90-M3ZEV3 | E V |
| UniRef90-H2LUR7 | NSSQ |
| UniRef90-C3XRY3 | $N \square R Q$ |
| UniRef90-G3NRJ0 |  |
| UniRef90-M7AWD1 |  |
| UniRef90-B3RLH2 | N P S Q |
| UniRef90-UPI000440DE25 | E V |
| UniRef90-UPI0003B6D525 |  |
| UniRef90-UPI0003B6D525 |  |
| UniRef90-L9KXD3 | N P D Q |
| UniRef90_L9KXD3 | NPDQ |
| UniRef90-UPI000328F7A4 | N P T Q |
| UniRef90 E3FM54 |  |
| UniRef90-B4LR91 | N P N Q |
| UniRef90-B3PCH5 |  |
| UniRef90 ${ }^{\text {B3PCH5 }}$ |  |
| UniRef90-B3PCH5 |  |
| UniRef90-B3PCH5 |  |
| UniRef90- B3PCH5 |  |
| UniRef90-B3PCH5 |  |
| UniRef90- В3РСН5 |  |
| UniRef90-V4AH87 | N K D Q |
| UniRef90-UPI00046CD3A5 | N P G Q |
| UniRef90-U1M2P3 |  |
| UniRef90-W5KLY6 |  |
| UniRef90-G3H488 | N S D Q |
| UniRef90-R7VCA2 | S 1 N |
| UniRef90_UPI0002656FCB | NPDQ |
| UniRef90-H2ZQX7 | N N A Q |
| UniRef90-H2ZQX7 | N N A Q |
| UniRef90-F7BBB2 |  |
| UniRef90-UPI00047654CE |  |
| UniRef90-H2Z9L0 |  |
| UniRef90-E9K6N5 | NV |
| UniRef90-H2YAZ5 | D PS |
| UniRef90-H2YAZ4 | T 1 s |
| UniRef90-H3DD84 | E I T |
| UniRef90-B9M9E3 |  |
| UniRef90-B0XAV5 |  |
| UniRef90_R7XSE4 |  |

UniRef90_W4Z3G9
UniRef90-E4T2P7 UniRef90-F6SB20 UniRef90_Q4RZ32 UniRef90_I2JHQ0 UniRef90-UPIO003703C56 UniRef90-UPI0003703C56 UniRef90-UPI0003703C56 UniRef90 Q08RC0 UniRef90_Q3SAV3 UniRef90 D7JEY0 UniRef90 N6UN06 UniRef90-A0A034VCS9 UniRef90-K2GN12 UniRef90-K2GN12 UniRef90-H2ZQX5 UniRef90-S4Y7E7 UniRef90_R7T5G8 UniRef90 A0A017TAK7 UniRef90-S4XKY7 UniRef90_U6D5P8 UniRef90-G3QK81 UniRef90-10AJF8 UniRef90-UPI000258F710 UniRef90_C3Z6J2 UniRef90_Q9LAP7 UniRef90-L7U913 UniRef90_C9RP29 UniRef90_K2H1Q2 UniRef90-K2H1Q2 UniRef90_UPI000395A508 UniRef90-UPI000255A7CF UniRef90-D7JEY1 UniRef90-A0A017SV06 UniRef90_A9GL52 UniRef90 C3ZPL6 UniRef90 A0A023BXQ8 UniRef90-S9PAB5 UniRef90_UPI00037A80F1 UniRef90-UPI00037A80F1 UniRef90_UPI00037A80F1 UniRef90-UPI00037A80F1 UniRef90-D7W7V1 UniRef90 LOWE79 UniRef90-B8FLG8 UniRef90-B8FLG8 UniRef90 Q3A740 UniRef90_Q1D0T6 UniRef90-E3FUQ0 UniRef90-UPIOO03624E07 UniRef90_F6UAA2 UniRef90 ${ }^{-}$V9KGY4 UniRef90_UPI00037AC307 UniRef90_K1ZCX0 UniRef90_K1ZCX0 UniRef90-C3ZK73 UniRef90_Q1DDX6 UniRef90 UPI00037D857B UniRef90_UPI00037D857B UniRef90_UPI00037D857B UniRef90-UPI00037D857B UniRef90_UPI00037D857B UniRef90-UPIO0037810AC UniRef90-UPI00037810AC UniRef90_K2FWG0 UniRef90-K2FWG0 UniRef90_C9RM27 UniRef90-C9RM27 UniRef90 S4XIW1 UniRef90_A9FHP4 UniRef90-F6R2A5 UniRef90_H8MKW3 UniRef90_E4Y336 UniRef90-K1Z5Z6 UniRef90_UPI0003B768CE UniRef90 UPI00021A56FD UniRef90-A0A023BXR2 UniRef90-F6Y4H9 UniRef90-U7G9Q6 UniRef90-I2JP83 UniRef90_COBMI3 UniRef90_S9PEN1 UniRef90 UPI0003774EB5 UniRef90-UPI0003610E85 UniRef90_B3PL04 UniRef90_I1F924 UniRef90-K1MYG1 UniRef90-LOWE11 UniRef90_LOWE11 UniRef90_LOWE11 UniRef90_LOWE11

```
1
    VCDNCPDNSNPTOTDTDONGFGDMCDDY
        DKCPDTPTEAYGSVDEHGCPL
```

WA GNGY LC GKDTD $\square$ D GYPDE
S
$D N C P A V A N S D Q A D A D S D G V G D V C D D D A D N D$
$D N C P S I S N P D Q S D I D S D G E G D A C D S D D D A D G I G D$

DNCPSISNPDQSD, DSDGEGDACDSDDDADGl E D D D
CPL GPEDKDGFEDEDGCADP DNDQDGFPDV
DNCDNRPNSGQEDADGDGLGDACPQQQDTDSDGQGDV
DKCPNTPSGVTVDENGCPI DTDGDGVADY
D N CKYEPNPDQLDTDRDGLGDKCDED $\square$ DDD GI PND
EDNCNSISNSDQLDTDGDGKGDACDDDMDGDG I PNH

DNCPYV $N$ NA Q
EDACPFVAGVASDDPRKNG
DNCPTIPNADQCDTDSDGQGDVCDDDDDNDGGVLDR
EDACPYAHGPRSADPKHNGCPVA DRDEDGI ADG
VDACPDTAGD ANDDPKKHGCPPPGDRDKDGITDD
CDNCRSQKNDDQKDTDQDGKGVPNSDQKDRDGDGVGDA
DNCPHLPNSGQEDFDDNCQLLFNPRQADYDKDEVGDR

CDNCPTDINTDQKDTDGDGWGDACD QDSDGDALIDS
VDQCPNTVAGTEVDADGCEV $\quad$ VF
DRCPREAGV PENDGCPD
ADADNDGUEDS
RDSDGDGVVDR

EDNCKDDPNPGQEDLDKDWVWNSCDMCEDVDKDODI E WF
EDNCKDIPNPGQEDLDKDWVWNSCDMCEDVDKDD E WF
CDNCRQVKNNDQRDIDGDGKGDECD EDMDGDGIKNT
DQADLDNDGQGDVCDEDDDNDG INDD
KCPDKKRTEFVDAEG
VDACPDEKGAASADPKKHGCPL
VDACPAVAGVASPDPKKNG
CPPPGDRDKDG
DNCPGIPNSGQEDTDGDGMGDTCDDDMDNDV
DNCPTNYNPDQANNDGDSKGNVC




CDNCPSTANAQQGNEDGDGLGDECDNCPDEDGDGTGDF
DQCPDTPKGAPVDAKG CPDDTDGDGVFDY

RDGDGHQDS
WAGNGYVCGKDTDIDGFPDE
DNCPLDANPGQEDTDDNGMGDACDSPVDSDGDGDPDT
DNCVDDANASQENDDGDTLGDICDLDKDGDDDGDNV

ADNCAFTANTLQLDNDGDGLGNSCDSDDDGDGV NDA
ADNCAFTANTLQLDNDGDGLGNSCDSDDDGDGV
ADNCAFTANTLQLDNDGDGLGNSCDSDDDGDGV
ADNCAFTANTLQLDNDGDGLGNSCDSDDDGDGV
ADNCAFTANTLQLDNDGDGLGNSCDSDDDGDGVVNDA
NDA
NDA
NDA


WFKDNCLTVANGDQKDSDNNVWDVCE DADODD ND
VD $D K C P D T P E G V A V D A D G$
${ }_{C}^{C} P_{P}^{L}$ DADQDD:IFA

$$
D K C P D T P E G V A V D A D G
$$

$$
\begin{array}{ll}
A D A C P D V A G V G S T D R A K N G \\
F D A C P A V A G V B S D D P K K N G
\end{array}
$$

EDACPAVAGVRSDDPKKNG DNCPAVANGNQVDSDGNGYGDACPPPPDRDADGIVDA VDRCRTSHTPEQEDDDGDGVANKDDRCPDSDGDGVVDR
 DVCPNTAPGTPVDSTG GEGDVCD CDNCPYRRNRFQEDADQDGVGDACESTSDSDKDGIQDG VDNCKK YTTDNDNDGVDNS
VDNCKK V PNYDQKDTDG DNCPLTPNPDQLDLDGDGVGDACDSDDDSDLDGIRDI DQCPNT PTGATVNANGCIDQVDEAQDSDNDGVVNS
SDNCPLTFNADQKDTDSDGUGDVCDNDDDGDGVLDTN

## DACPETPGLKQPDTDGDGDPDKDDGCPDTDGDGITDA

VRDRCPNTPKGVQVDVNG CPDDSDGDGVPDY
EDAFPDDP TEWSDLDGDGDG DNSDPDRDGDGISND
ADNCKNKANSGQEDADGDGLGDACDPPD DDNDGI TNH DLCPDTPGLPE FQGCPDTDGDGIP DNCPA DANADQSDSDQDGQGDACQGCPDTDGDGIPDK $\begin{array}{llllllll}D N C P A & A N A D Q S D S D Q D G Q G D A C D D D R D G D G Q & D N G \\ D N C P A L A N A D Q S D S D Q D G Q G D A C D D D R D G D G Q & D N G\end{array}$ DNCPALANADQSDSDQDGQGDACDDDRDGDGQ DNG
DNCPALANADQSDSDQDGQGDACDDDRDGDGQ DNG

$$
\begin{aligned}
& \text { CPPPKDTDKDGVPDY } \\
& \text { CPPPKDADRDGIDDA }
\end{aligned}
$$

UniRef90 W4Z3G9 UniRef90_E4T2P7
UniRef90_F6SB20 UniRef90- Q4RZ32 UniRef90-I2JHQ0 UniRef90_UPI0003703C56 UniRef90_UPI0003703C56 UniRef90-UPI0003703C56 UniRef90_Q08RC0 UniRef90_Q3SAV3 UniRef90_D7JEY0 UniRef90 N6UN06 UniRef90_A0A034VCS9 UniRef90_K2GN12 UniRef90_K2GN12 UniRef90_H2ZQX5 UniRef90_S4Y7E7 UniRef90_R7T5G8 UniRef90_A0A017TAK7 UniRef90_S4XKY7 UniRef90_U6D5P8 UniRef90-G3QK81 UniRef90-IOAJF8
UniRef90_UPI000258F710
UniRef90_C3Z6J2
UniRef90-Q9LAP7
UniRef90-L7U913
UniRef90_C9RP29
UniRef90_K2H1Q2
UniRef90-K2H1Q2
UniRef90_UPI000395A508
UniRef90_UPI000255A7CF
UniRef90_D7JEY1
UniRef90_A0A017SV06
UniRef90_A9GL52
UniRef90_C3ZPL6
UniRef90_A0A023BXQ8
UniRef90_S9PAB5
UniRef90_UPI00037A80F1
UniRef90-UPI00037A80F1
UniRef90_UPI00037A80F1
UniRef90_UPI00037A80F1
UniRef90_D7W7V1
UniRef90_LOWE79
UniRef90_B8FLG8
UniRef90_B8FLG8
UniRef90_Q3A740
UniRef90_Q1D0T6
UniRef90_E3FUQ0
UniRef90_UPI0003624E07
UniRef90_F6UAA2
UniRef90-V9KGY4
UniRef90_UPIO0037AC307
UniRef90-K1ZCX0
UniRef90_K1ZCX0
UniRef90_C3ZK73
UniRef90_Q1DDX6
UniRef90_UPI00037D857B
UniRef90_UPI00037D857B
UniRef90_UPI00037D857B
UniRef90_UPI00037D857B
UniRef90_UPI00037D857B
UniRef90_UPI00037810AC
UniRef90_UPIO0037810AC
UniRef90_K2FWG0
UniRef90-K2FWG0
UniRef90_C9RM27
UniRef90_C9RM27
UniRef90_S4XIW1
UniRef90_A9FHP4
UniRef90_F6R2A5
UniRef90_H8MKW3
UniRef90_E4Y336
UniRef90-K1Z5Z6
UniRef90_UPI0003B768CE
UniRef90_UPI00021A56FD
UniRef90_A0A023BXR2
UniRef90_F6Y4H9
UniRef90_U7G9Q6
UniRef90_I2JP83
UniRef90_C0BMI3
UniRef90_S9PEN1
UniRef90_UPI0003774EB5
UniRef90_UPI0003610E85
UniRef90-B3PL04
UniRef90-I1F924
UniRef90-K1MYG1
UniRef90-LOWE11
UniRef90 LOWE11
UniRef90_LOWE11
UniRef90_LOWE11
UniRef90_Q2SNW4

50
60
70
80
 $L D K C P D T P K E A K G F \square D S K G G D D T D G D G V P D Y L D K C$ NS GQEDADND G $\square$ GD S A M K C D G D GIIKNVVE NC $K D N C \square Y V P N S G Q E D A D R D G Q G D T C D E D A D G D G I P N E Q D N C$ QDNCPAVANANQQDLDGDACDPEDNRDSDGDGVGNEDDLC



 RDNCVYRYNPDQADSDRNG $\square G N \square C R H N T D P D D V P D N F D N C$ RDNCPLVRNPDQTDLNHNGKGDICEYDEDEDGTPNFDDNC
 S DNCRLVVYNPN QLDRDE DGVGGDACEDDKD GDQVNDWRDAC EDACPEVKGPRSKDPAKNG
$R D N C R L V Y N P D Q A D R D G N N R G D A C$ EDACVDEAGVASADPKRRG
 CDNCP YVHNPAQQ DDTDNNGVGGDACSVVD DDGDDDVGNNERDN C

 QDNCPFQLLNGDQTDSDGD
 EDKCARTEEK GVVKVDAE GCPVVEDAARDVDS DK D GI A DVVND R C RDNCPTVMNKDQKDSDNDWVWDLCEDT DEDSIIFAKDNC RDNCPTVMNKDQKDSDNDWVWDLCEDT DEDSIIFAKDNC

 KDACPDEPGVANVDPAKHGCPPP VDACPEQAGPANDDPKQHGCPPP EDNCP LTMNVNQTDSDRD $D N C P N N S N S D Q A D L D G D G V G D V C D G D V D N C$ VDRCPRQAENVNGFEDGDGC PDEPDSDGGSMSNSNDNC



TDNCPA IA N A D QADAD GDG $\square G D V C D D D R D G D G V P N D T D N C$ CDGCPGDFFKS QPGFSGCG
CDGCPGDFFKS QPGFS GCG
LDQCPDTPKGAPVDAKGG$\quad C P D D T D G D G V F D Y Q D Q C$
 D DACP TEPEDKDGFQDEDGCPD $\quad$ C $R D N C P T V P N S S Q Q D T D Q D G Q G D A C D D D D D G D G V P D S P D N C$ K DNCVMVPNS GQEDAD GDGYGNACDEDAD G DGIPNVVENC
 EDNCPLVSNAS QTDSDDDKAGNACDADADGDGVEDSQDNC

 $V D N C P V D V N A D Q L D A D S D G V G D V C D L D R D N D G L P N P V D N C$ $\left.\begin{array}{l|lllll|l|llllllllll|ll|lll|llllll|lll|l|lll}V & D & N & C & P & V & D & V & N & A & D & Q & L & D & A & D & S & D & G & V & G & D & V & C & D & L & D & R & D & N & D & G & L & P & N\end{array}\right) P$
 $T D N C P A V P N P V Q V D S D G D G L G D A C D P D A D G D G F G A D V D N C$ K D NCPYEHNPDQIDVDNDWEWD\|CDKKDN
K D NCP YE HNPDQI DVDND WE WDICCDKK DN
R D K C P N T L P G I Q V N K R G C P L R R K E D L D Y L K K G I Q FEE D
$R D K C P N T L P G I Q V N K R G C P L R R K E D L D Y L K K G I Q Q E F D$
VDACPAVAGVASPDPKKNGCPPPGGDRDKDGITDDVDAC
 D D N CVEIPNP D QLD F D LD G L G D $\square$ CDVD D $D D N C P T V A N A D Q T D E D G D L$
 I DNCRNAPNADQLDTDGDGKGDACDDDDDNDGVKDTVDSC ID NCKNTPNPNQLDDSDNDGKGNLC
CDSCPT DRNPDQSDAD HDGDGCDTNQDRDGDGHQDTSNN C
DDNCPETFNP GQEDSDGDGGGDACDTDDQDGDGDPDDVEDNC
 $R D K C P T E G E D V D G Y Q D D D G C P E \quad P$ EDACPTVAGLKELAGCPDG

NDNCPRDSNRM QRDT DRD HVVGDAC

TDNCPD QANAD QLDTDHDSDGDACDSDSDGDGGIDN GS DN C
T DNCPDQANADQLDTDHDSIGDACDSDSDGDGIDNGSDNC
T DNCPD QANAD QL DTEDHS I G DACDS DSD GDGI DNGSDN C


UniRef90 W4Z3G9
UniRef90-E4T2P7 UniRef90-FFSEB20 UniRef90- 12 JHQ 0 UniRef90-UPIOO03703C56 UniRef90-UPIO003703C56 UniRef90-UPI0003703C56 UniRef90 Q08RC0 UniRef90-Q3SAV3 UniRef90-D7JEY0 UniRef90-AOAO34VCS9 UniRef90-K2GN12 UniRef90-K2GN12 UniRef90-H2ZQX5 UniRef90-S4Y7E7 UniRef90-R7T5G8 UniRef90 A0A017TAK7 UniRef90-S4XKY7 UniReffo-U6D5P8 UniRef90_G3QK81 UniRef90 -10AJF8 UniRef90_UPIO00258F710 UniRef90-C3Z6J22 UniRef90-Q9LAP7 UniRef90-L7U913 UniRef90_C9RP29 UniRef90-K2H1Q2 UniRef90-UP1000395A508 UniRef90_UPIo00255A7CF UniRef90- D7JEY1 UniRef90-A0A017SV06 UniRef90_A9GL52 UniRef90-C3ZPL6 UniRef90 A0A023BXQ8 UniRef90-S9PAB5 UniRef90-UPIOOO37A80F1 UniRef90-UPI00037A80F1 UniRef90-UPIOOO37AB0F1 UniRef90-UPIO0037A80F1 UniRef90-D7W7V1 UniRef90-LoWE79 UniRef90-B8FLG8
UniRef90-B8FLG8
UniRef90-Q3A740 UniRef90-Q1DOT6
UniRef90_E3FUQO UniRef90-UPIOO03624E07 UniRef90-F6UAA2 UniRef90- V9KGY4 UniRef90-UPIO0037AC307 UniRef90 K1ZCX0 UniRet90-K1ZCX0 UniRef90-C3ZK73
UniRef90 UniRef90 UPI00037D857B UniRef90-UPI00037D857B UniRef90-UP100037D857B UniRef90_UP100037D857B UniRet90_UPI00037D857B UniRef90-UPIO0037810AC UniRef90-UPI00037810AC UniRef90-K2FWG0 UniRef90-K2FWGO UniRef90-C9RM27 27 UniRef90-S4XIW1 UniRef90-A9FHP4 UniRef90-F6R2A5 niRef90-H8MKW3 UniRef90-K1Z5Z6 UniRef90-UPI0003B768CE UniRef90 UPI00021A56FD UniRef90-A0A023BXR2 UniRef90-F6Y4H9 UniRef90-U7G9Q6 UniRef90_12JP83 UniRef90-COBMI3 UniRef90-S9PEN1 UniRe99 UPIO003774EB5 UniRef90-UPIO003610E85 UniRef90-B3PL04 UniRef90-11F924 UniRet90-K1MYG1 UniRef90-LOWE11 UniRef90-LOWE11 UniRef90 LOWE11

PTYSNADQA ${ }^{90}$ DDGNLTGDV ${ }^{100}$ CTDYDGDGVLDDGNECP 120 PDTPNGCLLDSDGDGVPDGCTLDTDGDGVPDYLDKCPNTP
 ANSAAQSTVDA
PLEPNEDQTDTDGDGYGDACDDDSDGDLIPDSTDNCVNVP PLEPNEDQTDTDGDGYGDACDDDSDGDVIPDSIDNCVNVP PLEPNEDQTDTDGDGYGDACDDDSDGDLIPDSUDNCVNVP


PN
PNNSMDYSTD
PLIANAGQEDADGDGKGDVCDDD
PLIANAGQEDADGDGKGDVCDDD
PENAEVTTTD
PREKGFADPDPEKHGCPKA
PENAQ DQATDFRHFQ
PAEAGPAESVGGRAGCPAPPPDDRDGDGTNKDDACPGEK
 PTVPNSAQQDSDHDGQGDACDEDDDNDGVPDSRDNCRLVP PYVYNTDQRDTDGDGVGDHC PNTPEGVVVDSR GCPPDSDEDGVPDYLDLCPNTP PRKENQNQADTDLDRTGDAC PNVPNADQADADQNGLGDSCENDSDADGVPNSLDNCMMEP PNTPAGTQVDASGCETDNGGEP
PNQGCPAVKDTDGDGVPDGCPADTDGDGVPDGEDKCPSEK PNTVAGISVDS PYDHNLDQNDVDNDGKWDKCDT
PYDHNLDQNDVDNDGKWDKCDT
RLVPNPGQEDADGDGVGNLCEDDFDRDMVIDRTDVCPENA PTVANADQADLDNDGQGDACDNDSDNDGINDDVDNCPTVA PDTP QDIEVDNDGCPKDTDGDGVYDYLDLCPDTP PGVPGVADPDPKQNGCP PPDGDNDGVPDKRDACVDIP PDLPGLVTTDD PATNGCPGDTDGDGLRDDKDACPNEK PADFNTDQRDTDGDGVGDVCDSDADSDGPDYFGN PNKYNPNQLDTDNDGIGDVCDP
$P Q Q T \quad E D K D G F Q D E D G C D P D N G D G V A D A R D A C P N E A$ PMTSNPDQLDTDGDGLGDVCDDDDDNDGVLDMDDNCILTP PITSNPDQLDTDGDGLGDVCDDDDDNDGVLDIDDNCILTP PITSNPDQLDTDGDGLGDVCDDDDDNDGVLDIDDNCILTP PUTSNPDQLDTDGDGLGDVCDDDDDNDGVLDIDDNCILTP PTVAGPPEADVDSGNNGCWPDADGDGULDKDDACPTVP

PDTPKGAPVDAK
PNEPET $\square$ NGFQDEDGCPD
GCPLDTDGDGVFDY LDQCPDTP
PNEPETVNGFEDTDGCPPPPPVDTDGDGTMDPDDRCPNDP RLVPNPGQEDTDGDGVGDACQGDFDADMVVDKПDVCPENA VLVPNNNQKDTDNDGKGDACDSDMDGDGITN\|LDNCESVP YRINNGAQQNVRMDDNGDPLAFDTDNDGGPDTSDNCPTVT AN NADGNADMON PLAANADQQDTDGDGWGDACDQDSDGDGVQDHHDNCPLQL PADFNPKQADSDGDGTGDACDPDDDHDGIVTWLDNCPFVA PANANAAQNDLDDDGGGDACDDDRDGDGIPDSGDNCPATP PANANAAQNDLDDDGI GDACDDDRDGDGIPDSGDNCPATP PANANAAQNDLDDDG| GDACDDDRDGDGGPDSGDNCPATP PANANAAQNDLDDDGUDACDDDRDGDGUPDSGDNCPATP $P A N A N A A Q N D L D D D G \mid G D A C D D D R D G D G L P D S G D N C P A T P$
$P A V A N P S Q T D A D A D G L G D A C D A D A D G D G F A B D V N C P A V A$ PAVANPSQTDADADGLGDACDADADGDGFGADVDNCPAVA

PDQAGPSNED PKKHGCPPPPDRDSDK DPDPSDACPD LP PDVKGVRSKD PAKNGCPRDTDGDTFRDDVDACPREK VFRSNSGQSDKNQNRVGDACDDDADGDSVLTM LDNCPYVP PNEAGPSSE PRVYNPEQL GCGPDSDGDGTPDEFD $\square C P N D A$ FDVENTDQADLDADTLGDVCDSDADGDGETNDTD $P N T P P G T D V D A K G C T I A P P A P A D T D G D G V A D G D D Q C P N T P$ PKVHNPS DVLGNACANDCDGDGTPDADDVCPCNK
 PAI ANPGQEDSDGDGVGDACD PTIGNAQQNDTDNDGI GDACDDD DDNDGVANDSDVFPYDS $P$ LDRFNKPADQDNDGI PDCDVPDRDGDGYDNTQDVFPDN $P$ NGPD SCLDSDNDGVPDGMDPDTDGDEVPDNVDKCPDQS PTVAGPKEN GGCPWPDTDGDGVLDKDDDCPSVK ANTPKGVAV GPDGCPDDSDGDGIPDYDDECPHSP PDDPS EWSDMDGDG口GDNADPDRDGDGFTN VNVRNPSQEDLDEDGKGDQCDNDVDGDNTPNSQDKC PNVAGPVE NQGCP WPDTDNDGILDKDDACPTVP PLAANPDQSDQDQDGSGDACDDDSDGDGIDDNDDNCPATA PLAANPDQSDQDQDGSGDACDDDSDGDGIDNDNDNCPATA PLAANPDQSDQDQDGSGDACDDDSDGDGI DNDNDNCPATA PLAANPDQSDQDQDGSGDACDDDSDGDGIDNDNDNCPATA
$N P \frac{1}{N}$


UniRef90 ${ }^{-12 J H Q 0}$ UniRef90_UPI0003703C56 UniRef90-UPI0003703C56 UniRef90 UPI0003703C56 UniRef90_Q08RC0 UniRef90_Q3SAV3
UniRef90 D7JEY0
UniRef90 N6UN06 UniRef90-A0A034VCS9 UniRef90-K2GN12 UniRef90 K2GN12 UniRef90-H2ZQX5 UniRef90-S4Y7E7
UniRef90_R7T5G8
UniRef90 A0A017TAK7
UniRef90-S4XKY7
UniRef90-U6D5P8 UniRef90 G3QK8
UniRef90 I0AJF8
UniRef90-UPI000258F710
UniRef90-C3Z6J2
UniRef90 Q9LAP7
UniRef90-L7U913
UniRef90_C9RP29
UniRef90-K2H1Q2
UniRef90-K2H1Q2
UniRef90_UPI000395A508
UniRef90-UPI000255A7CF
UniRef90-D7JEY1
UniRef90-A0A017SV06
UniRef90_A9GL52
UniRef90 C3ZPL6
UniRef90 A0A023BXQ8
UniRef90- S9PAB5
UniRef90_UPIO0037A80F1
UniRef90 UPI00037A80F1 UniRef90 UPI00037A80F1 UniRef90_UPI00037A80F1
UniRef90-D7W7V1
UniRef90 LOWE79
UniRef90-B8FLG8
UniRef90-B8FLG8
UniRef90 Q3A740
UniRef90- Q1D0T6
UniRef90_E3FUQ0
UniRef90_UPI0003624E07
UniRef90 F6UAA2
UniRef90-V9KGY4
UniRef90-UPI00037AC307
UniRef90_K1ZCX0
UniRef90 K 1 ZCX 0
UniRef90-C3ZK73
UniRef90-Q1DDX6
UniRef90 UPI00037D857B UniRef90-UPI00037D857E UniRef90-UPI00037D857B UniRef90_UPI00037D857B UniRef90_UPI00037D857B UniRef90_UPI00037810AC UniRef90-UPIO0037810AC
UniRef90 K2FWG0
UniRef90-K2FWG0
UniRef90_C9RM27
UniRef90 C9RM27
UniRef90 S4XIW
UniRef90-A9FHP4
UniRef90-F6R2A5
UniRef90_H8MKW3
UniRef90 E4Y336
UniRef90-K1Z5Z6
UniRef90-UPI0003B768CE
UniRef90 UPI00021A56FD
UniRef90-A0A023BXR2
UniRef90-F6Y4H9
UniRef90_U7G9Q6
UniRef90-I2JP83
UniRef90-COBMI3
UniRef90_S9PEN
UniRef90 UPI0003774EB5
UniRef90-UPI0003610E85
UniRef90-B3PL04
UniRef90 I1F924
UniRef90 ${ }^{-}$K1MYG1
UniRef90-LOWE11
UniRef90_LOWE11
UniRef90 LOWE11
UniRef90_LOWE11
UniRef90_Q2SNW4
$G V$
$G$
$N P N Q$
$N P D Q$
NTNQ
NSAQ
GTAE


GV
NPNQ
NPNQ $N P N Q$ NPNQ $\stackrel{G}{\mathrm{~L}} \mathrm{P} \mathrm{E}$

E
EVT NRAQ
NPAQ

NADQ
NPDQ
N S G Q
NSGQ
NSGQ
NS GQ
NS GQ NPGQ $N P G Q$
 $\mathrm{N} S \mathrm{DQ}$
$\mathrm{N} P \mathrm{D}$

G P P E
G T

G
$\mathrm{N} A \mathrm{RE}$
Q
NANQ
NANQ
NANQ

## UniRef90 U7G3J9 UniRef90-U7G3.J9 UniRef90-U7G3.999 UniRef90 Q21KX4 UniRef90-F1RF28 UniRef90-A9GS42 UniRef90-LU88J UniRef90-G7G8Z1

 UniRef90-G7G8Z1 UniRef90-A0A017TCT2 UniRef90 H8KV86 UniRef90-Q1K2T2 UniRef90-A9GBE1 UniRef90_L7UEY2 UniRef90 V4L2E2 UniRef90-V4L2E2 UniRef90-K1MBV0 UniRef90 E4TKR4 UniRef90-Q1D2C6 UniRef90-G8TDQ1 UniRef90 H1HAT2 UniRef90-UPI0004220A2D UniRef90-E3FFK8 UniRef90 K0CB45 UniRef90-H8ML56 UniRef90-Q74G8 UniRef90_G1R240 UniRef90 UPIO0036AE36E UniRef90 A0A017TAX5 UniRef90-U2RVD4 UniRef90 -I7ZD49 UniRef90 ${ }^{-}$A6GEF1 UniRef90-C9RPN8 UniRet90_F6GGZ7 UniRef90 A0A017SY19 UniRef90_-J6HSG0 UniRef90-S9NXF9 UniRef90_B4X2Z9 UniRef90 ${ }^{-12 J H 48}$ UniRef90-A6GVZ9 UniRef90 D4ZHA4 UniRef90 C0BIP6 UniRef90-A1U6V6 UniRef90-A7UG37 UniRef90 UP10003603E02 UniRef90 A0A017TJC9 UniRef90-F1CKY7 UniRef90-UPI00036111D5 UniRet90 UPI00047BE928 UniRef90-K6ZNP9 UniRef90-UPIOO0410F998 UniRef90 UP10004645352 UniRef90- UPI0003B41563 UniRef90-I2JF92 UniRef90_C3ZYB8 UniRef90 W6ZTG4 UniRef90-UPI0003FF349F UniRef90-AOZ114 UniRef90 AOZ114 UniRef90 UPI000368E13B UniRef90-W5YNQ6 UniRef90-A5FHIO UniRet90 UPIO003F6120A UniRef90-L7U595 UniRef90_UPIO00376C541 UniRet90_J9YFX8 UniRef90 UPI0003B5C2C8 UniRef90_S4YBT2 UniRef90_S4Y1S4 UniRef90 A0A024FET5 UniRef90 U2SN78 UniRef90-M7N9C4 UniRef90_Q3SG49 UniRef90 M7MHZO UniRef90_Q1DAK4 UniRef90-COB135 UniRef90 UPIOO0401840B UniRef90-U2ARI9 UniRef90_UPI0003486ED5 UniRef90 DOLGG5 UniRef90-K2JLQ6 UniRef90_K2JLQ6 UniRef90- ${ }^{-}$JJLQ6 UniRef90-K2JLQ6 UniRef90_K2JLQ6 UniRef90 A0A017TAJ4 UniRef90-A0A017T2C5 UniRef90-S4XMM21
10
20
30
40
SDNCPLIANADQHDTDSDGLGDLCDNDQDDD G|VVNS

 A D Q CPNTPAGTAVDSVGCPVTQ PPSDSDNDGVTDA


QDKD G D
EDNAPLIANSDQQDSDADLIG
EDNAPLLANSDQQDSDADLIGG DACPDLPGVQSDEAA KNGCPAVKDRDRDGDDV DKCKKVPGDPQ FWGCPDTDKDGVGD P AP A P LDD S D G D GVIDA D D QCPD T D G D GVVY D Y DACPYAHGPASADAKRNGCPV CDDEDEDGVAD Q D R C P K Q A E DK DGFEDADGGCPDPDNDQDGILDG VDNCPALANEDQADDDGDGワGNVCDSCNDADGDG\|CGD $V D N C P A L A N E D Q A D D D G D G U G N V C D S C N D A D G D G I C C G D$ GK ES A QM $\square D T$ D G D GI LD K $L A D C P N T A N P D Q L D V D G D G L G D V C D$ Q LA D R CPKEAENFNGFEDQDGCPD DPDTD GD D N D GVVD E NCPSVPNPDQANHDGDGLGDACDGDDDNDAS SDE

D D C P D T P T GVQVDKNGCPV VD KCP TEKEDRDGYQDDDG

| $D$ | $T$ | $D$ | $G$ | $G$ |
| :---: | :---: | :---: | :---: | :---: |
| $D$ | $L$ | $D$ | $K$ |  |
| $D$ | $G$ | $D$ | $G$ | $P$ | CLDP DNDGD GI S D G QD D D N D GI P N N ADQCPNEPETVNGFEDEDGCPDTKPAPPPPPVDGLMDP DNCVTVPNS GQEDVDRDG $\square$ GDACD PD DADGD GV PNE GTEAATTSADDDNDGVPND VDDRCPN NPEDRDGDEDD DGCPE GNDGDRDGDGGIDD DKCPNTPKPLDTMSDGDGVPDPDGCPLDSDGDGVM DY VDSCPDEPETVNDYQDEDGCPE PD SDGDGFID D DQCPNTPEAVLIDDGWGCFD HDNDGVPD Y VIDVCPE DKEDGKEPKSSDGCPDMP D

 VDNCPADFNPEQGDVDNDGUGDVCDDDAD GDGVGID G EDAFPLDA TESVDTDNDGTGDGAD TDRDGDGVANE D T D G D Glly D R

GVPD S Q D A FP T D A S E S LDD T D G D GVG D N A DVD A D S D G 1 DD $\square$ D Q C P GTPA GASVDSRG CELDSDNDGVADS DKCPNTVSGATIDDANGCPI
$\qquad$

 $D V C P N G A E D I D G F K D E D G C P D$ | $P D N D L D G V L D E$ |
| :--- |
| $N D \square D G D G l$ |
| $D N V$ |

CDNCPNVPNNAQKDTDTNGEGDACD DACPHTPSGAKVDVRG DACPEVAGLKQPDTDGDGIIDSFDGCPDADGDGITA GQTSTVVRKDTDNDGVY A

 T TEPS I R D R D G D G $\square$ A DED DR CPD S D G D G I ID S DNCAFTANNDQADTDTVGVSDGLCGR DACPDVAGPKEPDTDGDGILDKDNGCP
 S D GCPNDPNK $\square$ A P G $\square \mathrm{C}$ G C G V ID T
 DACPTEAGPAER KGCPVKDADQDGVEDA ACPGTAYGVEVDAEG D Q C P M T P A GVRVDANGCS $\square$ DKCPGTPAGVAVDANG ADACTGTRG】ASDDRTRHG D G Y G G $V$ G $L$ CEDERDS DNDGVMDN D D D N D GVL $N N$
$\qquad$ $C P L D G D G D G V P D Y$ $C P R A D R D G B G V L D V$
$L G S Q D R D G P G L G R G$ D $\square$

DKDGDGYGDSACAPLEGYVAQAGDC D A DGDGVIDR D A CPEVAGLAEPDTDGDGDEDSFNGCPDTDGDGIPDN D ETF I D S D G D GVP D NNLSRATDTDFDG $\square P$ C CLDLDD DNDAFLDE VD T D G D GVY D K D N G C P D S D G D G I P D K D E C P E VA G L K E P D T D G D GI P D K D D G C P D T D G D G I A D K EDSCRKVAGPEWPDTDGDKVFDKDCPWKDSDGDTLLDN FSDACPSEPELYNRMDDEDGCPE R DPDGDGL


UniRef90_U7G3J9 UniRef90_U7G3J9 UniRef90_U7G3J9 UniRef90_U7G3J9 UniRef90_Q21KX4 UniRef90-F1RF28 UniRef90-A9GS42 UniRef90_L7U8J5 UniRef90_G7G8Z1 UniRef90_G7G8Z1 UniRef90-A0A017TCT2 UniRef90_H8KV86 UniRef90-Q1K2T2 UniRef90-A9GBE1 UniRef90-L7UEY2 UniRef90 V4L2E2 UniRef90-V4L2E2 UniRef90-K1MBV0 UniRef90-E4TKR4 UniRef90-Q1D2C6 UniRef90-G8TDQ1
UniRef90_S4XSG0
UniRef90_UPIO004220A2D UniRef90-E3FFK8 UniRef90_K0CB45 UniRef90_H8ML56 UniRef90_Q74G87 UniRef90-G1R240 UniRef90 UPI00036AE36E UniRef90-A0A017TAX5 UniRef90-U2RVD4 UniRef90-I7ZD49 UniRef90-A6GEF1 UniRef90_C9RPN8 UniRef90_F6GGZ7
UniRef90 A0A017SYI9 UniRef90_J6HSG0 UniRef90-S9NXF9 UniRef90-B4X2Z9 UniRef90_I2JH48 UniRef90-A6GVZ9 UniRef90_D4ZHA4 UniRef90_C0BIP6 UniRef90_A1U6V6 UniRef90_A7UG37 UniRef90_UPIO003603E02 UniRef90-A0A017TJC9 UniRef90-F1CKY7 UniRef90-UPI00036111D5 UniRef90-UPI00047BE928 UniRef90-K6ZNP9 UniRef90_UPI000410F998 UniRef90-UPI0004645352 UniRef90-UPI0003B41563 UniRef90-I2JF92
UniRef90-C3ZYB8
UniRef90-W6ZTG4 UniRef90-UPI0003FF349F UniRef9O-A0Z114 UniRef90-A0Z114 UniRef90-UPI000368E13B UniRef90_W5YNQ6 UniRef90-A5FHIO UniRef90_UPI0003F6120A UniRef90_L7U595 UniRef90_UPIO00376C541 UniRef90-J9YFX8
UniRef90_UPIO003B5C2C8
UniRef90_S4YBT2
UniRef90-S4Y1S4
UniRef90 A0A024FET5
UniRef90_U2SN78
UniRef90_M7N9C4
UniRef90-Q3SG49
UniRef90-M7MHZ0
UniRef90-Q1DAK4
UniRef90_C0BI35
UniRef90_L7U7Z5
UniRef90_UPIO00401840B
UniRef90_U2ARI9
UniRef90_UPI0003486ED5
UniRef90-DOLGG5
UniRef90-K2JLQ6
UniRef90-K2JLQ6
UniRef90_K2JLQ6
UniRef90_K2JLQ6
UniRef90-K2JLQ6
UniRef90 K2JLQ6
UniRef90-A0A017TAJ4
UniRef90_A0A017T2C5
UniRef90_S4XMM2

UniRef90_S4XMM2

ADNCPWTANANQSDVDSDGTGDSCDTDNDNDGVVDDSNNC




 ID N CP LL GN PHQK D N DE D GRGDVVCDEDDDNDTVLD YK QA


 AD Q CVNQPETSNGFQDEDGCPDEAPPDSDGDGLMDPDDRC LD NCPDLA NPDQFDSDGDGRGDACDGLEAGSDSVETPED T
 $D \square G G D G D G D P T N D D T D G D G \square P D Y \square D E D D D G D G I P T L E E D T$



 EDNCPNMPNHEQGD $\square D Q D G \square G D V C D D D R D G D E H D N D Q D N C$
 KDNCP LVRNPDQRNT DEDKWGDACDNCRDQDGRRNQADN C ADQCPSTPAGAVVDANG CEADADGDGVADRADQC



 VDKCPDEPEDMDGDDDRDGCPEA DDACPDVAG PKEFNG QDKCPNEAGTAER NDNCVFTANADQKDTDT QGCP VEDDRDGDTILDTNDNC LD N CPLT P NED QLD S D N D NIGGD ACD D S S D
DDACPEAAGLKKQ FQGCPDTDGDGIADKDDAC
SDNC $D L T T S N \square D Q A D \square D G D G \square G D A C D P D T D G D G G Y T Y Y N E A S$

$M D K C P N T P Y G V K V G P D G \quad C P D S D G D G V P D N M D R C$


 SDVFP FDA TEWDDDDGD GDGNNS DPDDD GDGILNDEDEN QDTFP YN EDECPD QAGTAAL RGCPDADGDGVADKNDKC



 NDNCPNDPEKDEPGSCGCGVAD
 D D A C P D TA G
D D A C P E VA G P K A $L N G$ ADTCPTEAGPAER QGCP

 QDKCPTEKGLAALDTPGKAELQGCPPDADGDGVIDS LDKC

 PETAAKEDVVRSGRSHTPEQCPANDDDGVPNGQDRC
DDENPDDNPGDDYDSDCDGQDPG VE Q CPGTPKGAAVDA K D N CP TVA GPKELNG
$R D R C P N E P E D D D G F Q D G D G C P D$ CERDNDGDGVANSMDQC
 K D S D G D S L L D NVD A C $V E \square A L N V N E Y P S L D S D G D G \square P Y S G L G S S Q$ PDVCP GEPETFNQYQDEDGCPDEVPVDSDGDGLID T ND N C DDECPNAAGSKE $\quad M N G C P D T D G D G I A D K D D A C$
 ADECPEEAEDFEGFEDEDGCPD VNDDGDNPDSADEC


 |  | $D$ | $N$ | $C$ | $P$ | $L$ | $V$ | $A$ | $N$ | $A$ | $D$ | $Q$ | $D$ | $D$ | $D$ | $A$ | $D$ | $G$ | $A$ | $G$ | $D$ | $A$ | $C$ | $D$ | $S$ | $D$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $D$ | $D$ | $G$ | $D$ | $G$ | $V$ | $A$ | $D$ | $G A$ | $D$ | $N$ | $C$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $I$ | $D$ | $N$ | $C$ | $P$ | $L$ | $V$ | $A$ | $N$ | $A$ | $D$ | $Q$ | $T$ | $D$ | $T$ | $D$ | $A$ | $D$ | $G$ | $A$ | $G$ | $D$ | $A$ | $C$ | $D$ | $S$ |
| $D$ | $D$ | $D$ | $G$ | $D$ | $G$ | $V$ | $A$ | $D$ | $G$ | $A$ | $D$ | $N$ | $C$ |  |  |  |  |  |  |  |  |  |  |  |  |




## UniRef90 U7G3．J9

 UniRef90－U7G3．J9 UniRef90－U7G3．999 UniRef90 Q21KX4 UniRef90－F1RF28 UniRef90－A9GS42 UniRef90＿L7U8J5 UniRef90－G7G8Z1 UniRef90－G7G8Z1 UniRef90－A0A017TCT2 UniRef90＿H8KV86 UniRef90－Q1K2T2 UniRef90－A9GBE1 UniRefo－VUEY UniRef90－V4L2E2 UniRef90－K1MBVO UniRef90－E4TKR4 UniRef90－Q1D2C6 UniRef90－G8TDQ1UniRef90－H1 HAT2 UniRef90＿UPIO004220A2D UniRef90－E3FFK8 UniRef90－K0CB45 UniRef90－H8ML56 UniRef90－Q74G87 UniRef90 UPIO0036AE36E UniRef90－A0A017TAX5 UniRef90－U2RVD4 UniRef90 $17 Z D 49$ UniRef90－A6GEF1 UniRef90－C9RPN8 UniRef90＿F6GGZ7 UniRef90 A0A017SY19 UniRef90－J6HSGO UniRef90－S9NXF9 UniRef90－B4X2Z9 UniRef90 ${ }^{-12 J H 48}$ UniRef90－A6GVZ9 UniRef90－D4ZHA4 UniRef90＿C0BIP6 UniRef90－A1U6V6 UniRef90－A7UG37 UniRet90 UPI0003603E02 UniRef90－A0A017TJC9 UniRef90－F1CKY7 UniRef90－UPIo0036111D5 UniRef90－UPI00047BE928 UniRef90－K6ZNP9 UniRef90－UPIOO0410F998 UniRef90－UPIOOO4645352 UniRef90 UPIOо03B41563 UniRef90－I2JF92 UniRet90－C3ZYB8 UniRef90－W6ZIG4
UniRef90 UPIOOO3FF349F UniRef90－AOZ114 UniRef90 AOZ114 UniRef90 UPI000368E13B UniRef90－W5YNQ6 UniRef90－A5FHIO UniRef90＿UPIO003F6120A UniRef90－L7U595 UniRef90＿UPIOOO376C541 UniRef90＿J9YFX8 UniRef90－S4YBT2 UniRef90＿S4Y1S4 UniRef90 A0A024FET5 UniRef90 U2SN78 UniRef90－M7N9C4 UniRef90－Q3SG49 UniRef90 M7MHZO UniRet90＿Q1DAK4 UniRef90－COB135 UniRef90 UPIO00401840B UniRef90－U2ARI9 UniRef90＿UPI0003486ED5 UniRef90 DoLGG5 UniRef90－K2JLQ6 UniRef90－K2JLQ6 UniRe90＿K2JLQ6 UniRef90＿K2JLQ6 UniRef90－K2JLQ6
UniRef90 K2JQ6 UniRef90＿A0A017TAJ4 UniRef90－A0А017T2C5 UniRef90＿S4XMM2

 PLQANPGQEDGDTDGIGDACDSSTDGDGHDDGADNCPLVH PNTPAGTSVNA
ILFPCGLQTEARSDGVGDTCETDFDQDQVIDRDDVCPENA PTVKGPTANRDPKKNGCPDDPDGDGVRGAADACPNER
PFAPGTTE

CSRPNPNDADGDGVINAVDNCPTTA
PEVPGVQSAEAAKNG CPSDQDGDGTPDSKDACPKПP PTIAGKSEPDTDNDG\｜IDSLDPDTDGDG\｜IDPKDKCPTEK PGTPKGVAVDA VGCPLPMDSDGDGVYDDVDRCPNSP PAEKGDAAGGATRPGCPPAPPTDQDGDGLPDDADACPREK PAQA EDKDGFEDADGCPDDNDKDGIIADVADKCPLEP PVD\｜PVLSNDADPDG
PVDIPVLSNDADPDG
$P H Q A G P A E$
 GllGCDIIDNDTDGDGITDENDNCPDTA PNEAGPKE NRGCPDKDTDGDGIVDRLDNCPTEP
 PDNE PDTPAGVUVGADGGVPGCPVDSDGDGVPDNEDACPNSA
PDKPGPKE YOGCPDSDGDEVPDNVDDCPDLS
P解PET解GVDDEDGCP
PGTPAGVKVDS
PRVPNSDQKDSDGDGПGDACDNDVDHDFVGDACDSDQDQK
PDTPAGLQVD DKGCPLDGDGDGVLDTVDECPHTP PNDP EDKDGFEDEDGCPDDNDKDGI PDVKDQCPNEP
PDQP EEDKDGFQDEDGCDPDNDNDGVLDTADRCPNEA
PDEAETVNDYKDEDGCP
PESTP
PNEPNPDQLDSNNGIGGACED
PKEPGPVAEDPSKNGCP
PDVAGLKEPDTDGDGMDDACPPDTDGDGVPDKDDKCPDVA PNEAGTAERDSDGDGLRDACPTDSDNDSVADHLDNCPTEA
LNGPNTDQADDVGGGDVCDDRDGDGVDNDTDNCPLAA

PEAAGLAALNGCPDTDGDGTADKDDACPEVA PNDP TESVDTDGDGVGDNADADSDGDGVGNNADAFPNDA CGTSDTDASSUPLDNDGD
PDTTAGATVD
PSTPAGLPVNAD GCSPDSDKDGTVDALDKCPNTP $P N T P A G V A V D Q D Y G C P S D S D G D G V P N A M D K C P N T P$ PSTPETUDGKADDDGCPEP
PE TPNSAQLDSDNDGПGDECDDDDDNDGDPDYHDNCRLDH
PAVPAPGTTD
PNVAGPKEN
PNTPAGTKVNA
AGCPWPDTDKDGVADKDDACPEVA
PYDAEYN VNA
KGCSVDLDKDSDGVLDSKDKCLDTP
PFDATEWDD $\square D G D G \square G N N S D \square D \square D G D G T L N D E D E N P Y \Pi A$ PDTPAGTQVDA TGCPLVVDADGDGVPDAQDTCPNTP PNSAPGERV
LLIPNPDQIDSDGDGVGSMC DNCVSTP
PDTANNDQLDLDGDGUGNVCDDDTDGDGVIDSEDNCPETA PTVKGPKEN GGCPWPDTDGDGVLDKDDKCPTVK

PNDPNKTEPGSCGCGV
PNDPNKEGGCGCGV VDTDGDGIADCNDNCPE【A


PTEAGPAEKDTDQDGFQDACPADSDGDTVVDHLDNCPTEK
$P N T P A K A E V D S R$
PDTPAGVKVDAKGCTVFD
PNTPAGVSVDA SGCPLDRDGDGVPDYQDRCPNRP
PDLRGAPSA APRQNGCPGDADGDGVLDRVDACPKLA
ASAANPSQTDSDGDGLGDACDNDSDGDGHGDA
$P$ LVPNPNQEDGDNDGLGDVCDDNT
PLEAGPPEND GCPDTDSDGDGVVDREDACPNEA
PNTPNPDQYDQDFDRQGDACDWDDDGDGWANEEDCDPHHA
PSTPPGATVDA AGCPSDRDGDGVPDARDKCPAEA
PNEAGPAANN GCPWPDRDGDGVADKDDLCPDKV
ANEKGPKHTDTDGDGVVDGEDNDADGDGIPDKDDKCPDKP
PDVPNPNQLDTDEDGFGDLCDNDSDQDGYGDVCDVCPDDF
PAEA EDADGFEDADGCDPDNDRDGVPDAVDACPLEA
PNEAGPAAL NGC PDADGDGVADKDDECPNEA

NKGCPDDADKDGVLDKDDACPLVH
PNRAETDNGFEDEDGCPDEVPT
PLVFNADQLDSDGDGVGDACDTDDDGDGVTDSLDNCPLVA
PLVFNADQLDSDGDGVGDACDTDDDGDGVTDSLDNCPLVA
PLVFNADQLDSDGDGVGDACDTDDDGDGVTDSLDNCPLVA
PLVFNADQLDSDGDGVGDACDTDDDGDGVTDSLDNCPLVAA

$P \stackrel{c}{N A}$
EDKDGFEDEDGCPDDNDSDGFPDKVDACPGEK
$P R E P G$
$P \square A A N P D Q A D A D A D G \backslash G D A C D N D A D A D G V G D A C D N C P G D A$

| UniRef90_U7G3J9 | NPDQ |
| :---: | :---: |
| UniRef90-U7G3J9 | NPDQ |
| UniRef90-U7G3J9 | NPDQ |
| UniRef90-U7G3J9 | N P D Q |
| UniRef90-Q21KX4 |  |
| UniRef90-F1RF28 | E VT |
| UniRef90-A9GS42 | G P |
| UniRef90-L7U8J5 | N P D Q |
| UniRef90-G7G8Z1 |  |
| UniRef90-G7G8Z1 |  |
| UniRef90-A0A017TCT2 | G P |
| UniRef90-H8KV86 | G $\square$ P E |
| UniRef90-Q1K2T2 |  |
| UniRef90-A9GBE1 | G P |
| UniRef90-L7UEY2 | E V |
| UniRef90-V4L2E2 |  |
| UniRef90-V4L2E2 |  |
| UniRef90-K1MBV0 | G $\square$ R E |
| UniRef90-E4TKR4 | NPDQ |
| UniRef90-Q1D2C6 | G P |
| UniRef90-G8TDQ1 | GL |
| UniRef90-S4XSG0 | NPEQ |
| UniRef90-H1HAT2 | GPKE |
| UniRef90-UPI0004220A2D | G T |
| UniRef90-E3FFK8 | G P P E |
| UniRef90_K0CB45 | N P T Q |
| UniRef90-H8ML56 |  |
| UniRef90-Q74G87 |  |
| UniRef90_G1R240 | E A T R |
| UniRef90_UPI00036AE36E |  |
| UniRef90-A0A017TAX5 |  |
| UniRef90_U2RVD4 | G P K E |
| UniRef90-I7ZD49 |  |
| UniRef90-A6GEF1 | E T |
| UniRef90-C9RPN8 |  |
| UniRef90-F6GGZ7 |  |
| UniRef90_A0A017SY19 |  |
| UniRef90_J6HSG0 | G P A E |
| UniRef90-S9NXF9 | G V |
| UniRef90_B4X2Z9 | N A D Q |
| UniRef90-12JH48 |  |
| UniRef90-A6GVZ9 | G L |
| UniRef90-D4ZHA4 |  |
| UniRef90-C0BIP6 |  |
| UniRef90_A1U6V6 |  |
| UniRef90-A7UG37 |  |
| UniRef90-UPI0003603E02 |  |
| UniRef90-A0A017TJC9 |  |
| UniRef90_F1CKY7 | N P N Q |
| UniRef90-UPI00036111D5 |  |
| UniRef90-UPI00047BE928 |  |
| UniRef90_K6ZNP9 | M T D |
| UniRef90_UPI000410F998 |  |
| UniRef90 UPI0004645352 | E Y N |
| UniRef90_UPI0003B41563 |  |
| UniRef90-\2JF92 |  |
| UniRef90-C3ZYB8 | N P D Q |
| UniRef90-W6ZTG4 | N E D Q |
| UniRef90_UPI0003FF349F |  |
| UniRef90 A0Z114 |  |
| UniRef90-A0Z114 |  |
| UniRef90-UPI000368E13B | N A D Q |
| UniRef90-W5YNQ6 |  |
| UniRef90-A5FHIO | $\mathrm{G} \square \mathrm{A} \mathrm{E}$ |
| UniRef90_UPIO003F6120A |  |
| UniRef90-L7U595 | GV |
| UniRef90_UPI000376C541 |  |
| UniRef90-J9YFX8 |  |
| UniRef90_UPI0003B5C2C8 | G P |
| UniRef90-S4YBT2 | G |
| UniRef90-S4Y1S4 |  |
| UniRef90-A0A024FET5 |  |
| UniRef90-U2SN78 |  |
| UniRef90_M7N9C4 | GI |
| UniRef90-Q3SG49 |  |
| UniRef90-M7MHZ0 | G T |
| UniRef90-Q1DAK4 |  |
| UniRef90-C0BI35 | N P E Q |
| UniRef90-L7U7Z5 |  |
| UniRef90-UPI000401840B | G P A E |
| UniRef90-U2ARI9 |  |
| UniRef90-UPI0003486ED5 | G P A E |
| UniRef90-DOLGG5 |  |
| UniRef90-K2JLQ6 | N P D Q |
| UniRef90_K2JLQ6 | NPDQ |
| UniRef90-K2JLQ6 | NPDQ |
| UniRef90-K2JLQ6 | NPDQ |
| UniRef90-K2JLQ6 | NPDQ |
| UniRef90-K2JLQ6 | NPDQ |
| UniRef90-A0A017TAJ4 | G V Y |
| UniRef90_A0A017T2C5 |  |
| UniRef90_S4XMM2 | N P G Q |

UniRef90 I3D300 UniRef90-K6YAG1 UniRefe90-U7HXN6 UniRef90 UPIO00468A8E9 UniRef90-UPIO0037EAE5B UniRef90-L7UJI8 UniRef90 UPIOOO37D0457 UniRef90-S4XY78 UniRef90-H8MJR4 UniRef90-R8B5N2 UniRef90-S4XV93 UniRef90-A3XQM6 UniRef90-S4YBM7 UniRef90 V8P8M6 UniRef90- A9F 195 UniRef90_UPIOOO248EC49 UniRef90-Q1D313 UniRef90 C9QFK4 UniRef90-L7U3A4 UniRefofo-s4Y1C1 UniRet90_D5BWUO UniRef90-F4L1K7 UniRef90-R9S696 UniRef90-D4ZB92 UniRef90_K1ZA56 UniRef90_A8UFJ1 UniRef90-R8B362 UniRef90-Q26GK4 UniRef90-C0BIR3 UniRef90-U2EM21 UniRef90-F2JU19 UniRef90-A9DS50 UniRef90-X5DCR2 UniRef90_F9YR56 UniRef90_UPIOO037B6DC0 UniRef90-DOLXS5 UniRef90-10WJL7 UniRef90-TOPLW7 UniRef90_S9PK46 UniRef90-D8KB23 UniRef90 UPIOO047AAOFE UniRef90-L7W8T7 UniRef90-AGEQH8 UniRef90 A1S4K3 UniRef90-A1S4K3 UniRef90-A1S4K3 UniRef90_A1S4K3 UniRef90 A0A017TDY6 UniRef90-UPIO004718EB7 UniRef90-XOSQM2 UniRef90-G4QNV8 UniRef90 Q098J6 UniRef90-D9PFA6 UniRef90-A0A023BYS7 UniRef90 Q21HB4 UniRef90_UPIO00414BB89 UniRef90-S4XTB2 UniRef90-A0A024FF02 UniRef90 F4B263 UniRef90-UPIO0046D04DF UniRef90-I2ETJ6 UniRef90_UPIO0047ABC13 UniRef90 A9F4LO UniRef90-A0A017TEA9 UniRef90_A0A017TEA9 UniRef90 A0A017TEA9 UniRef90_UPIO002EBE730 UniRef90-D913V0 UniRef90 U7FP42 UniRef90 COBL63 UniRef90-C0BL63 UniRef90_Q21J23 UniRef90 UPI00047D9BD1 UniRef90-I3BW38 UniRef90-U2ZCF5 UniRef90-Q1N410 UniRef90_Q1N410 UniRef90-Q2Q0E9 UniRet90_H8XS03 UniRef90-Q1D1X6 UniRef90-F3XV18 UniRef90-A9GL14 UniRef90_UPIO003821305 UniRet90 IOAME3 UniRef90-A9GQ07 UniRef90_UPI000255BA8B UniRef90 Q097F1 UniRef90-W1RU77 UniRef90_U3Q9W0

VD M CP NTPAGTRVDSTG
DFDNDGTTDS DGDGDACDWDKDMDGVAND SDUDGDKDPDEHDSDDDGDGWSNE DECPGTPAGVAVDAKG
पADRCPVSPGLAQLNGCAD
LADRCPVSPGGAQLNGCADVGVDSDDQCA DACPSVRGGPSDDPKLVGCPS

QDRDNDGIPDD a DACPSVRGGPSDDPKLVGCPS DADGDGLADA

DSQVFDADGDGTPDN
NCPLASNTLGEDTDRDGIGDACEDDDDND GI ADE EDECPETPGLPEPDTDGDGDKDSFNCPDTDGDG|ADN VCDNCRMVLNNDQRDTDGDGKGDACD EDIDGDGIKNV DSDGDGLCEG
DKCPLVPGDVARDTDGDGDEDMGCPDPDQDGDEVPDE GVADLVDLFPNDIQESADSDQDGIGDHQDLDDDNDGFADS DNCPLIPNRDQSDLDADGAGDVCDSDDDNDAGVADG NPFIPDSDNDGVPDD DNCPT TKGS DDPDADGDGVTDALQGCPDQDGDGIPDK DAFPNDP TEWLDTDGDGLGNNADTDDDNDGGVPDA
CDNCPSTENPDQKDTDNDGKGDVCYADDDQDGDGLRDG GVADNCPGTPAGATVDTDNDGDYDQDNGCPDSDNDGIVDS DKCPGTPAQYAVDAVG CSLDRDGDGVNDA DACPSVAGLEQPDSDGDGDEDSKDNCPDTDGDGTLDK DNDGDGVPDI
DNCTFTSNSGQTDVDDDGTGAACDTNNDGDADGVDDG DQCPNSAPNASVDMSGCPTVVDMPKKVDSDGDGIYDS DDCPDTAGLAAPDTDGDGDTAAMNGCPDADGDGITDA DACPEVAG苗KEPDTDGDGTTKAFNGCPDTDGDGIADK DTDGDGIPNDPTEAFDTDEDGI GDN ACPSEAEDПDGFADSDG DACPEVAGGDPQPDSDGDGDPAEFN CPDLDNDGDGI PDLL ( DTDGDGVADA
DQCPDTPPGVEVDEVG CPDDSDNDGVPDY DACPEVPGLKEPDSDGDGTTAAMNGCPDSDGDGVADN IPVYYGQPKDSDGDGI PNK WGAVDTDGDGIVDS
DECPDTKGDAEPDTDGDGTEDDMNGCPDTDGDGVADN GVVDADDAFPLDASESVDTDLDGRGNADTDDDNDGVVDS GVVDADDAFPLDASESVDTDLDGGNNADTDDDNDGVVDS GVVDADDAFPLDASESVDTDLDGUGNNADTDDDNDGVVDS GVVDADDAFPLDASESVDTDLDGIGNNADTDDDNDGVVDS VSDKCPLLQAEVINGLLADTDGCPD DVPDRDKDGIPDE
 VDNCPTVYNPSQEDGDNDGI GDSCDICTDTDGDTFGNQ SDECPDVPGLEEPDTDGDGITDAFNGCPDTDGDGVPDP DECPETPGLEEPDTDGDGDEDEFDGCPDTDGDGVADP

## D T D N D G I Y D Q <br> K D T D G D G $\square Y$ Y K F NGCP D S D G D Glver <br> LGSYRFGDKDGDKDGVVDR

DDCPDEPEDYDGFQDTKADGKYGCPDPDNDEDGTLDV DEVENVGNPNHPLNNTDGDALIDALDDDSDNDGVPDI DEVENVGNPNHPLNNTDGDALIDALDPDSDNDGVPDI
 VDQCDNTPSGTTVDS $\square G C A B T V A$

DSDADGINDN
NDQDNDGVPDD
SDAFPDDA TEWLDTDADGTGNNADTDDDNDGFSDQDE SDAFPLDA TEWLDTDADGIGNNADTDDDNDGFSDQDE VDACYTADFHLNEDADGDGCDDTNEDNDDDNDGVLNA ADQCPTTAAGUKVDEKGCGDEDMNGCP

YRDSDEDGVADT
YRDSDGF VDG
DLCPETLENQVVNADGCS
EDACPEVAGLAQ
ADKCPNEAGPMQ
DKCPDVAGKPEPDADGDGVTV
F N $N$ LGC

DNDGCPA
GVGDACDYCDRGGTSDPDADGLCYGHPDQSDRDADGVPDY ADQCPGTPQGVAVDSSGCALP DNCPFSSNREQTDSDG

PADSDGDGVADT
DQCLSTPTGVSVNAKG


UniRef90_13D300 UniRef90-K6YAG1 UniRef90-U7HXN6 UniRef90-UOET69 UniRef90_UPI000468A8E9 UniRef90-UP100037EAE5B UniRef90-L7UJI8 UniRef90_UPI00037D0457 UniRef90_S4XY78 UniRef90-H8MJR4 UniRef90 R8B5N2 UniRef90_S4XV93 UniRef90-A3XQM6 UniRef90-S4YBM7 UniRef90_V8P8M6 UniRef90- A9F195 UniRef90-UPIO00248EC49 UniRef90-Q1D313 UniRef90-C9QFK4 UniRef90-L7U3A4 Unineforo-s4Y1C1 UniRet90_D5BWUO UniRef90-F4L1K7
UniRef90
U9S696 UniRef90-R9S696
UniRef90-D4ZB92 UniRef90-K1ZA56 UniRef90_A8UFJ1 UniRef90-R8B362 UniRef90 AOLBM6 UniRef90-C0BIR3 UniRef90-U2EM21 UniRef90-F2JU19 UniRef90-A9DS50
UniRef90- X5DCR2 UniRef90-F9YR56 UniRef90_UPIOOO37B6DC0 UniRef90-DOLXS5 UniRef90-10WJL7 UniRef90_TOPLW7 UniRef90_S9PK46 UniRef90-D8KB23
UniRef90
U2O714 UniRee90-K2Q7L4
UniRef90-UPIO0047AAOFE UniRef90-L7W8T7 UniRef90-AGEQH8 UniRef90-A1S4K3 UniRef90-A1S4K3 UniRef90-A1S4K3
UniRefo - A1S4K UniRef90-A0A017TDY6 UniRef90-UPIO004718EB7 UniRef90-XoSQM2 UniRef90-G4QNV8 UniRef90_Q098.J6 UniRef90-D9PFA6 UniRef90-A0A023BYS7 UniRef90 Q21HB4 UniRef90-UPIo00414BB89 UniRef90-S4XTB2 UniRet90_A0A024FF02 UniRef90 F4B263 UniRef90-UP100046D04DF UniRef90-I2ETJ6 UniRef90-UPI00047ABC13 UniRef90-A9F4LO UniRef90-A0А017TEA9 UniRef90-A0A017TEA9 UniRef90 A0A017TEA9 UniRef90-UP10002EBE730 UniRef90-D9I3V0 UniRef90_U7FP42 UniRef90-COBL63 UniRef90-COBL63 UniRef90-Q21J23 UniRef90-UPI00047D9BD1 UniRef90-13BW38 UniRef90-U2ZCF5 UniRef90-Q1N410 UniRef90_Q1N410
UniRef9O-Q2Q0E9 UniRef90-H8XS03 UniRef90-Q1D1X6 UniRet90_F3XV18 UniRef90-A9GL14 UniRef90-UPI0003821305 UniRet90_10AME3 UniRef90-A9GQ07 UniRef90_UPIO00255BA8B UniRet90_Q097F1 UniRef90-W1RU77 UniRef90_U3Q9W0
70
80
DDNCPLNANLAQTDSDYDTVGDECDTDDDNDGVSDSLDQF IDDKCPDTPKGTVVGAKGDGMGSLEEDDSQDGVLDNVDEC EETDPYSASSQPADRDGDGUTDSEDSDUDGDGADNGVDAF KDQCPGTPAGVTVDAKG EDACPDTPGATGDPATNGC EDACPANAENANGFEDSDGC
ADDC
QDACPETAAGTKVDA
SDACPKVKGPASQNPKQNG
DDPDSDGDG LADSKDAC
CPDDPDGDGVRGAADAC
EDSCPDTVNSG VDQDADGDDDACDTDIDGDGVLNGEDNC RDNCPFVSNQDQADDDADGRGDACDADGDGDGIPNEADNC EDACPDVAGPAATNG
EDNCPEVPNTSQANTDGDRLGDACDDDDDADGHPDAADNC
LDNCQKIANWEQKDRDNDGVGDAC
EDNCDATANPDQSDADGDGFGDACDRCFDSDTTCNGPDNC KDECPEVAGLKQFNGDNRGCP CPDTDDDGUKDADDAC TDSCPSDPGPAPNDNRGCP VRDTDGDGLDNDKDEC ADNCPRVRNPEQVMPTD GSQCRVDADGDNISDNGDNC DDACPAVAEDRDGFQDGDGCPD CPDNDGDRIPDDRDRC
TDQCPGTPEGVEVDTVG
CDN DDQCPEVAGSACPDTDGDGTQDAGCPDADGDGITDEKDDC
 CDNCPVVWNPDQADGDNDDCFIDPKDDIDHDAFYNCVDNC KDDCPNTAGLAEFNGCPDG MKGCEDDGDNDGVMDKDDKC

DDNCVNEAGPAYNNGCPD
DDNSPLVANADQSDEDGDGVGD VSDDFDHDGVWNPFDTC
I DNCPAVANPDQTDTDHNGVGDACDDDTDGDGVEDDVDNC
KDNCPNEAGPSANNKGCPW
KDNCPNEAGPSAVDEKN
DDACPEVAGLKQFNG
GDNCVDIVNSDQSD DDFDGVGDEC
CPDDTDGDGVP
EDGAPNEPEDRDGFEDGDGVPDRD

WPDTDGDGVLDKDDQC RDACPLQSETLNGVQDSDGCPDVAPPDADGDGLGDDQDRC
LDQCPDTPPGVAVNNEG ACPVDSDGDGVPDDLDEC



 NDKCPDQAGKVRT
DDTCPEEAGE VENNGCPFW
NDNCPEVVNASQTDTDSDGGGDACDSCPDSDGVCGDVDNC
NDAFPLDS TEQVDTDGDGMGNNADSDDDNDGVPDNSDAF


 DDDCPEVAGLAE CAEGACTRGNCSDDRDGDGVRDDEDNC

##   <br> CDACPTEKGL

DDRCPNNPEDRDGDEDDVIDNCISDSDGDGIADEDDNC
EEAGDTDLDTEPFDTDGDGTPDFRDTDSDNDGVLDATDNC
EEAGDTDLDTEPFDTDGDGTPDFRDTDSDNDGVLDATDNC
EEAGDTDLDTEPFDTDGDGTPDFRDTDSDNDGVLDATDNC DDACPDVFGLAALEKGCPDTDKDGVADKDDKC $1 D Q C P N T P A G T S V N N V G C A V E V P V A D S D N D G V N D N D D Q C$ VDNCPADANAMQEDQDNDGIGDVCDDDRDGDGEDNDTDNC



 QDAYPYDPLEGRPDTDNDGIMNECDQACDNDGVLDVQDAY
 ADACPTEAGGPELNG
DDKCPDEPEDKDGFQDEDGCPD


LDKCPDEAEDLDGFQDQDGCPD LDKCPDEAEDLDGFQDQDGCPD CPDSDGDGIEDSKDAC CDNCASGANSGQEDSDGDGMGDPCDECVGPDGLCGVADNC SDLCPNTPAGASVDADGCEVVAQGHGDTQDDNTRVGDDN\| CDNCSGLANFQQRDADGDGQGD KDQCDNTQSGVSVDAKG $\square F N G C$

CPDTDGDGIPDPKDAC
CPPDTDGDGVADY LDRC
RKFQGPCPDTDGDGAI ADYDDDAC


PD
C PD

E D K C P N Q F GLLK K F N G

| UniRef90＿13D | $: \frac{110}{\text { LD TNDSYPMTAA }}$ |
| :---: | :---: |
| UniRef90－K6YAG1 | ADTPLTDK |
| UniRef90－U7HXN6 | PYVANHDQLDTDGDGVGDACTNDKDGD |
| UniRef90－UOET6 | PED RFESKDTNGDGLGDFASSDDDGDGLPDS口DPNPTS |
| UniRef90－UPIO0046 | PNTPAGAKVNA |
| UniRef90－UPI00037EAE5B | PNEPGLAEPDTDGDGVPDCPWPDTDNDGVLDKDDACPNE |
| UniRei90－UPIO0037D0457 | LGTPNTVPVEAN GCELDTDKDGVVNSKDQCP |
| UniR |  |
| UniRef90 H8MJR4 | EDFDG |
| Ret90－R8B5N2 | PA ANAGQENEDRDLIKGDACDTDADGDSVADKED |
| UniRef90 S4XV93 | PEVPNPDQTDADDDGTGNACEDTDGDGLTDAADNCDEDP |
| S4Y | PLTANPNQADANGDGПGDACD |
| UniRef90＿V8P8M6 |  |
| UniRet90＿A9F195 | YFYANPDQSDADGDGVGD |
| UniRei90－Q1D313 | NEAGP可 |
| UniRef90－C90 | D S |
| UniRef90－L74 | LSNSDQSDKDQDGMGDACDVDVDDDGILNDADNC |
| UniRet90－S4Y1 | EAETAAEDRDGFQDSDGCDPDNDGDGIPDQRDTCPNGA |
| UniRef90－F4L1K7 | PNEANQGCPDKDNDGVDDACPPDTDNDGIDEDRLDKCPTT |
| UniRef90－R9S6966 | PDTGS |
| UniRef90＿D4ZB92 | P ${ }^{\text {LD }}$ K |
| UniRef90＿K1ZA56 | VTNFDQLDSDLDGLGDACDNDSDGDGVGDLCDPU1DTV |
| UniRef90＿A8UFJ1 | PTVAGLKNLDADGDGVADGPWPDTDGDG\｜LDKDDKCPNEA |
|  | TSVHVKVDA TGCEDSKDGD |
| UniRet90－Q26GK4 |  |
| UniRef90＿COBIR3 |  |
| UniRet90＿U2EM21 | EQANSDDD |
| UniRe990－F2J | PANTAVD DKGCAVVLDSD |
| UniRef90－x5DCR2 | PTEAGPASLDKDGDGVADKDDPDTDGDGVPDPKDKCP |
| UniRef90－F9YR56 | PNEAGPKE |
| UniRef90－UPIOOO3 | D ${ }^{\text {a }}$ |
| UniRef90＿DOLXS5 | KAETQNGFQDDDGCPDV AD |
| UniRef90－TOPLW7 | VNVPGPKE |
| UniRef90－S9PK46 | EDGCP酎NDE |
|  |  |
| UniRef90－K207L4 | AGPAAT NGCPDKDGDGVLDKDDQCPDVA |
| UniRet90 UPIOOO47AAOFE | PEEAGLVEE |
| UniRef90 L7W 8 P77 | VFGPAETDSDGDSVLDKDDPDADNDGVADADDKCPNEA |
| UniRet90＿A6EQH8 | EAGPA |
|  | LDA AESVDTDKDG｜GNNADTDDDNDGVLDTED |
| UniRef90 A1S4K3 | PLDA AESVDTDKDGGGNNADTDDDNDGVLDTEDAFPLDA |
| UniRef90 A1S4K3 | PLDA AESVDTDKDGUGNAADTDDDNDGVLDTEDAFPLDA |
| UniRef90－A0A017TL | PDAPEDTDGFDDTDGCPD PDNDQDG\｜PDEQDECDDQP |
| UniRef90－UPIOOO47 |  |
| UniRet90－X0SQM2 |  |
|  | PAEAGPAER QGCPKDADNDGVLDEQDSCPNEA |
|  |  |
| UniRef90－A0A023BYS7 | AGPAA NNGCPYDKDGDGVLDKDDN |
| UniRef90 O21HB4 4 | VNAQGCSVFSG SDADNDGVAN |
| UniRet90 UPIOOO41 | ATADNDDDT |
| Ref90－S4XTB2 | DTPNTADVDUDDDGTGNACDEDDDGDGKPDVEDACP |
| UniRef90 A0A024FF02 | PNTAGLAEEPADGEVNGCPDGDGDGVMDKDDKCPTVA |
| $90-U P 100046 \mathrm{D} 04 \mathrm{DF}$ |  |
| UniRef90－12ET | PTQAGPMALDTDGDGTADKDDPDRDKDGVADKDDACPDVA |
| UniRef90 UPIIO0047ABC13 | TANADQADTDGDLIGDVCDDDDDNDGVDNAVDN |
| A9F4L0 | DDP |
| Ref90 AOA017TE | REVSNTQTDTDGDG GNDCE |
| UniRef90－A0A017 UniRef90 A0A017 | VNPTQTDTDGDG｜GN |
| UniRef90 A0A017TEA | REVVSNPTQTDTDGDGUGNDCEPD ${ }_{\text {P }}$ |
| UniRef90－D913V0 | PNTPTGTTVDAN GCTVVSSTDCNGILDKDEKCPEV |
| UniRef90－U7FP42 | PLVANPNQEDTDGD |
| UniRef90＿COBL63 | DATSTPLDTDSDF：PNCVDTDDDNDGYLDESDA |
| UniRef90－COBLL63 UniRef90 221 O23 | SLDATSTPLDTDSDFIPNCVDTDDDNDGYLDESDAFPLDA |
| UniRet90－O21J23 |  |
| UniRef90－13BW | PTTAAGDKVN EKGCDLPPPDADKDGVPDDADQCPSTP |
| UniRet90＿U2ZCF5 | DAIS QPADLDGDKIPDSLDADIIDGD |
| UniRet90－Q1N410 | DDDNDGV |
| UniRet90＿O1N410 | PLVAI GDLTDTDNDGAPDSCDADDDNDGVLDAQDAYPLIA |
| UniRet90＿Q2Q0E9 |  |
| UniRet90＿H8XS03 | AGNGCPDADGDGVADCPWPDTDGDKVLDKDDKCP |
| UniRet90＿O1D1X6 | PNEAGPTEN GGCPDKDTDGDG |
| UniRef90－F3XV18 | PQQAGPKENN CSCMPWPDRDGDGVLDKDDECPEEA |
| UniRef90－UPI0003821305 | PNEAGPKELDSDGDGTDDACPPDADGDGTADKDDQCPNEA |
| UniRef90－10AME3 |  |
| UniRef90＿A9GQ07 | DYHYNPDQSDADGDGVGDACDNDGDHDGVGDACDVCFRSA |
| UniRef90 UPI000255BA8B | TYDSGGAVDTDTDGDGVLDANDQCPM |
| Uni | PLVVPKDQKDQDQDTGRTDLDPANRGDGHADGEDNCPLVA |
| Ref90－U3Q9W0 | PNQF |

UniRef90 I3D300
UniRef90-K6YAG1

| UniRef90-U7HXN6 | N P N Q |
| :---: | :---: |
| UniRef90_U0ET69 |  |
| UniRef90_UPI000468A8E9 |  |
| UniRef90_UPI00037EAE5B | G L A E |
| UniRef90-L7UJI8 | GPKE |
| UniRef90_UPI00037D0457 |  |
| UniRef90_S4XY78 |  |
| UniRef90-H8MJR4 | G P K E |
| UniRef90-R8B5N2 |  |
| UniRef90_S4XV93 | N P D |
| UniRef90-A3XQM6 |  |
| UniRef90-S4YBM7 |  |
| UniRef90_V8P8M6 |  |
| UniRef90-A9F195 |  |
| UniRef90_UPI000248EC49 | G P |
| UniRef90_Q1D313 | G |
| UniRef90-C9QFK4 |  |
| UniRef90_L7U3A4 | NR |
| UniRef90-S4Y1C1 |  |
| UniRef90-D5BWU0 |  |
| UniRef90-F4L1K7 | G L S |
| UniRef90_R9S696 |  |
| UniRef90-D4ZB92 |  |
| UniRef90-K1ZA56 |  |
| UniRef90_A8UFJ1 | G V |
| UniRef90_R8B362 |  |
| UniRef90_A0L8M6 |  |
| UniRef90_Q26GK4 | G |
| UniRef90_C0BIR3 |  |
| UniRef90' U2EM21 | N P |

UniRef90-U2EM21
UniRef90 F2JU19
UniRef90 A9DS50
UniRef90-X5DCR2
UniRef90 F9YR56
UniRef90_UPI00037B6DC0
UniRef90-DOLXS5
UniRef90-10WJL7
UniRef90 TOPLW7
UniRef90- S9PK46
UniRef90-D8KB23
UniRef90 K2Q7L4
UniRef90 UPI00047AA0FE
UniRef90-L7W8T7
UniRef90-A6EQH8
UniRef90_A1S4K3
UniRef90 ${ }^{-}$A1S4K 3
UniRef90-A1S4K3
UniRef90-A1S4K3
UniRef90 A0A017TDY6
UniRef90_UPIO004718EB7
UniRef90-XOSQM2
UniRef90_G4QNV8
UniRef90 Q098J6
UniRef90-D9PFA6
UniRef90-A0A023BYS7
UniRef90 Q21HB4
UniRef90_UPI000414BB89
UniRef90-S4XTB2
UniRef90 A0A024FF02
UniRef90 F4B263
UniRef90_UPI00046D04DF
UniRef90_I2ETJ6
UniRef90 UPI00047ABC13
UniRef90 A9F4L0
UniRef90-A0A017TEA9
UniRef90 A0A017TEAS
UniRef90 A0A017TEA9
UniRef90_UPI0002EBE730
G T
UniRef90-D913V0
UniRef90_U7FP42
UniRef90-COBL63
UniRef90-C0BL63
UniRef90 Q21J23
UniRef90 UPI00047D9BD1
G T
UniRef90 U2ZCF5
UniRef90 Q1N410
UniRef90 Q1N410
UniRef90_Q2Q0E9
UniRef90-H8XSO
UniRef90 Q1D1X6
UniRef90-F3XV18
UniRef90-A9GL14
UniRef90 UPI0003821305
UniRef90-IOAME3
UniRef90-A9GQ07
UniRef90_UPI000255BA8B
UniRef90 Q097F1
VQE
$G P$
NPGQ
GPAE
NSD
N A D Q
UniRef90 W1RU77
UniRef90 U3Q9W0

UniRef90 U3HJ31 UniRef90-U3HJ3 UniRef90-L1PC20 UniRef90_A7HGV3 UniRef90_Q6UIM3 UniRef90-Q3J861 UniRef90-A4CJ82 UniRef90 UPIOOO3791815 UniRef90- G2DFX7 UniRef90-G2DFX7 UniRef90_L8JVL5 UniRef90 A9G7A7 UniRef90_UIKQJO UniRef90-K7A292 UniRef90_D5BDN9 UniRef90- UPI00037F63FE UniRef90-F6N102 UniRef90-A0A017TEG7 UniRef90 K4KHN1 UniRef90-GOLAX2 UniRef90-E1VMH9 UniRef90 C7M5C9 UniRef90 UPI0003B7AB2F UniRef90-K5TFD0 UniRef90_0091E5 UniRef90 E8X5H7 UniRet90_W2UH80 UniRef90_DOLU26 UniRef90 UPI0003D00BF2 UniRef90- ${ }^{-148 А А О ~}$ UniRef90_Q21J20 UniRef90 Q21J20 UniRef90-18HXJ6 UniRef90_UPIooo3B5D223 UniRef90_Q3A406 UniRef90 DoLz23 UniRef90-C5BKR9 UniRef90-UPI00037520BC UniRef90_F8CQ71 UniRef90 DoLXI4 UniRef90-ХоТВ2С UniRef90_A6G100 UPi00036F7985 UniRef90_B4JYC8 UniRef90-L1J288 UniRef90_L1J288 UniRef90 L- L1J288 UniRef90_UPIO00287FCD3 UniRef90_K1ZST9 UniRef90 A0A017T5W8 UniRef90 UPI00037D1C0 UniRef90-K4II47 UniRef90_L8K1M1 UniRef90 B4MBM5 UniRef90-UPIO00372C55E UniRef90_UP100036DC295 UniRef90 W8GEB3 UniRef90- 34 KBP8 UniRef90_UPI0001D61DA4 UniRef90 UPI0001744E9C UniRef90 K6Y954 UniRef90-S6GNK9 UniRef90_UPIO0036C0696
UniRef90 F4KSJ7
UniRef90 DoLL38
UniRef90-M7POZ6
UniRef90-UP10003B40F79
UniRef90 JЗСDKO UniRef90_W5YVJ1 UniRef90-W4YBU4
UniRef90_A1ZXZ6
UniRef90 F1UAU9 UniRef90-UPIO0036AE45D UniRef90-UPI000361475D
UniRef90 K6ZVM6 UniRef90-UPIO003811B77 UniRef90-KOBBA1 UniRef90-K0BBA1 UniRef90 Kobba1 UniRef90-K0BBA1 UniRef90_G2PIL5 UniRef90 A9WA06 UniRef90-A9DMW7 UniRef90_K2DHZ6 UniRef90- UPI00035C6429 UniRef90-F5Z658 UniRef90_L7UG19 UniRef90 UPI0003645590 UniRef90_A7MWC4 UniRef90 Q11SC2

## D A C P DVA G L DACPS QPGPRES

D Q C P NTPPGVEVDEVG
$D E C P N T P Q G E Q V D D K G C$ $D H C P N T L I G G V V D K F G$
 KEFNGCPDTDGDGVPDK QGCPVSKDSDSDALPDD DNDGIPD

DQCPG AGFMVDNR CPDDSDNDGVPDY S S | $S$ | $Q$ | $V$ | $S$ | $D$ | $G$ | $D$ | $G$ | $V$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $C$ | $S$ | $D$ | $A$ |  |  |  |  |  |
| $C$ | $D$ | $T$ | $D$ | $Q$ | $D$ | $G$ | $V$ | $F$ | C E L D Q D S D GV ID R C E L D Q D S D G V I $D$ DNCVQT QNPD QADADGDKVGGDAFRKMCRDSDNSDGVSNK DKDCDGYWNQFDEDADNDGVND D $\begin{array}{llllllllll}D & S & D & N & D & G & V & D & S \\ D & T & D & G & D & G & V & D & P\end{array}$ DECPETPGLPEPDSDGDGIQDSMDDCPDTDGDGVPD

 VD A C K T T P GVS S D DPE

K M G C P
$P D S D G D G V T D D$
DACPEVAGLE
AFNGCPDADGDGI EDS


DNCPNTPNQDQRDSDKDGKGDVCDTCNDGDEDGLCAN AVGDNADAFPNSETTDSDKDGVGDNSDAFPDSDKDGVGNN DDPCPDQAEDKDGFEDMDGCPEPDNDKDGVLDA
PTDNSCT I ID S D N DGVEDYYDAAPDMDGDGVPDA $P D S D G D G G I D D$ D Q D G $I$ G D TCD T DLD GDGVLND D M D K D S $\square P \mathrm{D} \square \mathrm{CD}$ M D $\ddagger \mathrm{DGDGGINNL}$ PLVADDASLDSDGDGLSNSHPNDGDTDDDSLNDY PLVADDASLDSDGDGLSNSHPNDGDTDDDSLNDY

DECPYSAANEKVNAAG $C S \square S N D A D S D G V P D D$ D T D G D GVLD A VDQCPNEAEDVDGFSDEDGGCPDLDNDGDGIDPDA SDAFPEDAG EGADSDGDGDGDNSDVFPDSDGDGTGDN $D A C P E V A G P A A T D T D G D G V V D A K D S C P D T D G D G V T D A$

ADSDGDGERDALDLDSDADSLSDA NCPKDWNPDQANVDSYLDDMGDACDPDADGDGLSND PSRMDSDYDGTTSAD DLDGDGVAND F GTSAAPG $\square D Q A F A A V Q Q N$ PNEEDSD LDGDGLLNEKDEDLDGDGKANH



D A D GSP $\square E D \square N G F E \quad D G D G \quad N$
$C V L D Q D G D G V A D G$
$D F V V D G F Q D D E D D D N D G I L D V$
T D S D GD GVY D K N DMCP D V D G D G I T D K PNDKD E D LD GD GK VNHEDED DDGD GTLNH TEWLDTDGDG $\square$ GNNSDAD D DNDA

N H K D D D L D G D G IP N D
TDVDNDLVGDQCDNNEDIDDDGHQNN NGAGQDADADGATNSNPYVYDTDFDGLSDG DQCPNTPFGTPVDE FGCAD $\quad$ PP PADSDNDGVADE $\begin{array}{lllll}D G G Q & D & G & E & D \\ D & K & D & G & R \\ P & D & G\end{array}$
E D Q C P TVP GTAKAMG Q P D R D G D R I P D G
EDNCPNTANADQADG C P D T D D D GI T D A LTYNS DARGCAMDSDGBGVVDG LT Y N S VLLLD S D G D G L S DT DPM D S D S D N D GL T D R

QLDDDKD GVPNCNDKCPDNNGNGIPDC CVRQTNGDYDGDGTPD D DNCPGYPNSGQEDADGDR $\square G$ D ACE T D Y D N D R I R N A F G H $\quad$ IR R W W W W D T
DVFPDDPTETQDTDDNGVIA GK TASKGVTK S GK T A S K GVTK D S DND GV DD Q CPDAD GDGVPDA





WVADGNTSCAGPQQACT
GSTGGTTEPTDSDNDGワSDS
D T D S D GVY D K
$D S D G D G I V G Q$
EDGCPELDNDNDG VDNETGSMQNMGCPDKDGDGVNDG D S DNDGIGDNQDLDDDND

GIKDQ D D A E WY DS DGDQD LFP LDPSESKDTDKDTVGDN

| UniRef90_U3HJ31 |
| :---: |
| UniRef90-U3HJ31 |
| UniRef90-L1PC |
| UniRef90-A7HGV3 |
| UniRef90-Q6UIM3 |
| UniRef90-Q3J861 |
| UniRef90- A4CJ82 |
| UniRef90-UP10003791815 |
| UniRef90- G2DFX7 |
| UniRet90_G2DFX7 |
| UniRef90 L8JVL5 |
| UniRef90-A9G7A7 |
| UniRef90-U1KQJo |
| UniRef90-K7A292 |
| UniRef90-D5BDN9 |
| UniRet90-UPI00037F63FE |
| UniRef90-F6N102 |
| UniRef90-A0A017TEG7 |
| UniRef90-K4KHN1 |
| UniRef90-GOLAX2 |
| UniRef90-E1VMH9 |
| UniRef90-C7M5C9 |
| UniRef90-UP10003B7AB2F |
| UniRet90-K5TFD |
| UniRef90 Q091E5 |
| UniRef90-E8X5H7 |
| UniRef90-W2UH80 |
| UniRef90-D0LU26 |
| UniRef90 ${ }^{-}$K1YY |
| UniRef90-UPIO003D00BF2 |
| UniRef90- В5А8А0 |
| UniRef90 Q21J20 |
| UniRef90 Q21J20 |
| UniRef90 ${ }^{-18 \mathrm{HXJ}}$ |
| UniRef90 UPIOOO3B5D22 |

## 6

## UniRef90 Q3A406

UniRef90-D0LZ23
UniRef90-C5BKR9
UniRef90_UPIOOO37520BC
UniRef90-F8CQ71
UniRef90-DOLXI4
UniRef90-X0ТВ20
UniRef90-A6G100
UniRef90 UPI00036F7985
UniRef90_B4JYC8
UniRef90-L1J288
UniRef90-L1J288
UniRef90-L1J288
UniRef90_UPIO00287FCD3
UniRef90_K1ZST9
UniRef90 A0A017T5W8
UniRef90-UPI00037D1C0F UniRef90-K4II47
UniRef90_L8K1M1
UniRef90-B4MBM5
UniRef90_UPI000372C55E
UniRef90-UPI00036DC295 UniRef90_W8GEB3
UniRef90-B4KBP8
UniRef90_UPI0001D61DA4 UniRef90_UPI0001744E9C
UniRef90_K6Y954
UniRef90-S6GNK9
UniRef90_UPI00036C0696
UniRef90-F4KSJ7
UniRef90_D0LL38
UniRef90-M7POZ6 UniRef90_UPI0003B40F79 UniRef90_J3CDK0 UniRef90_W5YVJ1
UniRef90-W4YBU4
UniRef90-A1ZXZ6 UniRef90-F1UAU9 UniRef90-UPIO0036AE45D UniRef90-UPI000361475D UniRef90-K6ZVM6 UniRef90_UPIO003811B77 UniRef90-K0BBA1 UniRef90-K0BBA1 UniRef90-K0BBA1 UniRef90-KOBBA1 UniRef90-G2PIL5 UniRef90 A9WA06 UniRef90-A9DMW7 UniRef90-Q0HF11 UniRef90_UPI00035C6429 UniRef90-F5Z658 UniRef90-L7UG19

50

DLDGDGLTSNLRVADTD ${ }^{70}$
GLISDGAEVR
DLDGDGLSNLRVADTDGDGLSDGAEVR

 C F GCEGD

CEGDADGDYILDSKDAC
CETDLDGDQVVDRLDQC
FKGCPDRDGDGVQDSEDRC
QCPGTPTEARVDNK
NOPAMNPDQSDAEADGTGDACDDDDDNDGVLD

DDCPETPGLAELNG $\quad$ G

ADNCVAIANASQLDTDADGAGNACDNDDDGDGVSDADDAF KDACPNEAGSKE GDVCPTDPANAEGDFDGDGDKNGDDACQDADGVDNSGDNC ADSCPTNANGSQKDSDGDGVNDACDSQFCGNNI KEQGEAC
 YELNPFDPTDANLDSDGDGLTNPRDADTDGDGLNDGDDEV
 NDNCPTDANDDQKNTDGDGMGNACDPDDDGDGVPNDTDNC $\square$ GTNPNVPKNCSY LTT $\square$ TKSPNQTLINTDFKGI C T LDNA DDACPETPGLPESDTDWDGRTGCPDTDGDGVPDKDDNC
 VDLCPYSTDGGQVDAQG CACLDEDFDGVANGLDQC $V D E C D E T P P G V A V V$ TRRGCSRDADRDGVPDYRDLC SDQCSDSAEDPDGFADEDGCPDE SDAFPADPE ETTDTDQDGVGDNSDSDAD DDLDCPTDAGPDAQDTDGDGUHDGNDECPDGDGMLDDEADAC
DEAGDDDPHTPPVDSDGDGAADHCDSDADGDRIPDAIEA
NDNCWYEANPGQENADGDWLGDVCDPCPDEDYFYACGFSC VDNCPEVFNPEQMDADADDLGDVCDPCPDGDGDPNGDDNC DEQVVLAGASNAGGLLQGFALARYRFDDEDSDGIKNSQDN
 LDLDDS D DVVE E GTTSSMMDKK KDSCEEVPQPSETPACNPASLLADPTDFDGDGITNETDNC DDNCPAVANSTQVDTDGDGAGDACDPDDDNDGVVDGQDNC
 DDRCPDTPGLPEFQGCPDTDGDGПPDDDD EDSD DDVHNDEDHDVDGDGDSNSEEPDDDGDGVPNSLDDD
 $C P L D S D N D G V P D Y R D Q C$
$A V F P D S D E D Y G S D N S D N C$
ED A A D $\quad$ D G DGVVNEKDND $\quad$ DDGDGIPNSEDND
 LDMCPNTPANTVVDSSGCAII IQGSEVTVSNGIL VSGNA
 KDACPTEAGTAATDTDNDG\|INNGCPDTDNDGI TNSKDQC CDNCVDAFNPDQANSSADDFGDAC DADRDGVLDVEDNC

 AEGCTAVNDKSPTDADGDGIPDACDGDSDNDGIPDALEDD QDVFP VNDKSPTDADGDG IV SAEWGDSDEDGVGDNTDVVF DDNCPFVAN | $F$ | $F$ |
| ---: | :--- |
| $K$ | $Q$ | VDRCPNKAGGDGADGCPDGKKTKGCPDKDNDGVADKDDEC

 SDAFPEDAGEAADSDGDGIGDNSDVDSDGDGTGDNSDAF RDLDPNTPYGTAVDVDGCTLKA MDSDNDGVVDGQDQC EDKCPADPGTAA

 MDKCPETPGPDE
$P N D A T W D T D G D G L S D A F E\|Q R A S E G\| R L$
S
 $\square D N C P N V A N A D Q G D N D G D G I G N A C D T T P N G D$
NDACPEVAGLVEFNGDADGDGIKDSDDAC
 QDKCDDEPEDKDGFQDEDGCPD LDNDADGLADAQDKC



| UniRef90＿U3HJ31 UniRef90－U3HJ31 |  |
| :---: | :---: |
|  |  |
| UniRef90－A7HGV3 |  |
|  |  |
| UniRef90－ | Q6UIM3 |
| UniRef90 Q3J86 |  |
| UniRef90 | A4CJ8 |
| UniRef90 | UPI0003791815 |
| UniRef90 | G2DFX7 |
| UniRef90 G2DFX7 |  |
| UniRet90－L8JVL5 |  |
|  |  |
| UniRef90 | UKQJo |
| UniRef90－K7A292 |  |
| UniRet90－ | 5BD |
| UniRef90－UPIooo37F63FE |  |
| UniRef90 | 6N102 |
| UniRef90－A0A017TEG7 |  |
| UniRef90－K4KHN |  |
| UniRef90 | G0LAX2 |
| UniRef90－E1VMH9 |  |
| UniRef90 | C7M5C9 |
| UniRef90－UPI0003B7AB2F |  |
| UniRef90－K5TFD |  |
| UniRef90－ | Q091 |
| UniRef90－E8×5H7 |  |
| UniRef90－W2UH80 |  |
| UniRef90－DOLU2 |  |
|  |  |
| UniRef90－UP10003D00BF |  |
| UniRef90－Q21J2 |  |
|  |  |
| UniRef90－Q21J20 |  |
|  |  |
| UniRef90－UPI0003B5D223 |  |
| UniRef90－DoLz23 |  |
|  |  |
| UniRef90 C5BKR9 |  |
| UniRet90－C5BKR9UniRet90 UPIOOO37520BC |  |
| UniRef90－UPIOOO37520BCUniRei90 ${ }^{\text {F8CO71 }}$（ |  |
| UniRet90－D0 |  |
| UniRef90－DOLUniRef90－X0TE |  |
| UniRef90－A6G |  |
|  |  |
| UniRef90＿UP100036F7985UniRef9O－B4YC8 |  |
|  |  |
| UniRef90－LJJ288 |  |
| UniRef90－LJ2 |  |
| UniRef90－UPIOOO287F |  |
| UniRef90－K1ZST9 |  |
| UniRef90－AAOO17T5V |  |
| UniRef90－UP100037D1C0FUniRef90－K4147 |  |
|  |  |
| UniRee90－L8K1M1UniRef90－B4MBM5 |  |
|  |  |
| UniRef90－UP1000372C55E |  |
| UniReef90 UPIO003602C295UniRef90－W8GEB3 |  |
| UniRef90－B4KBP8UniRef90－UP10001D61DA4 |  |
|  |  |
| UniRef90－UP10001D61DA4 |  |
| UniReef90－K6Y954 |  |
| UniRef90＿S6GNK9 |  |
|  |  |
| UniRef90－D0LL38 |  |
|  |  |
|  |  |
| UniRet90－M7Poz6 |  |
| UniRef90 J3CDKo |  |
| UniRef90＇W5YVJ1 |  |
|  |  |
| UniRef90＿W4YBU4UniRef90＿A1ZXZ6 |  |
| UniRef90－F1UAU9 |  |
|  |  |
|  |  |
|  |  |
| UniRee90－K6ZVM6 |  |
| UniRef90－K0BBA1 |  |
|  |  |
| UniRef90－K0BBA1 UniRef90 |  |
| UniRef90－K0BBA1 |  |
| niRef90－G2PIL5 |  |
| UniRef90－A9WA06 |  |
| niRef90－A9DMWniRef90 K2DHZ6 |  |
|  |  |
| niRef90－QOHF11 |  |
| niinefo－UP100035C6429 |  |
| UnRef90－LTUG19 |  |
|  |  |
| UniRef90 | UP1000364 |
| UniRef90 | AMWC4 |
| UniRef90 | Q11SC2 |

THHTDPLKV ${ }^{90}$ TDEDGLSDGAEKDTDGDG $\prod^{110}{ }^{10} \mathrm{DP}$ LE
THHTDPLKVDTDEDGLSDGAEKDTDGDGIPDPLE
PDEKGPKENN
PDEPGAVEADRDGDGVSDPADPDSDSDGUPDAEDKCPQQA
PENAEVTLTD

PNTPEGATVN
PNTPAGKEVSRDGCEVVANCPDSDQDGMFDDADCPNTA
PNTPAGKEVSRDGCEIVVANCPDSDQDG\｜FDDADLCPNTA
ADDPGLKA FQGCPDTDGDG\｜EDKNDQCPEVA
PFTANADQVDSDGDGTGDVCEADRDDDKUGDLCDNCPATR P DDAS EWLDTDHDGПGNNADTDDDNDGYADSDDAFPGD
PDTPAGTKVGA KGCSLILDADQDGILDEQDQCADTP
PEEAGPEE

PNEKGVPDPDPKLNGC
PLDA AEQDDTDGDGTGDNADTDDDNDQVPDEQDAFPKDA PNEAGPDADGDGVADGDDECWPDTDGDGVLDKDDKCPEVA

D G
PTDAS ESKDSDKDGDGDNSDKDSDKDGVGDNSDAFPNDA PDQA EDRDGFQDEDGCPLDNDSDGIVDSADKCPNEAL RLGTNPLVADTDGDGLNDGDEVDTDGDGIPDGDEVNPLVP P VDSRNFTDTDGDGVYDAAPNDFDLDTVTDA
PNDPEDKDGYQDEDGVPDACPDNDDDGIPDTEEACPDEP LMDANPNQKDADMDGKGTACDPDLDGDGVPNGQDNCLFTP LIVVAGPVENN NGNGGCPWPDTDNDGVLDKDDACPEVA TYYTDPTRMDSDGDGLDDFEADEDGDGU NREE
 PGTAYGEKVDSRGCEAAPAEVVDTDGDGVADDSDACPTTP
PETAEGVTVTARGGCPAPTRGDRDADGVEDALDHCPETP $P E T A E G V T V T A$
$M N E P E A N G Y Q D G D G C P D E T R P D R D A D G V E D A G D H C P E T P$ PNDPTEITHDTDLDGVGDNADADYDGDGT
PNDPGPASTDRDGDGVRDVDDPDTDGDGVDDADDRCPEEA ALAA EDRDDFQDEDGCPLDNDNDAVADAVDNCPTEA GTRRGR\｜ADSDGDGVPDFRDLDADGDGVSDDDEAGPD LLGECTWWPDADGDTIPDACDDCAD
PANKNKDQADADNDGAGDVCDPDDDNDGVPDTEDACPFDP EDDDGDGKANHEDEDDDGDGTLNHED
KTGANGAPRYLNGDSDGDTLPDDPDGDGGPNCYD
KTGANGAPRYLNLDSDGDTLPDDPDGDG｜PNCYD
PKEAGP
PCTDNPNQTDTDSDGVGDTNW D DLIENTCDNCDGTP
PTIANTGQGDSNGDGVGDECD
PLI ANADQAD IDNDGUGDVCDDDNDNDGVPDA DDACPNT
 TDGDNKVNEDMDGDGILNVHDNDMDGDGIPNVHD
PLISERDWQDIDNDGGGDNTDDDTDGDDVPNSLDAFPLNA

 LDLPNEKDEDLDGDGLVNHEDEDUDGDGTLNHED
RLVFNPDQEDLD
PAFPGASYSDYDGDG苗KPFDADSDYDGПPDपDDPFPGDA TATPGYSLYVFDNDDGQDGQSVCYDG
PNTPAGAKVDV TGCEILTDQDGDGVLDEADQCPDT
$P Q A A G P V S T D Y D K D G L P D H Q D P D D D N D G V P D D D D Q C P N T P$
PTEAGPASRDADGDGVIDANDPDRDSDGIADKNDACPDVK PTTANSDQADADSDSFGDACDNNSDDDGFGDACDNC
PGTPQGMMVDKDGCPDKD
FTKTDPTLVDSDNDGFTDQQEADTDGDGLTDNEE
DVDGDSLIVPVLGDGVSSY价DDSDNGILD
PADPAAWSDLDGDGIGDNSDPDRDGDGYNNNQDAFPGDP PTNSNANQQDNDRDGTGNECDND
PNTKGE $\square N \square D A D K D G V P D K D D P D S D G D G \square P D K K D D C P D V K$ PT门ANQNQTDTDHDGIGDACDP
PLNAEETTDTDGDGTGNNA DLDDDGDKVLDKDDAFPDD PADPE ETTDTDQDGVGDNSDADADRDGVGDNADAFPNDP ANTPTNDKVD
PDEPGTTKEGPDQAGNFRGC PDSDGDGVADNEDRCPTQA $P N V K E T Y N G F Q D L D G C P D F V A P D S D G D G \mid N D Y L D L C P N Q P$ PNVKETYNGFQDLDGCPDFVAPDSDGDG\｜NDYLDLCPNQP

 NNGCWPDTDGDGl LDKDDK
QDVSNPDQTDTDNDGUGACDNDADNDGL GDVCQGQA
VDVANEHQLDFDRDGMGDACDKDKDNDGYFDAADWVP
PNTAGNGCPDSDGDGVADKDDPDSDGDGVLDKDDKCADVA PLDATEYQ DSDNDGMGDNYEPDSNGNGILDGNEN
PNEAGPPEN PLDGN ESTDTDNDGTGDNADLDSDNDGINDANDAFPTDP PNDAS ESKDSDKDGVGDNSDKDSDKDGVGNNSDAFPTDA

UniRef90 U3HJ31
UniRef90-U3HJ31
UniRef90-L1PC20

UniRef90_A7HGV3
UniRef90 Q6UIM3
UniRef90-Q3J861
UniRef90_A4CJ82
UniRef90 UPI0003791815
UniRef90-G2DFX7
UniRef90_G2DFX7
UniRef90-L8JVL5
UniRef90 A9G7A7
UniRef90_U1KQJ0
UniRef90-K7A292
UniRef90 D5BDN9
UniRef90-UPI00037F63FE
UniRef90_F6N102
UniRef90_A0A017TEG7
UniRef90 K4KHN1
UniRef90-GOLAX2
UniRef90 E1VMH9
UniRef90 ${ }^{-}$C7M5C9
UniRef90 UPI0003B7AB2F
UniRef90_K5TFD0
UniRef90-Q091E5
UniRef90 E8X5H7
UniRef90-W2UH80
UniRef90-D0LU26
UniRef90-K1YY30
UniRef90_UPI0003D00BF2
UniRef90-B5A8A0
UniRef90-Q21J20
UniRef90_Q21J2C
UniRef90-18HXJ6
UniRef90-UPIO003B5D223
UniRef90 Q3A406
UniRef90 DOLZ23
UniRef90_C5BKR9
UniRef90_UPIOO037520BC
UniRef90_F8CQ71
UniRef90-D0LXI4
UniRef90-X0TB20
UniRef90-A6G100
UniRef90 UPI00036F7985
UniRef90-B4JYC8
UniRef90-L1J288
UniRef90_L1J288
UniRef90-L1J288
UniRef90_UPI000287FCD3
UniRef90_K1ZST9
UniRef90 A0A017T5W8
UniRef90-UPIO0037D1C0F UniRef90-K4II47
UniRef90 L8K1M1
UniRef90 B4MBM5
UniRef90_UPI000372C55E
UniRef90_UPIO0036DC295
UniRef90 W8GEB3
UniRef90-B4KBP8
UniRef90_UPI0001D61DA4
UniRef90-UPI0001744E9C
UniRef90 K6Y954
UniRef90-S6GNK9
UniRef90_UPI00036C0696
UniRef90 F4KSJ7
UniRef90-DOLL38
UniRef90_M7P0Z6
UniRef90-UPI0003B40F79
UniRef90 J3CDK0
UniRef90-W5YVJ1
UniRef90-W4YBU4
UniRef90 A1ZXZ6
UniRef90 F1UAU9
UniRef90-UPIO0036AE45D
UniRef90-UPI000361475D
UniRef90 K6ZVM6
UniRef90_UPI0003811B77
UniRef90-KOBBA1
UniRef90-K0BBA1
UniRef90 ${ }^{-}$K0BBA1
UniRef90-KOBBA1
UniRef90_G2PIL5
UniRef90 A9WA06
UniRef90_A9DMW7
UniRef90-K2DHZ6
UniRef90 Q0HF11
UniRef90 UPI00035C6429
UniRef90-F5Z658
UniRef90-L7UG19
UniRef90_UPIO00364559C
UniRef90-A7MWC4
UniRef90_Q11SC2

UniRef90 Х0XHQ6 UniRef90-A4APV2 UniRef90-Q1CYZ8 UniRef90-UPIO00470DBBA UniRef90 UPI000470DBBA UniRef90-K2CJV3 UniRef90-W2UGQ3 UniRef90 K1XZ63 UniRef90-UPI00037DA30F UniRef90-S9R116 UniRef90_UPI0002036F9E UniRef90 - M7NZT7 UniRef90-U1KY20 UniRef90-M5DQK6 UniRef90 N9TYB3 UniRee90 UPI000380ABA9 UniRef90-A9FCG1 UniRef90_A9GS39 UniRef90 A9GS39 UniRef90-G8R1Y9 UniRef9-li3D1 13 UniRef90-13D1Q3 UniRef90-A0A017TC93 UniRef90-A9A4X0 UniRef90 A9A4X0 UniRef90-A9A4XO UniRef90-A9A4XO UniRef90_COBIT5
UniRef90 AOA017T415 UniRef90_UPIOOO362AC06 UniRef90-A8U100 UniRef90_U2RYS1 UniRef90-U1KR40 UniRef90-FOLTB9 UniRef90_F3KNE8 UniRet90_F3KNE8 UniRet90-F3KNE8 UniRef90-UPI0003739EDF UniRef90- F9CY39 UniRef90-F9CY39 UniRef90-F9CY39 UniRef90_F9CY39 UniRe990 UPIOOOOEOF60D UniRef90-KP1Z000 UniRef90 UPI000360078F UniRef90-12JF85 UniRef90-F9CUMO UniRef90-UPIO0037EB1CE UniRef90 UPIO002F6AOB2 UniRef90-UPI0002F6A0B2 UniR Refo - F3KNE 7 UniRef90-F3KNE7 UniRef90 F3KNE7 UniRef90_S2EPW7 UniRef90_S2EPW7 UniRef90 C9QL21 UniRef90-W0JBG4 UniRef90-13BS17 UniRef90-UPI00037BC2AF UniRef90 D6PBA4 UniRef90-E4GVB8 UniRef90_UPI000375BFC1 UniRet90 A9GD76 UniRef90-C5BQVo UniRef90_C5BQVo UniRef90-C5BQV0 UniRef90 UPI000379BA19 UniRef90-M5DR97 UniRef90-UPI00037642C2 UniRef90_F3KNE6 UniRef90-F3KNE6 UniRef90-U1J6S4 UniRef90-KOBAQ6 UniRef90_UPIOOO25583EF UniRef90-UPIOOO3626860 UniRef90-UPIO003626860 UniRef90 UPIOOO3626860 UniRef90-S2DZE9 UniRef90-R4GCU7 UniRef90 10AJZ9 UniRef90-EOXQC4 UniRef90-D6PBA5 UniRef90-R4YRX2 UniRef90-F2KSL2 UniRef90-I2JH31 UniRef90-UPIO0036E389C UniRef90 E1SNZ4 UniRef90-S5PBX9 UniRef90-UPlooo

PAREDVCRSGRSHTPEQCPDDDGDTVPNG DLCASTPAGEQVNIDGC SQNQLDDDNDGVTND DLCASTPAGEQVNIDGC
 KVNCAFNNDYDCDGPTN

D K C P L T P P G P L S DDDIDG
CDNCRSVLNNDQRDTDGDGKGDACDDDMDGDG
DYDSDCDGQEPPFDFDFDG KNL DAFPLDANESVDTDSDGILDA GVVDNGPDENNDDWMPDDTGDGLADYRDTDSDNDGISDE NNNGVDPLLPDETGQSQL

NPPPAPGEPQVDTDGDGKGDVCD
NPPPAPGEPQVDTDGDGKGDVCD NPPPAPGEPQVDTDGDGKGDVCD DGCPSNFQPWYDDOKDGVNNY DGCPSNFVPWYDEDYDG|EDH DGCPSNFVPWYDEDYDGIEDH
CPALVGVDRPPRRG
CPP DLDNDGVDDT DLDNDGVDDT DLDNDGVDDT
P पDASDQPSDTDGDGTPNS पDTDDDNDGVLDV PARAAPNPADTDGDGIP DYADPDNDGDSLPDT VDDCTDTANGVSNDDDGDGTANTCDNTVDTDNDGIIADC EDACPTVRGLAR[L]
GVEDAQDAFPLDVTESVDTDNGT VDKCPNSAGNLDEDSDGDGFPNADDDWRDTDQDGTGDN VDKCPNLQEDYQGID GCPSNFVP VDKCPNLQEDYQGIID GCPSNFVP $\checkmark$ DACPTLAGSAQTNG DTDGDGVPDT DFDGDSVPDA DGCPSNFVPWY GCPSNFVPWYDADFDGA PDD D GCPSNFVPWYDEDF DGI QDN

NCPTVPNPAQTDTDADGLGDACDDDSDNDT G DSDNDGLPNF

DSDSDGVGDN
CSDADFDGICND
DQCPTQAETFNGDEDSDGCPDV TTDQDSDKDGMVNS GQGYGDREMSG $P M N P D S D G D G V T D G D E$

VDQCPTVAERRNGFQDDDGCPDVSNSVGDADNDGIPDN $V D Q C P T V A E R R N G F Q D D D G C P D V S N S V G D A D N D G I P D N$ GGDNNVPDYMEVDSDGDGVEDY NRDRDEDGATETDPQNADTDGDGLTDG
PDSCSATDGDADHDGVGDACDAD ADDGDGVPNY GVGDNADAFPATETTDSDGDGVGDNSFEQADSDGDGVGDN FGH $\| R R W Q W D$ LDDGDGHYEN
$\square K A N I I S S T D Y D N D G Y E N S$

HDADNDGYENS
PDMLDPDSDGDGTPDAEPVDSDNDLIDDR PDMLDPDSDGDGI PDAEPVDSDNDLIDDR PDMLDPDSDGDGI PDAEPVDSDNDLI DDR NTVEGDADPDQDGIPNYQDLDSDGDGIPDL VDDDLPKDPTESVDTDHDGDGNNADTDDDND GVLDV VDNCPSVNNPDQLDTDADSUGDACD TDADNDGLPND DLCPYLKETYNKFQDTDGCPDTDKPSADTDGDGILDN DLCPYLKETYNKFQDTDGCPDTDKPSADTDGDGILDN D S C IFEPENYNNNLDWDGCGDTNPYAQDTDGDGVYDG DSCIFEPENYNNNLDWDGCGUTNPEAPDADFDGIPDA
 TPDYIDTDSDNDGISDSDEGARDSDNDGVSDY DSCPTVRETYNKFQDEDGCPDASPNTADTDGDGUFDN DNCPTFP $\square$ SGQENMRKEGMGDAC NPKNPDSDADGLKDGNPLQPDTDDGENSND GVGDNSDWAPNTEDQDSDGDGVGDNSDDFRDSDGDGVGDN DTDHDGIPNDCDQTCDDDNDGLGDE NPDTDGDGVNDGDEVRADTDSDG|V DS DNDD L N D WDE $\square \mathrm{N} \square \mathrm{D}$ S D G D GLT D K PDRDGDGVPDT

D E C P A T P A G A A V V Y S S G



| UniRef90_X0XHQ6UniRef90-A4APV2 |  |
| :---: | :---: |
| UniRef90-A4APV2UniRef90 |  |
|  |  |
| UniRef90-UPI000470DBBA |  |
| UniRef90_UPI000470DBBA |  |
| UniRef90-K2CJV3 | N P D |
| UniRef90_W2UGQ3 |  |
|  |  |  |
| UniRef90_UPI00037DA30F |  |
| UniRef90-S9R116 | E |
| UniRef90-UPI0002036F9E |  |
| UniRef90-M7NZT7 |  |
| UniRef90-U1KY20 |  |
| UniRef90_M5DQK6UniRef90 |  |
|  |  |  |
| UniRef90-UPI000380ABA9 |  |
| UniRef90_A9FCG1 |  |
| UniRef90-A9GS39 | $N$ |
| UniRef90_G8R1Y9 |  |
|  |  |  |
| UniRef90-I3D1Q3 |  |
| UniRef90-13D1Q3 E T Y |  |
| UniRef90-I3D1Q3 | ET Y |
| UniRef90-A0A017TC93 |  |
| UniRef90-A9A4X0 | E T |
| UniRef90_A9A4X0 |  |
| UniRef90-A9A4X0 |  |
|  |  |  |
| UniRef90-C0BI75 | D $\square$ S |
| UniRef90-A0A017T415 |  |
| UniRef90_UPI000362AC06 |  |
| UniRef90-A8UI00 | $\begin{aligned} & \text { D T D D } \\ & \text { G P } \end{aligned}$ |
| UniRef90-U2RYS1 G P |  |
| UniRef90-U1KR40 |  |
| UniRef90-F0LTB9 |  |
| UniRef90-F3KNE8 | E |
| UniRef90-F3KNE8 |  |
| UniRef90-F3KNE8 |  |
| UniRef90-UPI0003739EDF G |  |
| UniRef90-F9CY39 |  |
| UniRef90-F9CY39 |  |
| UniRef90-F9CY39 |  |
| UniRef90-F9CY39 E |  |
| UniRef90-X0TZQ7 N P G Q |  |
| UniRef90-UPI0000E0F60D |  |
| UniRef90-K1ZK47 N P E Q |  |
| UniRef90-UPIO00360078F T E T Q |  |
| UniRef90-I2JF85 |  |
| UniRef90-F9CUM0 E T |  |
| UniRef90-UP100037EB1CE |  |
|  |  |  |
| $\begin{array}{lll}\text { UniRef90_UPIO002F6A0B2 } & \text { G S } \\ \text { UniRef90 } & \text { F3KNE7 } & \text { S }\end{array}$ |  |
|  |  |  |
| UniRef90-F3KNE7 |  |
| UniRef90-F3KNE7 |  |
| UniRef90-S2EPW7 |  |
| UniRef90-S2EPW7 |  |
| UniRef90_C9QL21 |  |
| UniRef90-W0JBG4 |  |
| UniRef90-I3BS17 | $\mathrm{D} \square \mathrm{N}$ |
| UniRef90 UPI00037BC2AF |  |
| UniRef90_D6PBA4 |  |
| UniRef90-E4GVB8 |  |
| UniRef90_UPIO00375BFC1 |  |
| UniRef90-A9GD76 |  |
| UniRef90-C5BQV0 |  |
| UniRef90-C5BQV0 |  |
| UniRef90-C5BQV0 |  |
| UniRef90_UPI000379BA19 |  |
| UniRef90-M5DR97 A V |  |
| UniRef90-UPIO0037642C2 |  |
| UniRef90-F3KNE6 |  |
| UniRef90-F3KNE6 |  |
| UniRef90-U1J6S4 |  |
| UniRef90-K0BAQ6 E T |  |
| UniRef90-K0BAQ6 E |  |
| UniRef90-UPI00025583EF |  |
| UniRef90-UPI0003626860 |  |
| UniRef90-UPI0003626860 |  |
| UniRef90-UPIO003626860 |  |
| UniRef90-S2DZE9 |  |
| UniRef90-R4GCU7 7 VD Q |  |
| UniRef90-10AJZ9 |  |
| UniRef90_E0XQC4 GT |  |
|  |  |  |
| UniRef90-R4YRX2 |  |
| UniRef90-F2KSL2 |  |
| UniRef90-12JH31 |  |
| UniRef90-UPI00036E389C |  |
| UniRef90-E1SNZ4 N A D Q <br> UniRef90-S5PBX9  <br> UniRef90_UPI0003B752B2  |  |
|  |  |  |
|  |  |  |



DECPATPAGAAVVSSG
30
40 DECPATPAGAAVYSSG

CEFDTDDGVVDS DECPATPAGAAVYSSG

CEFDTDNDGVVDS
CEF DT DND GVVVDS D GCPADFVPWYDADYDGVEDH D GCPADFVPWYDADYDGVEDH $C P$ L V A E N Y N G F Q D D D G C P D T D
 $\checkmark P N S K D E D \square D G D G V R N A D D$
 VVDAFP F DPN ESVDTDMDGDGNNADTDDDNDQQVADD VDDAFPDLA TEWVDTDMDGTGNNADTDDDSNDGDGVVMDD
 DQCLYSAPGAVVDV HGCSAENDQDADQVPD N $\begin{array}{llll}D S D & D & G & L \\ D & A \\ D & D & A \\ E & N R\end{array}$ GMVDSATDTDNDGWADTFDADNGGTALPDGDQDGDGLENR GMVDSATDTDNDGWADTFDADNGGTALPDGDQDGDGLENR D S ClDDEPENYN GY LDHDGCGTTAAGAMLDADYYDGIA DH

 DNCKYGPNCGQEDADGDG $\square G D A C D F D A D A D G D G I L N$ $F$ VDLCP GQPEVVNR LLDMDGCPDAFDD DTDPDGDGUAGD

$$
\begin{aligned}
& \text { DNQNNHEPTDSDGDGV|PDD } \\
& \text { D T D G D GVF D D }
\end{aligned}
$$

DACTHEPENYNGFDDDDGVGTSGTDMTDSDYDGПADH DACIHEPENYNGFLDDDGVGTSGTDMIDSDYDGIADH $D F D G D G I V N A V D T D N D N D G L T D E$


 P D A A D N D
 D A DGDGVLNG
$N P L D T D S D D D G L T D S D P N D T D T D N E G L L D A$ DNCPTVKETYNKFQDEDGCPDGPNTDADSDGDGYPDY

DLCPNRPETFNGTDDTDGCPDDELNLLDRDQDGTSDS DLCPNRPETFNGUDDTDGCPDDELNLLDRDQDGUSDS

PDWKDQDSDNDG LLDDHEYDSDGDGLDNA
PLKVDTDGDGLSDGDPLKADTDGDGLSDG EVSATDQVDNNSNP S DSFADDDDNDGVPDN DACPYSPETYNKLQDSDGCPDSGFTAYDSDGDGIIDN

DLDGDGLSATHACGRDPDQDGVDLA DQCPGQAETFNGFEDKDGCPDKFMFTLDSDQDGIVDV DQCPGQAETFNGFEDKDGCPDKFMFTLDSDQDGIVVDV DFDGDGLSND
DTDGDGD ANFRDSDDDG

ADRDSDGVYDMDPESDDSDQDGIPDT CVDTDGDGVCDN DADGDGITDQ DSDNDGTPEC
GQ $\square$ TSYEWDFDGDGVYDE $D N D N D G V T N N$
$D N D N D G V T N N$
SDNCDTVANPEQTDADGDSYGKECDADDNNANDQVDDT CDNCPGTANHNQSDFDN DGVGNA

NPKVADTDGDGLYDSPSETADDDGDGLTNA DNCPNTANSNQTDSDGDTVGDACDACNDDDGDGVCGD

DANDEDGGSIN NNGDFDLDTDKDGVLDS DAKGCAMDSDNDNVLDG DNDNDGVTNN DNDNDGVTNN
TPNHEDEDLDGDGVPNENHEDEDLDGDGVKND

PNDPN DWADKDNDGVGNNAYEWSD $\square D N D G V G D N$ DVDGDGLSNDKDVDSDGDGIPDN CDNCVNVANEDQANADSDNFGDVCDNCVNVDSDSFGDA

 VT DNCPQVTNPDQANHDTDTDGDACDPDDDNDS VVPDA VPDSDVQETDSDGTGSAQ PP PNDEDGDGVKDE | $A T Q H F D D C N D N G I$ | $P D D$ |
| :--- | :--- |
| $N$ | $D$ | DAFPFDSD ESADFDHDGDGDNADKDDDNDR V V P D D VDLS GDGKPDGTLVDSDGDGVSDG








EEDFSYNTNPDEPDTDKDSI IDDGEEANTDKDSLTDKEEALF DTAGNFASDTDKDDI ADPDDTD DDGDNTLNTQDKF VEAAGLGSDSAGTGKUPDSVFDDNNNNGMHDAFEQH $L E V$ GLGHLSNGKGRFDVAWSDANTNGLHDSVEALD VEQFDDGSDPTDSDTDGDGLSDYAYADQDNDRLPDLLEWA PEVNTYETNPTVTDTDGDGLADGPEVNTDGDGLNDGEETN TDNCKYLANANQLDFDQDGQGDACDLDDDNDGVSDEEEDT IENQDCTGNNCKFDMNNNGIPDFIEDN DGDGIPNYLDDD RD S
LEFATDGLDPNDGIDSDYDEVTGFFYNGRWWYG VEDGGTGVDPS LDADGDGIPNGRDDSDGDVGGVANRDEV EDDLGFPDNSEEWADADGDGYGDNLDASKFPEDKGDNFNDDKF

[^0]UniRef90_UPIO003824FOD UniRef90-H3ZN33 UniRef90-A1SS06 UniRef90-UPIO003739B7C UniRef90-V6SKG7
UniRef90 A3ZVF4
UniRef90-13R9T3
UniRef90_UPI0003B40FD1
UniRef90-UPI000382EE74
UniRef90 A7NQ97
UniRef90_R9PRD9
UniRef90-A8U191
UniRef90_L8JDY1
$P N G Q D \prod^{90}$ T DGDG $\square P D R 100$ TYNTSPTRKDTDNDGLY PYDSM EWVDLDDDNVGDNSDND $\square D G D G I L N D E D E N P L L A$ TPLDSDGDGTPNYLDLDSDNDGVFDVDEA LDSDGDGAPNYMDLDSDNDSVFDVDEA WAGND
 RYETNPTKSDTDGDGLNDG EGTDPKDKDD

NRTEQDSDGDGПPNEQD TDANGNG\|LDYAEN DPLLTDTNNDGLPDGLEVDTDNDGTP
EHGTS LTNPDSDGDGLSDYDEKDTDGDGVPDYDEVDPNNA

lupas_21
lupas_14
lupas_14
lupas_28
lupas
jnet
conf
cont
sol25
sol25
sol5
solo
jhmm



[^0]:    

