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 RRARGPNEPGGLSFGFLADIVQTNRKYPDDPCKSSLEVVA RRARGPNEPGGUFGHFADMIQSDRKYPNDPVRASLEVVA RRARGENEPGGVPFGVLADCVQTMRKYPDDPAKVALEVIA RRARGPNEPGGLSFGHLSD\｜VQTSRVS EDPAKIALEVVG RRARGPNEPGGIKFGMFSDMIQADRKYPDDPAKASLEVVA RRARSPNEPGGLSFGYCADMCQTQRDAPDDPVRCTLEVVA RRARGPNEPGGIFFGVLADIVQTSRVS DDPVEQSLEVVA $R R A R G P N E P G G \mid P F G V L A D M L Q T S R V S E D P A E V S L Q V I A$ RRARGPNEPGGLSFGFLADMVQTSRVKPFDPPQVSLNVVA RRVRGPNEPGGUTFGFLDDMVQSDRVYPDDPARAVLETVA KRARSHNEPGGMP पG TNADSTRSPALFPNDPTRAEDESIA RRARGPNNPGGLSFGFLADMVQTSRVAAADPVKVSLNVVA
RRARGPNEPGGDKFGHFSDMVQADRKYPNDPAKASLEVVA RRARGPNEPGGLKFGHMADVI QTNRKYPEDPAHASLEVVG RRARGPNEPGGIKFGHFADMI QTDRKYPNDPARASLEIVA RRARGPNEPGGLSFGFLADMVQTNRKYPDDPCKSSLEVVA RRARGPNEPGGIKFGHFADMVQSDRKYPGNYNRNSLEIVA RRARGPNEPGGIKFGHFADMI QADRKYPHDPAKATLEVVA RRARGPNEPGGLKFGLFSDIVQTDRKYPNDPVKSSLEVVA RRARGPNEPGGLAFGLFSDIVQANRKYPNDPARASLEVVG RRARGPNEPGGUPFGFLADMVQSQRKFPDDPCRAALESVA RRARGPNEPGGIKFGHFADMISXDRKYPNDPAKAALEVVG
 RRARGPNEPGG\｜KFGHFADMIQGDRKYPNDPVKATLEVVA

RRARGPNEPGGDKFGHFADMVQTDRKYPNDPVRASLEVVG RRARAENELGGVPFGFMAD\｜CQGSRAYPDDPVRSTLEVVA RRARQGNEPGGIKFGHFIDMLQSDRKYPNDPVRSSFEIVA RRARGPNEPGG\｜LFGNFADMIQANRTNPNDPAKATLEVVG
RRARGPNEPGGVPFGVMADIIQTSRVS DDPAKTSLEVIA RRARGENEPGGLPFGYLADIVQTPRKYPDDPVRQTLDVVA RRVRSPNEPGGUPLGYLADMCQATRVKPDDPAWCALETIA RRARGPNEPGGLSFGHMADVVQTSRKFRDDPCKIACLETAA RRARSPNEPGGLSFGYSADMVQTMRIKSEDPVWYTLEVVA EPGGLSFGFMADMI QTDRVFPDDPVKVALKEVVA RRARGPNEPGGISFGFLADMVQTSRTKPYDPPQVSLNVVA RRARGPNEPGGLQFGYLADVVQANRV TDDKVKASLEVVA

RRARGPNEPGGLSFGHMAD\｜VQTQRKEEDNPCEVTLQVAS RRARGPNEPGGI KFGMFSDMI QADRRYPDDPAKSSLEVVA RRARGPNEPGGUMFGHFADMUQANRKYPNDPAKASLEVVG

RRARSPNEPGGVSFGHLAD\｜IQTSRVKSDDPTKVALEVIG RRARAPNEPGGVTFGNLSDIVQTSRVNPDDPANVTLEVVG RRARGPNEPGGLMYGVVSDCAQS LAKYPDDPARHSLETIA RRARGENEPGGIAFGFLAD\｜IQTPRKYPDDMVIQTLEVAA PNEPGGI KFGFMADMCQADRKYPDDPVKSSLEVVA RRNRGPNEPGGLPFGYLADMCQSDRDYPDDPILHALETIA RRARGPNEPGGLSFGHLSDIIQTSRTS QDPAKIALEVVG RRARGPNEPGGLSFGHMADII QTSRVKADDPAKVSLEVVG NEPGGIKFGHFADMI QGDRKYPHDSARASLEVVG RRARGPNEPGGVSFGF DPDVVQTHRKYPDDPVKSSLETVA RRARGPNEPGGVPLGYLADMCQASRVKPEDPTWVALEAIS RRARGPNEPGGI RFG\｜LSDVVQTTRVS EDPVEQSLEVVA RRARGPNEPGGI KFGHFADMI QSDRKYPNDPVRSSLEIVA RRARGPNEPGGIKFGHFCDMIQSDRKYPNDPVRSSLEIVA

RRARGANEPGG $\square$ PFG $\square$ TADCTRS $V A \square F P D D P S R A A \square E S \square A$

RRVRGPNEPGGLPYGYMSDII QSDRVYPDDPGRAVLETVA RRARGENEPGGIPFGYMADI SQSFRVYPDDPVRAALEAVA RRARGPNEPGG』SFGHMAD I $\quad$ QTSRVDAEDPAHVALEVVG

K R A R A H NEPGGMP $\square \mathrm{G} \square$ N A D S $V$ R S P A $\square$ F P N D P $\square$ R NE $\square E S \square$ A

RRARGPNEPGGLSFGYMAD【VQTSR】TPDDPCNVTDEVAG RRARGPNEPGGVSFGHMAD $\square$ IQTSRVDAEDPAHVA LEVVG RRARGPNEPGGLSFGHMSD I IQTSR】TPEDPCNVALEVAG
 RRARGPNEPGGLSFGFMADM【QTDRVFPDDPVKSSLEVVA


A G TMLFDQDWLGSYMSGGVGFTQYATAAYTDNTLDDYTYY LGAALYDQIWLGSYMSGGVGFTQYATAAYTDNVLDDFTYY
 A GAMLFDQDWLGSYMSGGVGFTQYATAAYTDNILDEYTYY YATAAYTDNILDDFTYY AAATMYDQПWLGSYMSGGVGFXQYATAAYTDDILDDFVYY A GAMLYDQ WWLGSYMSGGVGFTQYATAAYTDNVLDDFTYY MAAVLYDQFWFGSYMSGGVGFTQYATATYTDNILDDFCYY


 A GTMLYDQI WLGSYMSGGVGFTQYATAAYTNDVLDDFSYY A GAMLYDQUWLGSYMSGGVGFTQYATAAYTNNILDDFSYY TYTDNILEDYVYY A A SMLY DQI WLGGYMS GGVGFTMYATPAYTNDILDDYLYW A GAVLLFDQUWLGSYMSGGVGLTQCATAAYTDNILDDFTYY

A GCMDYDQDWLGSYMSGRVGFTQYATAAYTDNTLDDNMYY AGCMLYDQI WLGSYMSGGVGFTQYSTAAYTNNILDDNLYY LDAALIYDQUYLGSYMSGGVGFTQYATAAYTDNILEDFVYW A GAMMYDQI WLGSYMSGGVGFTQYATAAYTDNILDDFTDF AGCTLFDQI WLGSYMSGGVGFTQYATAAYTDNILDDYTSY

 A GTMLFDQIWLGSYMSGGVGFTQYATAAYTDNILDEYTYY
 TGAALYDQDWLGAYMSGGVGFTQYATASYTDDILDDFSYY A GCMLFDQI WLGSYMSGGVGFTQYATAAYTDNILDDYTTY



 A GCMLFDQUWLGSYMSGGVGFTQYATAAYTNNILDDNDYY


VAAMVYDQLWFGTYMSGGVGFTQYASATYTDNTLEDFCYK YDQI WLGSYMSGGVGFTQYATAAYTDNILDDFSYY YDQUWLGSYMSGGVGFTQYATAAYTNDVLDDFSYY A A S MLY DQIWLGGYMSGGVGFTQFASCVYTNDILDDFDYW GACMLY DQ $\square W \square G S Y M S G G V G F T Q Y A T A A Y A N N G L D D N M Y Y$

GAFMLYDQIWLGSYMS GGVGFTMYATAAYTNNIVDDNLYA DQI WL GSYMSGGVGFTQYAAAAYTDDILDNNLYY A GSMFYDQUI WL GSYMSGGVGFTQYATAAYTNDVLDDFSYY A GCMLYDQUWLGSYMSGGVGFTQYATAAYTDNILDDYSYY GGVGFTQYATAAYTDNULADFVYH QYATAAYTNDVLDDFSYY MS GGVGFTQYATAAYTDNI LDEDTYY niRef90 L7UTS2 UniRef90_A0A024J535 $\begin{array}{rl}M S G G V G F T & Q \\ Q & A \\ Q & T \\ \text { A A A Y T }\end{array}$

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UniRef90_D1YVW6 UniRef90-LOHIJ7 UniRef90-P07962 UniRef90_LOHD22 UniRef90-Q648Y3 UniRef90_Q58256 UniRef90_F0TCV5 UniRef90-M1PYU1
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UniRef90-H3K2E3 UniRef90-D3K228 UniRef90-K0BYLO UniRef90_14E9A5 UniRef90_D6NIV4
UniRef90_A1XVX9 UniRef90_M1NYR3 UniRef90_Q5IEN2 UniRef90-A7BK26 UniRef90-B2ZC16 UniRef90_A1 XVX0 UniRef90-D6NIU3 UniRef90-LOHTU9 UniRef90_Q6ITX1 UniRef90_B0Z965 UniRef90-B0Z9D5 UniRef90_H7CHX4 UniRef90-A1XVX1
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GKE Y VEDKY GLCEAPNNMDTVLDVATEVTFYGLEQYEEYP GYD Y AK GKYKI G QTK P TMDVVNDLSTEVTLYGIEQYEKYP GVVDVVK K K H G L G K V K A T Q DVVVNDDIA S E V T L Y GME QYE E F P GLLE Y V E D K Y G I A E A E P S M DVV K K DVVAT E V T L

 GKEYVEDKFGLCGVKADADVVKD S S A A D L I K T K Y G GCKK S K P TMMELLIDEKL G T ACDYGVDKFGDWKAPATMETSKDIAT

 GLD Y I K AKHGGGKAKKTGEV INDIAT
 GMDY I K D K Y K V N W G K P T Q D NVNDI A S GYDYARGKYK』GQTK PTMD IVNDLGT
 GADYVKDKYKFTKAPQTQAAVNDIAT
 A A DVI K T K K Y G GC K S K P T M E L I I N K L G T

 GMDYVK S K F G G G K VP CTAE A V NDV A T GK D Y V E D K Y G G TEAP P N NMDTVLDVGT GFD DI K K K H GGGKAK A T Q EVVVSDMS T
 GMEYVDDKYGICGTKATTEVVHDIAS GQEYVEDKYGMCEAPNNMDTVLDVGS

 GYDYALNKYGDGTAPNDLATATDLAT
 GSDYGVDKYGGWA APATMDAAMA A GYEYAVDKYGGAQAPATLETVKDIAT
 GMD Y $L$ K $\operatorname{K} D K Y Y G Y N Y$ RK P T Q E IV V N D L

 DVEYINDKYDGAKVAPSMDVI KDIAT GME H V K D K Y G L A K Q K P S V K L i N D I A T GKEYV EDKYGITTEAPNTMDTVLDVAS GVD Y V K K K H GLGKAKATQDVVND\|AT | $V$ | $G$ | $Y$ | $V$ | $K$ | $K$ | $K$ | $Y$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $G$ | $G$ | $A$ | $K$ | $A$ | $K$ | $P$ | $S$ |

 GMDY I K Q K Y K V D K V K P T Q E I V ND MCT G Y D Y $V$ K G K Y G $V$ V A K A P C C N M D V V V N GADYVKKKYGGGKAKPSWDLIKDVAT A LD Y V E K K Y GRMGTKATMDVVEDVAGE
 GMD Y I K D K F K V $V$ D K I K A T Q D Ni N D A A A
 GMMD Y I H D K Y K I D K V S DDVLK DKYGGCGVNPGTEKLLK A GANLV K EKF G GF KI EPSMDVI ESII TN E
 GVD Y I K S K F K L A Q NKP T Q DL CNDLA T


GCEDGLDYAGGEMAKLNMD LLEEIIRAENDYALTQYEAYP GQEYVEDKYGGCEAPNNMDTVLDVGSEVAFYALEQYEDYP GVDYANDKFGGAKAPATDDAAKELATEEVTLYGIEEQYEAFP GAD Y IVD K Y G Y G K A E V S L G A I K D I A T V V T L Y GLLENYE E Y P GMDYVKSKFGGGKVPCTQEAVNDVATEVTLYGMEQYEQFP
 AKATQEVVNDIATEVNLYGMEQYEEFP
 NVDY IN K K Y N NAKVRATNEVIGEDATESTLYGIEEYERYP

 GMMDY DH D K Y N NVD K V $V$ K P T Q E V V V N D



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 UniRef90_D1YVW6 UniRef90-LOHIJT UniRef90 ${ }^{-P 07962}$ UniRef90-LOHD22 UniRef90-Q648Y3 UniRef90_Q58256 UniRef90-FOTCV5 UniRef90-M1PYU1UniRef90 G7WN24 UniRef90 ${ }^{-}$M9SBG6 UniRef90-M1NYM3 UniRet90-DIJBK4 UniRef90-M1PM63 UniRef90-MPTV3 UniRef90-J7FLE7 UniRef90-11VEF4 UniRef90-H6WQU9 UniRef90-C5IL71 UniRet90_B2ZRQ6 UniRef90 - I1VEJ2 UniRef90-B2ZC40 UniRef90-M10864 UniRef90-E7EJF2 UniRef90-H7CHY7 UniRef90-D2U725 UniRef90-M1 Q8G7 UniRef90-M1 Q8B4 UniRef90-B2ZC14 UniRef90-I1VEI4 UniRef90-U3GLV9 UniRef90-A7BK45 UniRef90-H6UZQ7 UniRef90-K7RCQ4 UniRet $90-\mathrm{A} 4 \mathrm{H} 1 \times 6$ UniRef90-Q2AAE9 UniRef90-U3N6L8 UniRef90-11X8Y9 UniRef90-D3K228 UniRef90-KOBYLO UniRef90-14E9A5 UniRef90-D6NIV4
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UniRef90
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UniRetgo-M1PMS1 UniRef90-B1PVU7 UniRef90-LOBA20 UniRef90-LOB9V5 UniRef90-M1PTH8 UniRef90-BoZ8z7 UniRef90-M1Q984 UniRef90-D2XSG5 UniRef90-Q6L777 UniRef90_E3UZE9 UniRef90-I1X934
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UniRefgo ATBK UniRef90_АनВка

130
140
150
160 ALLEDQFGGSQRAAVVAAAAGCSTAFATGNAQTGLSGWYL TTLEDHFGGSQRATVLSAAAGVTTALATGNSNAGLSGWYM AAMETHFGGSQRAAVCAAAAGCSTAFATGHAQAGLNGWYL TALEDHFGGSQRATVLAAAAGVACSLATGNANAGLSGWYL TLMEDHFGGSQRAAVMAAAAGLSTSITTGNSNAGLNAWYL TLLEDHFGGSQRAGVMAAASACTTGLATGNAQVALSGWYM ALLEDHFGGSQRACVAAAAAGCSTAFATGNSNAGINGWYL AAMETHFGGSQRATVAAAATGDGVAMATANANAGVNAWY AVMETHFGGSQRATVTAASTGIAGAMATGVADNGLNLWYQ TALETHFGGSQRASVLAAASGLSAADGTGNSNAGLNAWYM TVAESHFGGSVRACCAAAGCGSAVACATGLAQPALSAWS TVLEDHFGGSQRASVLAAASGDTSADASGHSQVGLAGWYL TALESHFGGSQRATVLAAAAGVTTAIATANSNAGLNAWYL TMLEDHFGGSQRATVLAAASGLTCSLATGNSNAGLNGWYL TTLEDHFGGSQRATVLAAAAGVTTAMATGNSNAGLSAWYL TALEDHFGGSMRASVLAAASGISTSLATANSNAGLNGWYM TALETHFGGSQRASVLAAAAGISTAIATGNSNAGLNGWYL SLLEDHFGGSQRASVLAAASGLNCSLGTGNSNAGLNGWYL AAMEAHFGGSQRATVAAAATGLGVAMATANANAGVNAWYL TMMEDHFGGSQRAGVMAAASGLSTSIATGNSNAGLNGWYL AAMETHFGGSQRAAVCAAAAGCSVSFATGHAQAGLNGWYL TTLEDHFGGSQRASVLAAASGMTALGTANSNAGLNGWYM TALETHFGGSQRASVLAAASGLSAALGTGNSNAGLNAWYM ALLETHFGGSQRASVISAAAGCSTAFATGNAQTGLSAWY TALESHFGGSQRASVLAAASGMSCAMATANSHAGLNGWYL GALESHFGGSQRASVLAAASGISVADATANSNAGLNGWYL SLLETQFGGSQRAAVAAAATGCSTGFATGNSQTALSGWYL ALLETDFGGSQRASIVAAAAGCSTAFATANSQTGLSAWYL ACMETHFGGSQRACCVAAGAGVAVSVATGVAQAGLNGWYL TLLEDHFGGSQRAGVGAAGTADSCSLATGHAQAGLSGWYL TLMEDHFGGSQRAGLMAAASACTTGLATGNAQVALSAWYM TTLEDHFGGSQRATVLAAASGVTTALATGNSNAGLSGWYL TLLEDHFGGSQRSGIMAAASGVSTGCLTGNSQAALSAWYL TLLEDQFGGSQRVAVVAAAAGI ATGLATGNSQAGLSGWYL TLMETHFGGSQRATVAAATTGLAGSMATGVADCGLNLWYL TLMEDHFGGSQRAAVMAAASGITTAIGTGNSNAGLNAWYL TMMEDHFGGSQRAGVDAAASGLSVGIATANSNAGLNGWYL TTLESHFGGSQRATVLSAAAGCSTSLATGNGNAGLSGWYL VALEDHFGGSQRATVLSAAAGSAGSLATGNANAGLSAWY SLLEDQFGGSQRAAVAAAASACSTGFATGNAQTALLSGWYL TALESHFGGSQRASVLAAASGVSGAMATANSNAGLNGWYL
 TTLEDHFGGSQRATVLSAAAGVTTSMATGNANAGLSAWYL ALMETHFGGSQRAAVVAAGAGVAVSLATGNCTAGINGWYM ALLEDHFGGSQRAAVAAAASGVGVCMATGNSNAGVNGWYL TALESHGGGSRASVLAVASGLSVSLASANSSAGLNGWYL TVMESHFGGSQRACCVSAACGTSVAMATGSATCGVNSWNL TMMEDHFGGSQRASVLAAASGVTTSTATANSNAGLNGWYL ThMEDHFGGSQRAGVIAAASGLTRSIGTGNSNAGLNGWYL A $\|$ METHFGGSQRSNVAAATTGATAFATGNADCGVNGWYL ANVETHFGGSQRAAVAAAACGISVALATGNSDAGLNAFYL TTCEDHFGGSQRATVLAAAAGVTCALATGHSNAGLNGWYM TT DEHFGGSQRASVLAAASGISASLATANANAGLSGWYL
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AAASGDSVGLATANSNAGLNGWYM
TVAESHFGGSVRACCAAAGCGSAVACATGLAQPTLSAWS TLLEDHFGGSQRAAVLAAASGITSATATGHSQDGLAGWYL TALEDHFGGSQRATVIATSAGGSTALATGNSSAAMSAWHL TALETHFGGSQRASVLAAASGLSAALGTGNSNAGLNAWYM TALESHFGGSQRASVLAAASGDTTSLATCNSNAGLNGWYL TTLEDHFGGSQRATAI ACPAGAATSIATGNGNAGLSAWY SALEDHFGGSQRATSLAAAAGCAVS:ATGNGNAGLSGWYL TALEDHFGGSQRATVISTATGAACAITTGNSNAGLSAWYL TTLEDHFGGSQRATVLAAASGVTTALATGNSNAGPSGWY TLLEDHFGGSQRAAVLAAASGTTSAIASGHSQVGLAGWYL TALEDHFGGSQRASVIAACTGITAAI ATGNSNAGLNAWY


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170
180

200
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$R G P N Y P N Y A M N V G H Q G G Y A G I A G A A H F G R G D A W T A S P L I K$
RGPNYPNYAMNVGHQGGYAGl$A$
RGPNYPNYAMNVGHLGEYAGIVQAAHAARGDAFCVMPVDK
$R G P N Y P N Y A M N V G H Q G G Y A G \| A Q A A H S G R G D A F T V N P L L K$
RGPNYPNYAMNVGHQGEYAAIVASAHYGRADAFCFDPRVK
RGANYPNYAMNVGHQGEYAGITQSAHSGNHDAYCCNPDI K


RGANYPNYAMNVGHQGEYAGISSAAHAGRFDAYACNPLI K
RGPNYPNYAMNVGHLSGYAGIPRAAHAARGDAFVASPLI K

$R G V N Y P N Y A M N V G H Q S A Y A G L V A G A H S A N H D A W V L S P L W K$
R GANYPNYAMNVGHQGEYAGIS
RGPNYPNYAMNVGHQGEYAA!AGAAHYGRGDAWTLSPLIK
RGPNYPNYA $\square$
RGPNYPNYAM
R G P N Y P N Y A M
RGPNYPNYA $\square$ N
RGPNYPNYAM
R G A N Y P N Y A M
RGANYPNYAM
RGPNYPNYAM
$R G P N Y P N Y A M N V G H$
R G P N Y P N Y A M
R G P
RGPNYPNYAM
R G P
$R G P N Y P N Y A M N \square G H Q G E Y A A \square A A A A H Y G R Q D A W T \square S P$ L $\square 1 K$
RGPNFPN
$R G P N Y P N Y A M$
R G P N Y P N Y A M
$R G A N Y P N Y A M T V G H Q G E Y A G \square V Q A D H A A R G D A F C F N P \square V K$
R G P
R G A
$R G V N Y P N Y A M$
RGANYPNYAM
$R G P$
R G P N Y P N Y A M R $\square$
$R G P N Y P N Y A M$
R G
R G P
R G P N Y P N Y A M
$R G P N Y P N Y A M N \square G H \square S G Y S G \square A K A S H V A R G D A Y T A N P Y \square R$ RGANYPNYA
R G P
RGANYPNYAMN】GHQGEYAG $\square$ SSAAHAGRMDAFACNP LIK
R G P N Y P N Y A
RGGNYPNYAM
R G A
R G P
RGPNYPNYAM

R

RGANYPNYAMNV
R G P
$R G P N Y P N Y A M N V$
RGPNYPNYAMNV
R G P
R G P
RGPNYPN
RGPNYPNYAMNV
RGPNYPNYAMNV
RGPNYPNYAMNV
$R G P N Y P N Y A M N V G H Q G E Y A A \square A A S A H Y G R Q D A W T \square S P L 1 K$
$R G D N Y P N Y A M$
$R G P N Y P N Y A M N V$
RGPNYPNYAMNV
RGPNFPNYAMNVGHQGEYARVVWSA
RGPNFPNYAMN】GHQGEYAA $\square$ AGAAHFGRGDAWTLSP LIK
RGPNYPNYAMND
R G A N Y P N Y A M N V
R G P N Y P N Y A
RGANYPNYAMN■GHQGGYAA $\square$ ASAAHAGRGDA
R G A N Y P N Y A M
$R G P N Y$
G A N Y P N Y A M N VGH Q G GYAA $\square$ A S A A HA GRGDAYAVNP

IAFADDNLVFDFTNVRGEFAKGALREFEPAGERALTTPA I CFADKSLAFDFTEPRKEFARGAIREFMPAGERTLVIPA I TFA S DPS LKFDFSEVRREFAKGA REFMPAGERSLI I PA VAFADENLVFDF TEPRKEFAKGALREFEPAGERDLIVPA VCFADDLLPFNFAEPRREFGRGAIREFVPAGERSLVIPA I TFAADPS KKFDFSEPRKEFARGAGREFEAAGERSLIMPA VTFADPSGVFDFSHTRKEYARGAMRTFRPAGERSLVIPA

 VCFANPALIFTWDDI RKGYGMGGAREFRAAGERSLVMPA $V A F S D K S L I F D F A N I T K E \square G R G G L R E F Q P A G E R T A V I$
ITFADPSLKFDFSEPRREFAKGA REFMPAGERSLII PA VAFSDRDLLFDRGYVTREYGLGANREYKVAGERDLI I

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\squareT F A D P S L K F D
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$\square$ T F A D P S LK F D F S E P R REFA K GA $\square$ RE F MP A GERS LI IPA
$\square$ A F A D P N L VF D WT N VR A E Y A K G A L R E F E P


VT FANPGMVFDWADVRACFGKGGAREFRAAGERSLVMPA

CFADPS LKFDFSEPRREFAKGA $\square$ REFMPAGERSLI DPA

UniRef90 D6NIW8 UniRef90_Q6V262 UniRef90_Q0Q2A9 UniRef90_B2ZC11 UniRef90 Q49KB4 UniRef90-D7UT81 UniRef90-D2TFY0 UniRef90 ${ }^{-}$BOZ8U2 UniRef90-L7UUT4 UniRef90-M1NZ85 UniRef90 ${ }^{-}$A1 XVZ4 UniRef90 L7UTF7 UniRef90_C0LKS2 UniRef90-11X8X7 UniRef90 U3N913 UniRef90-N1IRL1 UniRef90-LOCT93 UniRef90-Q49KB6 UniRef90 W5RW31 UniRef90-L7UWH2 UniRef90_S5S993 UniRef90_M5AUQ2 UniRef90-A9JQR1 UniRef90-K4Q0L8 UniRef90-A7BK37 UniRef90 F1T2X7 UniRef90-Q5IEN1 UniRef90-A9JQQ9 UniRef90-M1 Q989 UniRef90-11X925 UniRef90-B0F7B0 UniRef90-N1INT8 UniRef90 Q7ZAE9 UniRef90-D2CY00 UniRef90_Q0Z8K6 UniRef90 A2TID8 UniRef90 A1XVY8 UniRef90-B0KWY6 UniRef90_A0A024J4K8 UniRef90 A0A023UK53 UniRef90- C6ZPI5 UniRef90_R4SET0 UniRef90 D3Y3S8 UniRef90 Q9C4JO UniRef90_S5RKG7 UniRef90-C0LL20 UniRef90 D1M8Q6 UniRef90-B0Z9C6 UniRef90-W5RVN2 UniRef90-A0A023UHG2 UniRef90 Q50387 UniRef90-L7UTT6 UniRef90-M1Q971 UniRef90_Q5W1G9 UniRef90 Q6SIF2 UniRef90-BOKXD7 UniRef90-D3Y414 UniRef90 R4SAW1 UniRef90_COLKT3 UniRef90-B0Z973 UniRef90-Q0Z8L7 UniRef90 B0KWY1 UniRef90-B1GTG9 UniRef90_L7UTF6 UniRef90 M1 Q8A0 UniRef90-G9MD45 UniRef90_B0CMK9 UniRef90 T2BB33 UniRef90 A0A023R6M UniRef90-B0KXB4 UniRef90-G4WKP4 UniRef90 ${ }^{-}$Q6SIF5 UniRef90-BOZ9G6 UniRef90_J9QWP1 UniRef90-W5RYI9 UniRef90 M1PY96 UniRef90-M1NYR0 UniRef90-B0KXF9 UniRef90-A0A023UF6 UniRef90 U3TDP3 UniRef90_G4WLJ5 UniRef90_G9M9W1 UniRef90 A1XWH1 UniRef90-G9M9W2 UniRef90_F6KHA3 UniRef90_LOAP9 UniRef90 W5RVZ3 UniRef90-H8YUQ4 UniRef90-W5RYB9 UniRef90 Q7ZA96 UniRef90-BOKX92
UniRef90-E3Q0C5
 R R A R GPNEPGG $\square$ K F GHFADM $\square$ Q GDRKYPNDPVKAT $\square E V V G$

RRARGPNEPGG $\square$ K F GNFADM $\square$ Q T DRKYPNDPARAS $\square E \square V A$
YFADSRSSDRNVPNRP $\square$ GAS LETVA LP T WS QT DRKYPHDPAKASLEVVA

RRARGPNEPGGDLFGHFADMDQADRVNPKDPAKATLEVVG RRARGPNEPGGLSFGH■SD\|VQTSRTSKTQQKSLLKSSVQ

MAD $\square$ CQSSRVNADDPVRSTSDVVA

R R A R A T NE $\square G G \square P \square G \square T C D M T R S P A D F P N D P V R A A L E S \prod A$ $L A D M V Q S T R E Y P D D P A R A A L E T V A$ RRARGENEPGGDPFGF LDADCQSSRVNPDDPVKVT LDVVA

G GVP F WF H GRY LS GF Q S LPRGPCTFHFRSCS

RRARGPNEPGG $\square$ K F G VLGD $\square$ VQANRKYPNDPARAS $\square E V V G$ YPNDP VRPS $\square G \square V A$

RRARGPNEPGG $\square$ KFGNFADM $\square$ QGDRKYPHDPARAS $\square E V V G$

RRARGPNEPGGDKFGHFADMVQTDRKYPNDPVRASLEVVG


RRARGPNEPGG $\square$ PF GF LDAMS QSMRKYPDDPARSALEVVA


UniRef90 D6NIW8 UniRef90-Q6V262
UniRef90 Q002A9 UniRef90- B2ZC11 UniRef90 Q49KB4 UniRef90-D7UT81 UniRef90-D2TFYO UniRef90-B0Z8U2 UniRef90_L7UUT4 UniRef90-M1NZ855 UniRef90-A1XVZ4
UniRef90 LIUTF7 UniRef90_COLKS2 UniRef90--11X8X7 UniRef90_U3N913 UniRef90-N1RL1
UniRef90 LOCT93 UniRef90-Q49KB6 UniRef90-W5RW31 UniRef90 - LTUWH2 UniRef90-S5S993 UniRef90-A9JQR1 UniRef90-K4Q0L8 UniRef90-A7BK37 UniRef90-F1T2X7 UniRef90-O5IEN1 UniRef90-A9JQQ99 UniRef90-11×925 UniRef90-B0F7B0 UniRefo-NINT8 UniRef90-D2CYOO UniRef90-QOZ8K6 UniRef90-A1 XVY8 UniRef90-BOKWY6 UniRef90-A0A024J4K8 UniRef90 C 6 ZPII UniRef90-R4SETO UniRef90-D3Ү3s8 UniRef90_O9C4J0 UniRef90-S5RKG7
UniRef90 CoLL20 UniRef90-COLL20
UniRef90-D1M8Q6 UniRef90-BOZ9C6 UniRef90-W5RVN2 UniRef90-A0AO23UHG2 UniRef90_Q50387 UniRef90-L7UTT6 UniRefofo-M1 O971 UniRef90-Q5W1G9 UniRef90_O6SIF2
UniRef90_B0KXD7 UniRef90-D3Y414 UniRef90-R4SAW1 UniRef90_COLKT3
UniRef90 Bozich UniRef90-Q0Z8L7 UniRef90-B0KWY1 UniRef90_B1GTG9
UniRef90 LTUTF6 UniRef90-M108A0 UniRef90-G9MD45 UniRef90-BOCMK9 UniRef90-T2BB33 UniRef90 A0AO23R6M1 UniRef90-BOKXB4
UniRef90 G4WKP4 UniRef90-Q6SIF5 UniRef90-BoZ9G6 UniRef90-J9QWP1 UniRef90-W5RYI9 UniRef90-M1PY966 UniRef90_M1NYRO
UniRef90 BOKXF9 UniRef90-A0A023UF61 UniRef90_U3TDP3 UniRef90-G4WLJ55 UniRef90-G9M9W1 UniRe990-A1XWH1
UniRet90_G9M9W2 UniRef90-F6KHA3 UniRef90-LOAP91 UniRef90-W5RVZ3
UniRef90-H8YUQ4 UniRef90_W5RYB9 UniRef90-Q7ZA966 UniRef90_BOKX92
UniRef90_E3Q0C5

GDETAVDQYGRAVAPRDMET\|EKLLVRSENDYCMTQYEAYP GLEYVEDKYGLAEADPSMDVVKDVATEVTLYGLEQYERYP GLDYIKSKHGGGKAKKTQEVLNDIATEVTLYGMEQYEQFP GHDYAVDKYGDGHVPATFETVKDIATETATYADEQYEKFP GADYVKDKYKFTKAPQKQEVVNDIATETTLYGMEQYETFP GNDYTKKYGPDGKAPQTMDVVYDLATEVTLYCDEQYEKYP DVDYl NDKYNGAKAPATMEVVKDIGTESTVYGLENYEKYP GVDYIKKKHGGGKAKATQEIINDIATEVNLYGMEQYEEYP GADYI ADKFGGAKAPKTLDMVKDVATEVTLYGMEQYESFP GMDLIKSKYKVDWKNPTQETVNEIATEVALNAMENYEMFP GMDY!KDKYKVDKVKPTQDIVNDIAT GMDYMKDKYNGAKVKATLDVVKDLAT GQDYVEDKYGDAKAPSTDDVVRDVGT GNGFASKKFGGGKAKAPIESVKDIGT GLDYVKSKHGGNKAKATQEAVSDIGS GMDYIKDKYGVDYVKPTQEVVNDIAT GKDYVEDKYGGTEAPNNMDTVLDVGS ALDLVKSKYGGCKSKPSMDLMEKLGS GKDYVETKYGGAQTESSTDVVRDIAS AEED AIDMFGDCAAEPTMENIEKLVRA AVDL:KSQYGGCKSKPSMDLLEKLGT GKEYVEDKFGMCEAPNTMDTVLDVGS DVDYINDKYKGAKLKASLDIVKDIAT GMDYVQDKFGICGAKPDDAVVKD ST GYDYIKGKYGVAKAKPTLDVVNDVAT GMDYLKDKYGVDWANPSQEVVNDLAT GKDYVEDKYGGTEAPNSMDTVLDVGS GVDYVKNKHGLGKVKATQDVVNDIA AS GADYGQKKYGKGSAKATDETVKDIGT GMEHVKDKYGLAKQKPSVKLIMDIGGT G| DY: KDKFGFCSVESSVEN:EKIS S GMEYVDEKYGUCANRQTTEAVHDIAA GDDYIKGKYGGGKAKATMDVVNDIGT GMDYロKDKYGFDYTNPTQDVVNDLAT GAGYAKDKYGAGNAPANTATIKDIST GIDYINEKYKDNKASATMDVVKDI AT GVDYUKKHHGGGKAKATQEVVNDIAT
TVDYANDKYGGAKAPATLDVAKDI AT GKEYVEDKYGIGEAPNTMDTVLDVGS GMDY:|ADKYNVDKVKPTOEVVVND|AT ADDLIKDEYGGGVKPDDMKKIMKLDD GMDYVKDKYKVDWQNPNQDVVNDIAT GKDYIKDKYGVDKVKPTQDIVNDIAT NVDYINDKYKDNKIKASGDVIKNI AT IQDYVKKKYGGTKAKPSMDVILDVAT GMDYVKSKFGGGKVPCTQEAVNDVA GVDFANDKYGGAKAPATMDVAKEMA GMDCINDKYGVDWVKPTQEVVNDITT GMEYIHDKYKMDKVKATQEVVKDIAT GAEYAKDKYGAGNAPANDDTVKDUSTE GDEIAVDMFGRCAAKPSMENIEKLIRAENDYALTQYDAYP GYSYITGTDGVFLVKCNMDVVNYI SAEVTRCCI CHYDKYR TADYVKKKYGGAKAPRTMDTVLDVATEATLYGLEQYERFP AVDHIKAKYGGCKSKPTMDLIEKLGTE NSYALEMYERYP GMDYIHDKYKVDKVKATQEVVNDIASEVNLYGMEQYEQFP SVDVIKDRYGGGVKGDDYAKQMKLADEISSYALEMYERYP GYDYVNKYGGCNVKATMDVVEDMATEVTLYALEQYDSFP GMEYVDDKYGDCGTKATTEVVHDDASEVTMYGLEQY EYP
 NIDYI NDKYNGAKVKATDDVVKDIATESTLYGIETYEKFP GMDYIKSKYKVDKVKATQDVVNDIATEVNLYGMEQYEQYP VKDYASQKRGIGKPKHTMETVKDIGT GADYVQKKYGGAKAKPSFDVIKDVAT GYDYIKGKYGVSNANAPMDVVNDVRADVTLHG|KGYDKYP GKEYVEDKYGGTEAPHDFDVVLDVATEVGYSLEQYEEYP

UniRef90 D6NIW8 UniRef90_Q6V262 UniRef90- B2ZC11 UniRef90-Q49KB4 UniRef90-D7UT81 UniRet90-D2TFYO UniRef90-B0Z8U2 UniRef90_LTUUT4 UniReffo-M1NZ85 UniRefolo-A1XVZ4 UniRef90_COLKS2 Uniref90-l1 $8 \times 7$ UniRef90-U3N913 UniRef90-N1IRL1
UniRef90 Locta UniRef90-Q49KB6 UniRef90-W5RW31 UniRef90-LTUWH2
UniRef90 S 5 S 993 UniRef90-M5AUQ2 UniRef90-A9JOR1 UniRef90-K4Q0L8
UniRef90 A7BK37 UniRef90-F1T2X7 UniRef90-Q51EN1 UniRefoto-A9JQQ9 UniRef90-M1 Q989 UniRef90-11X925 UniRef90-B0F7B0 UniRef90-N1INT8
UniRef90 O7ZAE9 UniRef90-D2CYOO UniR Refo_OOZZ8K6 UniRef90-A2TID8
UniRef90 A1XVY8 UniRef90-BOKWY6 UniRef90_A0A024J4K8 UniRef90-A0A023UK53 UniRef90-C6ZPI5 UniReffo-R4SETO UniRef90-D3Y3S8 UniRef90_-9C4 UniRef90-COLL20 UniRef90-D1M806
UniRef90-B0Z9C6 UniRe990 Bozach
UniRei90-W5RVN2 UniRef90-A0AO23UHG2 UniRef90-Q50387 UniRef90-L7UTT6 UniRefoto M 10971 UniRef90-Q5W1G9 UniRef90-Q6SIF2
UniRef90-B0KXD7 UniRef90-D3Y414 UniRef90-R4SAW1 UniRef90_COLKT3
UniRef90_B0Z973 UniRef90-Q0Z8L7 UniRef90-B0KWY1 UniRef90-B1GTG9
UniRef90 LTUTF6 UniRef90-M108A0 UniRef90-G9MD45 UniRef90-BOCMK9 UniRef90-T2вв33 UniRef90 A0AO23R6M1 UniRef90-BOKXB4

UniRef90 G4WKP4 UniRef90-Q6SIF5 UniRef90-BoZ9G6 UniRef90- $99 \mathrm{QWP1}$ UniRef90-W5RY19 | UniRe90 |
| :--- |
| UniRef90_M1NYK | UniRef90_BokXF9 UniRef90-A0A023UF61 UniRef90_U3TDP3 UniRef90-G4WLJ55 UniRef90-G9M9W1 UniRef90-A1XWH1

UniRef90_G9M9W2 UniRef90-F6KHA3 UniRef90-LOAP91 UniRef90-W5RVZ3
UniRef90-H8YQQ4 UniRef90_W5RYB9 UniRef90-Q7ZA966 UniRef90_BOKX92
UniRef9O_E3Q0C5
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 TALEDHFGGSQRATVLAAAAGVAVALGTANANAGLSGWYL TLMEDHFGGSQRAAVMAAAAGLSTSDTTGNSNAGLNAWYL TTLEDHFGGRERATVLSAAAGVSTAMATGNANAGLSGWYM
 TTLESHGGSQRATVLSAASGVSTSLATANSNAGLNGWYM $\stackrel{T}{T}{ }^{1}$
 TVMESHFGGSQRAACISAASGCTTAMATGSATSGUNAWYQ ALLEDHFGGSQPAAVVSAAAGCSVAFATGNSNAGINAWYL TALEDHFGGSQRATVLAAAAGVTAADATGNSNAGLSAWY TLMEDHFGGSQRAGVIAAASGLTCSIGTGNSYAGL
T ALEDHFGGSQRATVVSTAAGGATALATGHSNAGLSAWYL TMLEDHFGGSQRASVIAAASGLTTAI GTGNSNAGLNAWYL TALEDHFGGSQRATVLSAAAGSAASIATGNSNAGLSAWY TALESHLGGSQRASVLAAASGLTTSLATCNSNAGLNGWYL TLLEDHGGSQRATVLAAAAGVTAALATGNSNAGLSAWYL ALLETDFGGSQRASIVAAAAGCSTGFTTANAQTALSGWY TTLIEDHGGSQRGTSLSAAAGSAVALATGNGNAGLSGWYL AVMETHFGGSQRGTVTAAATGDAAAMATGNADDGVNGWYL TALETHFGGSQRASVLAAAAGLTTADATGNSNAGLNGWYL TLVEDHFGGSQRAGVMAAACGLSCSIA GALESHFGGSQRASVLAAASGISVAVATANSNAGLNGWYL TALEDHFGGSQRATVLAAAAGAATALATANANAGLSGWY TALETHFGGSQRASVLAAASGLSAAMGTGN
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T PLEDHLGGSQRVTVLAMAAGGA\HTAAGHSNAGLSAWYL $S$ LMETHFGGGSQRAAVVAA GA GVSVS LATGHATAGVVNGWYL T TLED HFCGGGSQATVLSAAASACTAMATGNANAGLSAWYL T LMEDHFGGSQRAAI AAAAS GCSTAFATGNAQAGFS GWYL

UniRef90 D6NIW8 UniRef90_Q6V262 UniRef90-Q0Q2A9 UniRef90-B2ZC11 UniRef90-D7UT81 UniRef90-D2TFYO UniRef90- BoZ8U2 UniRef90-L7UUT4 UniRef90-M1 NZ85 UniRef90-A1XVZ4 UniRef90 LTUTF7 UniRef90_COLKS2 UniRef90-11X8X7 UniRe90_u3N913 UniRef90-N1RL1
UniRef90- LOCT 93 UniRef90-Q49KB6 UniRef90-W5RW31 UniRet90 L LTUWH2 Uniinefoo-S5S993 UniRef90 A9JQR1 UniRef90-K4Q0L8 UniRef90-A7BK37 UniRef90-F1T2X7 UniRef90-Q5IEN1 UniRefofo-A9JQQ9 UniRef90-I1X925 UniRef90-B0F7B0 UniRefo-NINT8 UniRef90-D2CYoo UniRef90_O0Z8K6 UniRef90_A2TID8 UniRet90_A1XVY8 UniRef90-BOKWY6
UniRef90 A0AO24J4K8 UniRef90 ${ }^{-}$A0A023UK53 UniRef90_C6ZPI5 UniRef90-R4SETO UniRef90-D3Y3S8 UniRef90_Q9C4JO UniRef90-S5RKG7 UniRef90-COLL20 UniRef90-B0Z9C6 UniRef90-W5RVN2 UniRef90-A0A023UHG2 UniRef90 Q50387 UniRef90-L7UTT6 UniR Refo-M1 Q971 UniRef90-O5W1G9 UniRef90_O6SIF2
UniRef90 BOKXD7 UniRef90-D3Y414 UniRef90-R4SAW1 UniRef90_COLKT3 UniRef90-BOZ973 UniRef90-B0KWY1 UniRef90-B1GTG9 UniRef90-LTUTF6 UniRef90-M1 Q8A0 UniRef90-G9MD45 UniRef90-BOCMK9 UniRef90-Т2вв33 UniRef90_A0A023R6M1 UniRef90-BOKXB4
UniRef90 G4WKP4 UniRef90-Q6SIF5 UniRef90_BoZ9G6 UniRef90-J90WP1 UniRet90-W5RY19 UniRe90
UniRef90_M1NYR UniRef90-BokXF9 UniRef90-A0A023UF61 UniRet90_U3TDP3 UniRef90-G4WLJ5 UniRef90-G9M9W1 UniRef90-A1XWH1 UniRef90-G9M9W2 UniRef90-F6KHA3 UniRef90-LoAP91 UniRef90-W5RVZ3
UniRef90-H8YUQ4 UniRef90-W5RYB9 UniRef90-Q7ZA96 UniRef90-B0KX92 UniRef90_E3Q0C5

SQTGQYERTGRILGFYYDLLQDQCKSANSFSYRSDEGLIPFEM ${ }^{180}$ SQUMHKEGHGRLGFYYDLQDQCGAANTLSVRSDEGLPGEL
SMLVHKDGWSRLGFFYDLQDQCGSANSLS $\square R G D E G A D G E L$ A QYLLKEAEGRLGFFYDLQDQCGASNAFSYQSDEGLPLEL


SMY LHKEGHGRLGFFYDLQDQCDATNVFSYQSDEGEPVEL SMLMHKEGWSRLGFFYDLQDQCGS
SMLLHKE GWSRLGFYGYVQ
SMLLHKEGWGRLGFFYDLQDQCGPTNVFSYQSDEGNPDELL
SMLMHKEGWSRLGFFYDLQDQCGSANSMS $\square R P D E G L L G E L$


SMYDHKEAHGRDGFYYDLQDQCGATNVFSVASDGGCVGEL SMLMHKEGWSRLGFFYDLQDQCGSTNSLSIRPDEGAMGEL CMYLHKEAHGRLGFFFDLQDQCGAANVFSYQSDEGLPLEL AHLLHKEGWGRMGFYYDLQDQCGPTNVFSYQGDEGSPLEL SMLMHKEGWSRLGFF
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 SMLLDHEGWSRLGFYYDLQDQCGSANTMSFRPDEGALGEL
SQTLHKEVHSRLGFYYDLQDQCGASNSLSTRSDEGLIHEL SMLMMKEGWSRLGF FYDLQDQCGSANTLSVRPDEGCIGEF
$S M Y L H K E A W G R L G F F Y D L Q D Q C G A T N V F S Y Q G D E G L P D E L C$ $S Q I L H R E A A G R L G F Y Y D A Q D Q M G A A N S F A F R G D E G L P M E L$


SMYDHKDAWGRFGFYYDVQDQCGATNVFS $\square$ GS DEGGDGEP SQLLHKESMGRLGFYYDCQDQCGSANSFSWRSDEGLMFDL SMYLPEEGWGRLSFFYNLPDRCGATNLFSCDSDKGAIPHLL SQILHKEAHARLGFYYDLQDQCGAANTYSIRSDEGLPAEL

UniRef90 D6NIW8

RGPNYPNYAMK
RGPNYPNYAM
RGPNYPNYAMNV
RGANYPNYAM
RGANYPNYAMNV
RGANYPNYAM

R G A N Y P N Y A M
RGPNYP
RGPNYPNYAM
RGPNYPNYAMK
RGPNYPNYAMNV
RGANYPNYAMNV
RGANYPNYAMNV
RGANYPNYAM
RGPNY
RGPNYPNYAM
RGVNYPNYAM
RGPNYPNYAMNVGHQGGYAADASAAHAGRGDA
RGPNYPNYAM
R G A
RGPNYPNYAM
RGPNYPNYAM
$R G P N Y P N Y A \square R \quad A N S S T \square A A V T S G S E L G$
RGP
RGPNYPNYAMN
RGPNYPNYAM
RGPNYPNYA
R G P N Y P N Y
RGANYPNYAM
RGGNYPNYAMN
RGPNYPNYAMNV
RGPNYPNYAMK
RGANYP
RGPNY
RGPNYP
RGANYP
RGANYPNYAMNV
R G P
RGPNYP
RGANYPNYAM
RGANYPNYSM
RGANYPNYA
R G
RGPNYPNYAMK
RGPNYPNYAMNV
RGPNYP
RGPNYPNYAM
RGPNYPNY
RGPNYP
RGPNYPNYAM
R G P
R G
RGPNYPNYAM
R G P
R G
RGANYP
RGPNYPNYAM
RGANYPNYAMN
RGPNYPNYPMNV
R G VT
RGRELP
R G
RGPNYPNYAMN
$R G P \square Y P$
R G P
R G P
R G P
RGAKYPNYTMNV
RGVNYP
KGPNYPNYPMNV
R G
R G

RRARGPNEPGS $\square$ K VRT T $\square$ PQPQ RTRYGHP $\square E \quad S \square P Q A R$

RRARGPNEPGGMPFG』LADCVQSNRVYPEDPGRHTDEVIA

PQXAELKGMA

D $\square$ C Q A D R $\square$ S P D D P VK S S $\square \mathrm{E}$ VA A

R R A R GPNEPGG $\square$ K F GHFADMVQT DRKYPHDPAKAS LEVVG

K T E $\square$ G GFP $\square$ GFMAEFSP $\square$ PPES $\square$ QDQGRFN $\square$ GCGG

RRARGPNEPGGLSFGXMCD VVQTSRKFXDDPCK DALETCA $P Q V P P T T P R Q P L K S S V Q V Q C$

RRGRCPNRDGAVKFGHFGKLVQSDRKYPDDPQKASLEVVA
ARGPKRARWHQVGQFADM $\square$ QGRPASTRTTPRHP $\square K S \square G$


60
GGO 70
GFTQYATAAYT DNDLED Y V VYY GGVGFTQQYATAAYTGDVLEDYTYY
CSSTRSGSAATCLVVS GSPSMQPGHTPTYS
 GGVGFTQYATTAYTNNDTDDDLYA
 GGVGFTQYATAAYTDNILDDYTYY
VAATVDVQF WF GTYMYGGVGFRRYATVTYTDNILEDFCYK
GVGFTQYASATYTDN L L A E E E Y C Y Y W

$$
G V G F T Q Y A T A P Y T N N T V D D N G Y A
$$

GFTQ
QYATAYTDNILDDNLYY
GGVGFTQYATAAYTDNILEDYTYW YDRTWLGSYMSGGLGFTQYSTAAYSNNILDDNDYY A GCMLYDQIRLGSYMSGGVGFTQYATASDHRQHPRRLQLL

GGVGFTQYATAAYTDNILDDFFYH MSGGVGFTQYATAAYTDNILEDYCYW MS GGVGFTQYASATYY PYTNNTV D DNLYA GSYMSGGVGFTQYATAAYTDDDLDDYVYY A GTMDFD Q $\square \mathrm{W} \square \mathrm{L}$ S Y MS GGVGFT QYATA D QLWF GTYMSGGVGFTQYATA YTDNILDDEFVYS Y D Q $\square$ WDHNYMAGGSGWSNY I VVVYDNVLD

GSYMSGGVGFTQYATAAYTDD\|LDDF


LGSYMSGGVGVTQYATPAYTDDVDDFLRW A A MMLY DQ $\square$ WLGGYMXGGVGFTMYATAAYTNNTVDDNLYA CST K I WLGSYMS G GVGF QY QYY
ПH TVCNSTYT DN EDFCYK A GTMLFDQ ATATYTDNILEDFCYK A GTMLFDQ FTQYATAAYTDNILDDCTLY
G VG
80
ATPAYTNDDLDDYLYW

UniRef90_E7CXN9 UniRef90_A7Y332 UniRef90-16LGK7 UniRef90-A1XVW2 UniRef90 R7Q3Y0 UniRef90 BOKX11 UniRef90_B0Z903 UniRef90_H2E1X4 UniRef90 A1XW96 UniRef90-14E9B7 UniRef90-G9M9X7 UniRef90_B0KXD2 UniRef90 C9YSI5 UniRef90-A0A023UFS3 UniRef90_C9WX09 UniRef90 W5XLF0 UniRef90_G9M9Y9 UniRef90_A8US23 UniRef90_LOCV25 UniRef90 A1XVU3 UniRef90-A7Y329 UniRef90_LZUTC0 UniRef90 M5EEX8 UniRef90 K4Q4L0 UniRef90_S6BAM1 UniRef90-S5S8Z4 UniRef90 G9M9Y2 UniRef90_A1XVZ0 UniRef90-B0CMJ4 UniRef90_D1MJE7 UniRef90_DOVNM7 UniRef90-LOCT81 UniRef90-D3Y3N6 UniRef90 S5S8U7 UniRef90-B0KWY9 UniRef90_A1XVY6 UniRef90_A0A023UH2 UniRef90 A1XVY5 UniRef90-B0Z8Z8 UniRef90_A1XVV5 UniRef90 G9M9X5 UniRef90_A8KNL6 UniRef90_A1XVY9 UniRef90_C4P7Z9 UniRef90 A1XVU8 UniRef90-B0KX13 UniRef90-B0KXC5 UniRef90-B0KX08


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90
100
110
S|ID Q\| K K R Y G GCKLLDPNYDELLMNLAEDVDSYSLEMYERYP A I DYi KDKFGGFGKLNDFDKLDQLGDDINSYALESYEKYP GKDYVEDKYGGTEASNNMDTVFDVGNEVALYALEQYESYP ACDYGVDKFGGWEAPATLETSKDIATTETTLYAMEQYEAFP
 GMDYIKDKYKVDKVKAS QDVVNDVATEVTMYGMELYE QFP G I D Y I K D K Y G F N S V K P P S V D E I Q K I S T D I Gil Y C L E T Y E N Y P


 DTEHGWDTYGGNVKAPTLDII REMGTWGTLYGLELYENYP GADYANKKYGGAKAKATMEVVKDDAT ETTLLYGLESSYEKYP
 GYDYALDNKYGDGTAPNDLATATDLATEVTLNGMESYEDYP A A D LVKD K F GGAKMDPEVNELMMELVNKVNTYAMLSMYE E YP


 SADYVKKKYGGAKAKPSMEVIKDVATYTTDYGLSQYEDFP

 DKD Y V E K K Y G GAKAKASMDVVMDVAT ESTLYNLEQYERYP GMDYI K DKYK VDWKNPNEDKVKGIPGRRQRCCNRGBPLWY
 GMDYLLKDKYGYNYQKPTQELVNDI ANEVTLYSMEQYEKYP
 GDE Y I K G K Y G V N R L K C T M DVV V N DI S T E V T L Y A M E Q Y E D S P

 GKEYVEDKYGGTEAPNTMDTVLDVGSEVNFYALEQFEDYP

 GDEIIAVDMFGRGKAEPTMENI EKLTTRAGSDYCLTQYEAYP
 TVLTTMSRRTTERQNRPRKRRSATLLHPKSRSTDVWSSSSNE QYP $G L H Q G Q Q V Q Q Q L Q E P R R E G Q G Q D N P G R C Q R H R D R R Y G A V R$ GMDY L H DKYK V DK NP NANDKVK ATRPKSTFTVWNSDE
$G L H Q G Q R R E G Q G Q G N P G R \quad C Q R H R D R G H P L R Y G A V$
lupas_21
lupas_14
lupas_28
jnet
conf
sol25
sol5
sol0
jhmm
jpssm



| lupas_2 <br> lupas_2 <br> jnet <br> conf <br> sol25 sol5 <br> sol0 <br> jhmm jossm |
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UniRef90 A7Y332 UniRef90-D6PUV5 UniRef90_16LGK7 UniRef90-A1XVW2 UniRef90_R7Q3Y0 UniRef90_B0KX11 UniRef90-B0Z903
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170
180
190
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 VPVVHAPAQGR
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 CPVLRTEVHGGLGFYFGYTDQCAASHSLSDRSDEDVAYES SMLMHKEALVTSRFYSSATTCMTSAVLDVRPARRVSGEL CMY HKEQHSRQGFYYEKQDQCGASNV


## VHVHARPQGRL

A QLMHYGTIGRLGFYYDLQDQCTPSTSFAYRSDEGLPFEM AQLLHYASVGRLGFYYDLQDQCSSSTSFAYRSDEGLLPFEM VPI HAPTQRR
SMLGHYERQGRLGFYYDLQDQCTAPCSYSYDSDEGDPFEM SMLLHKEGWSRLGFF
SMLLHKESWSRLGFYYDLQDQCDPPNTDSYRAMKNCL
AMLLHKTAWSTI FVFYDLQDQCGSATSPSDR DRAAIGEV $V \operatorname{V} P V D A P A Q G R L V T V L R L R P A G T S A N S L S Y R S D E G L$

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UniRef90_E7CXN9
UniRef90-A7Y332
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UniRef90-I6LGK7
UniRef90-A1XVW2
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UniRef90_A1XVY9
UniRef90_C4P7Z9
UniRef90 A1XVU8
UniRef90_B0KX13
UniRef90_B0KXC!
UniRef90 BOKX0&
lupas_21
lupas_14
lupas_28
jnet
jnet
conf
sol5
sol0
jhmm
jpssm
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[^0]:    lupas_21
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    lupas_28
    jnet
    conf
    sol25
    sol5
    jhmm

