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FPI ESGHGCI GCSEPKFWDAG PFYK WPVMAGHGCVGCAEPGF $\square$ DTMAPFYRR YPIQSGHGCIGCAEPGFWDA EPMYHH WPVGSGHGCAGCSEPHFWDTMTPFYRR WPVESGHGCLGCSEPDFWDGGS FYK FPI QSGHGCI GCSEPGFWDRGG FYQ YPI QSGNPCI GCSEADFWDNG PFYTH WPI EAGHPCI GCSEPKFWDEMAPFY WPI GAGHGCI GCSEPQFWDKYA

 \begin{tabular}{l|l|l}
YP \& QSGHGCIGCSEKGFWDNDV FYKR <br>
FP \& QSGHPCFGCSEPNFWDRG

 

WP VAGHGCDACASPRFWDTASPFYER <br>
WPVAGHGCMGCVEMGFFDKFA
\end{tabular} WPVQAGHGCMGCVEMGFFDKFA

YPI ESGHGCIGCSENDFWDRGS FYDR WPVS $\square$ GHPCI GCTEKD
YPIKSGHPCI GCSENNFFDN TPFYTH WPVACGHPCI GCTEQG

WPI GAGHPCI GCTEKYFYDRFTPFYQT WPI GAGHGCI GCSEPNFWDTMSPFEE WPVDAGHGCIGCSEPGFVDKFGSFEK | $F P I$ | $Q S G H G C L G C S E P R F W D K D S F Y K$ |
| :--- | :--- | :--- |
| $W P$ | $Q S G H G C I G C S E P Q F W D T M T P F Y K R$ | WPI EAGHPCI GCSEPDFWDEMSPFYE

 WP $\operatorname{l}$ GVGRGCI GCSEPGFWDKYA YER FPI QSGHPCI GCTELHFFDRMTPFYKT WP GVGRGCI GCSEPDFWDKYA
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FCI A A S APCAGCVEPSFPKL P L Y E WPV RAGHPCDGCSEPNFWDDLSPFYQN WPVRAGAPCI GCANPGFPDSSMPFYNH WPVQGGHGCI GCSEPNFWDNFG
WPVQAGAPCUGCSEPNFWDDYSPFF $W P V Q V G H G C F G C$
$W P V G I G H P C Y G C N E K G$
 WPI QAGHGCI ACSEPNFWDDFGVF FPI QA GHPCI GCSEPDFWDSMTPFYEE WPVAAGHGCIACSEKNFWDEFGNYEK WPVG $\square G H P C F G C T E K G$
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WCVQAGSPCTGCCEANPNDPGTPFYKR
SPI MAGAACI GCSEKGFWDKGT
FPI QSGHGCIGCSEPDFWDFGG
WPVGVGHPCFGCSEGG
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$M N L L W L Q A G G C G G C T L S L L G A D A R D L L R Q L E D G \square$
M R N P K $\begin{array}{lllll}T & V & L & W & L \\ T & L & L & W \\ W & L & Q\end{array}$
MAKEKMT
$M R K Q R L N$ MRKQF L N M

WFQ



$\square A E \square P E T$
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N A R $\underset{K}{P}$

MEA GQA
M M K K $\begin{array}{lllllll}N & M & L & W & L & Q & \\ R & L & L & W & H & G \\ R & V & W & W & Q & A \\ N & L & W & L & Q & S \\ N & L & W & L & Q & S \\ V & V & L & W & Q & S \\ N & L & L & W & L & Q & S \\ N & V & L & W & L & Q & S \\ T & L & V & W & L & Q & S \\ N & V & L & W & L & Q & S\end{array}$

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UniRef90 UPIOOO361E8C9 UniRef90-D7CK55 UniRef90-D8K1V0 UniRet90-V1TNX9 UniRef90_A5FSH8
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UniRef90-LOH2Z9 UniRef90-UPIooo30410F6 UniRef90-W9VGG0 UniRef90-G4KU69 UniRet90-C1FNYO UniRet90-K4KXD2 UniRef90- $\mathrm{R7B513}$ UniRef90-UPIO003690923 UniRef90-A5D1L0 UniRef90-UPI0001E2E2AE UniRef90-UPIO00378D708 UniRef90-UPIO00365D9F1 UniRef90-Q01R84
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UniRef90 F8IBE7 UniRef90-F8IBE7
UniRef90 $10 \mathrm{HV97}$ UniRef90-A0A018QUF8 UniRef90-G8QKVO UniRef90-F8JIO8 UniRef90-A9WK96 UniRef90-DOIAG8 UniRef90_UPIO00360A9B1 UniRef90-Q46BF4 UniRef90 V7EPU2 UniRef90-UPIO0036DEACA UniRef90-A6E4D5 UniRef90-UPIo0037BA93F UniRef90 WOSEZ4 UniRef90_QOA734
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$A P N G M W N R F D R P M N W V E L A D A S F V V A G G C A T Y G G$ APNGMHTATLGGEPPFADRVRQMAAKAKAVMAVGTCAAYGGGC APNGEWNRFAGRPMKDWVTDLSKVAKFVVAAGDCASWGGU AAGGRYAH $G$ GRTAWDAVVELAAAKHVVAVGSCAAWGLP GPNGHVLAGTGRPTDDWARDLAAVAGNVLAI GTCAAYGGI GPNGTFDVFAERPMQDWVRELAARAQVVVAVGDCACWGGI
 GPNGHLLAGTGVPMDSWVRRLAAQARHVVAVGSCAAWGGV NEDGMFCLLAGEPFLEKLKRVSADAKAIIAWGSCASWGCV GPNGHVAGTGBPMLDEWLRELABQARYVVGVGSCAAYGGI APNGRYNMFADRPMQEWVRELAAQASIVVAIGDCACWGGI APNGMFDVFRKTAKKEWVQQLAEKARYVVAMGTCAAFGGV
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UniRef90 F0JKJ4 UniRef90＿D8F4Y3 UniRef90＿I6D087 UniRef90＿LOH2Z9 UniRef90＿UPI00030410F6 UniRef90＿W9VGG0 UniRef90＿G4KU69 UniRef90＿C1FNY0 UniRef90＿K4KXD2 UniRef90＿R7B513 UniRef90－UPI0003690923 UniRef90＿A5D1L0 UniRef90＿UPI0001E2E2AE UniRef90＿UPI000378D708 UniRef90＿UPI000365D9F1 UniRef90＿－Q01R84 UniRef90＿17J673 UniRef90－A0A011ABP7 UniRef90＿S6C081 UniRef90＿UPI000319847E UniRef90＿T0JTU9 UniRef90－A0A037Z8X2 UniRef90－W7WM16 UniRef90＿B8FWY3 UniRef90－D0WFL3
UniRef90 G7WCQ0 UniRef90＿G7WCQ0
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UniRef90 B8D1R7 UniRef90＿B8D1R7 UniR190－Q10753 BD8BC
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UniRef90＿Q2JE33 UniRef90＿A2SJM2
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140
150
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P KA P PNP TGAMSVVGVMV


 MAAYPNPSNALGVQQYLKKRGIPPVVNVPGCPANPEWATSV




SKANPNPSESKSAKEILGRD
SAARPNPTQCVGVQEVL

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PAMAPNPSQSTGLQFWRSKAGLPVINIP

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PAADPNPTESTGLQFHRKEMSLPVINLS
H A A P P NP T DCLGGLQEWRSRKGLPVI NI SGCPAHPNAMTKT



PAAEPNPTESTGLQDFRSKSGLPVINLAGCPAHPSWILTV
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HAMA GNPTGCMGLWDFRSA GGLDPVVNVGCPVQPDNFMET
 $P$ GAKPNPTGAKGVQDFLYEDNKTVINIP


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UniRef90_D7CK55 UniRef90-D8K1V0 UniRef90_V1TNX9 UniRef90-A5FSH8 UniRef90-F0JKJ4 UniRef90 D8F4Y3 UniRef90_I6D087 UniRef90-LOH2Z9 UniRef90_UPI00030410F6 UniRef90_W9VGGO UniRef90_G4KU69 UniRef90-C1FNY0 UniRef90_K4KXD2 UniRef90_R7B513
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UniRef90-A0A022MLA4 UniRef90_I4ED19 UniRef90-D2RD73 UniRef90_Q8PV03

VAHTLLYG $\quad$ M
180
190
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 I TYMLAFDRIPPLDRLGRPKMFYGQRIHDKCYRRAHFDAG LATVLMSGDALDLDDMGRPKAYYGKLLHDQCPRRGHYEKG IVHFLTKG VPELDAVGRPDPFYGETVHDNCPRQAHFDAD VVNYLLLGKLPALDELGRPLFAYGQTIHDQCPRRSHYENG I TYMVTFDRLPDVDRMGRPLMFYGQRIHDKCYRRAHFDAG

 LA YVMLFGE PELDDDRQRPLMFYSTLI HDDCPRRPYFDQG
 LVDVLLVGQLPELTNENKPKVIFNQTVHDNCQRRGHFENG

 I LYYLSQGM PTLDSDRRPTVFYGDTVHEDCYRKESFEEG

 LAYLILYGEPP LDSRDRPLMFYSDTIHDRRCPRRSYFDSG LVDVVVMKDMDRLNEFNMPGDLFNQTIHDNCERRGHFENG II ANLVAFG $\square P E L D E L G R P \square M F Y G \square T I H D R C T R R S Y F D K G$ LAHLLMYGKDPELDSLGRPTLFYGATVHRHCQRRSYFDNK
LAHLVGYG LPELDSQSRPTMFYGATIHDTCTRRGYFDKK I TYMLTFDKIPELDRQGRPKMFYSQRI HDKCYRRPHFDAG LL HLALYGEPELEKFGRPKMFFGETIHNNCPRRRYYDQG LV V VVMMLGK LPEELDAFGKPKEVFSQTVHDNCERRGHFENG VLEGGLAEVVKVLDSDGRPTPFFGRNLHENCPYLDKYDEG
 LAHLLMYGE PEMDNDNRPLMFYSTSLHDRCPRKHFFDKG LVALATGRAADDDDELQRPRTFFTSFTHTGCTRTEFFEYK $\begin{array}{ll}V G A V I L G K D K V P D D Q Y G R P D V F F D H T V H E N C P R R G Y Y D R G \\ L A H L Q M Y G & L \\ \text { A }\end{array}$ LMYWVLNKKAPELDSNFRPKMFYSETVVGGECYREEFFEDGG
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LMLLAEDALRPEDDVYQRPRFYADHLVHHGCPRNEYYEYK |LMALAA AKTAGDADEQLGRPRFYADQLVHHGCTAREYYYEFK LVAVASGRADD IADELQRPQTFFSTFTQTGCTRAQYHEWK IL MALADGSAAADLDALQRPRFYADQLVHHGCTRNEYYEFK LYMLAFDRAPP DRGBRKMFYGQRIHDKCYRRAHFDAG L MALLALGQQARDLDALQRPRFYSDQLVHHGCPRNEFYEFK LVAVASGRAADVADDLLRRPQTYS TSLVTQTGCSRNVQYYEYK LAMIASGUILQLDELNRPKEFFSSLVHQGCTRNEYHEYD
 LLLLSAGAIGAGDDGYRRPRFYADHLVHHGCPKNEFYEYK
 LMALALDGTADDLDPYRRPRMYADHLVHHGCTRNEFYEYK LAMLAHGRRAEHLDDFGRPRFFADQLVHHGCPRNEYYEFK LMAVAMGLDEDALDEWRRPRFYADHLVHHGCARNEYYEFK L LQL S LGFTEADLDS LGRPKFYAEHLVHHGCPRNEYYEYK L MALA ADLLFAEQ DALGRPRFYADHLVHHGCTRNEFYEFK LVAI AVGRIGDQIDDYHRPKTFFTDFVQTGCTNVVNFAQK LSLI LNGKSADDLDEYQRDK IIYGTTTQFGCPRNLYFAYK L MLLAT GLLLADDLDVYNRPRSYADQLVHHGCPRNEYYEYK LAFALEHGTAKDLDAEGRPSVFADENIHBDNCPYDEHFEND VLYLLYQAPMLPLDEQLRPTWLFGKTVHEGCDRAGYYEQG L AEYAA G GLAPMQLDKELRPTWLFGKTVHEGCDRGSYYEQA LAALAMDALAESDDPYRRPRMFYDHLVHHGCPRNEFYEYK L AMLASGLPLELDHLNRPKAFFNSTVHQGCTRNEYHEYD LSAVIMGAKID LDEHGRPKALFGTNMHDECPYRPGYDRG LMS ALGHNDEQLDKFGRPRMYADHLVHHGCSRNEFYEYK LLYRQLAGAAPMIDDAGRPKWLADMLVHQGCDRAAYYEQA I ASLILYGDVD VDAKGRPLMFYRETNHTDCQRRSYFDNN LHLVLTDRLTPDMDEYGRPKMFYSTTTQFGCPRQPYFTYK LLMLIADGTLGAQDDGYGRPRFYADHLVHHGCSKNEYYEYK LVYYQATGQAPMDDESLRPTWLFGNTVHEGCDRAGYYEQG I LYYQAVGAAPMI DEGLRPTWLFGATVHEGCDRGGYYEQG LLWHQAAGQAPVIDEQLRPTWLFGKTVHEGCDRAAYYEQA LVVLHAAPPPPLDHMLRPQWLFGRTVHEGCDRAAYYEQA
LWWLLYQAPMIPREEAL RPTWLFGKTVHEGCDRAGYYEQG LLWLLYQAPMDPLDEALRPTWLFGKTVHEGCDRAGYYEQG GADALGDLPEVLDRWHRPKVFFDHTVHDNCPRRGYYDRG
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UniRef90 XozPL5 UniRef90-UPIOOO361E8CO UniRef90-D7CK55 UniRef90-D8K1V0 UniRef90_V1TNX9 UniRef90_A5FSH8
UniRef90 FOJKJ4 UniRef90-D8F4Y3 UniRef90-16D087 UniRef90-LOH2Z9 UniRef90-UPIooo30410F6 UniRef90-W9VGG0 UniRef90-G4KU69 UniRef90-C1FNYO UniRet90-K4KXD2 UniRef90 R7B513 UniRef90_UPIO003690923 UniRef90-A5D1L0 UniRef90-UPI0001E2E2AE UniRef90_UPIO00378D708 UniRef90_UPIooo365D9F1 UniRef90 Q01R84
UniRef90-17J673 UniRef90-A0AO11ABP7 UniRef90-S6C081 UniRef90_UPI000319847E UniRef90-T0JTU9 UniRef90-A0A037Z8X2 UniRef90-W7WM16 UniRet90-B8FWY3 UniRef90-DOWFL3 UniRef90-G7WCQ0 UniRef90-A1VCV2 UniRef90-C7N5Y2
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UniRef90
B5EP08 UniRef90-B11618
UniRef90-G7ZE58
UniRef90-Q2JE33 UniRef90-A2SJM2
UniRef90-F8IBE7
UniRef90 10 HV 97 UniRef90-A0A018QUF8 UniRef90-G8QKVO UniRef90-F8JIO8 UniRef90-A9WK96 UniRef90_DOIAG8 UniRef90_UPIOOO360A9B1 UniRef90-Q46BF4 UniRef90-V7EPU2 UniRef90-UPI00036DEACA UniRef90-A6E4D5 UniRef90-UPI00037BA93F UniRef90 WoSEZ4 UniRef90_QOA734
UniRef90 NoB1 Jo UniRef90-F1W459 UniRet90-E1QFN1 UniRefotocaolsk 1 UniRef90-UPIO00361707D UniRef90-F3Z320
UniRef90_UPI0003702A78 UniRef90_G7ZV66 UniRef90-AOLAK1 UniRef90-W9V316 UniRef90-G31W23 UniRef90_O28890 UniRef90-S5AAG5 UniRef90_UPIO004752F40 UniRef90-C6PTB6 UniRef90-A0A031LM59 UniRef90-11AUG4 UniRef90-UPI0003B56BAC UniRef90-UP100047E06DC UniRef90-UPIO00380076B UniRef90-UPI0003AD278C UniRef90-A0A022MLA4 UniRef90_-14ED19 UniRef90-D2RD73 UniRef90_O8PV03
$\square$

KFARKDGEEG ${ }^{210}$
220
230
240
CLLYE|LGCKGPFTYADCPLRHWNG|V|N RFAKTFDDAGARAGWCLLELGCKGPLTRNACSTLRWNGVS DFAKNFGDPG OHGMLELGCKGPIAHCDATTRLWNGVN QFVEAWDDEGARKGYCLYKMGCKGPTTYNACSTVRWNDG LFATKLSEPARKYCLFLVGCKGPVTYADCSDRLWNNTR EFAPSFGSEEARKGWCLRKLGCRGPETFNNCPTVKFNQYN EFVQSWDDDAARKGYCLYKMGCKGPTTYNACSSTRWNGVS GFAETFDDAGARAGWCLYRLGCKGPSTYNACATMRWNGTS
LFAETFDDEGARRGWC IFAKKPGEKG $\quad$ CMFKLGCRGPVTRVDCPIRKWNRVN NYLKDWNDP AQKDYCLILKGCKGPKTYTDCAQVWYNDTN
 PLAWAFDDANSRKGKCLYMLGCKGPVTHNACSRIRWNGTS

| FFFF$\square \mathrm{F}$DYF |
| :---: |
|  |  |
|  |  |
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|  |  |
|  |  | DFATDIGQKE CTYRVGCKGPVTYADCPTRRWNHYN EFVYEYGSPEEAMGYCLYPLGCRGPQTKANCGVAMYNGRS EFLTDWNDP GQKEYCLILKGCKGPKTYTDCAQVWWNDAN VMSATFTDEEEKVGCRYDLGCKGPMTMADCFERKWNGVN EFVVYEFGSEEEALGYCLYPLGCRGPQTYANCSVVRWNGVS


$\stackrel{\text { E }}{\text { E }}$
A

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ASA
NFAKTFGER
$\vee A \square K E F G$
VA $\operatorname{AKEFG}$
ASAATFTE
DFAHEYGSPK
ASAEKLG
ASAEKLG


A
VEDTEFGD VFIEEPGNG
ASAVDMGD
ASAKEPG
QFAHEYGSRK
QLGc







 EKPSDLGCMMEHMGCKGTQVHADCNTRPWNGEG GEPG

I A LKELG HKEGCL
 ASARALCE DFATEYGSPK $A$ ASA CIVKLGWGPVVKCNVPKRGWNGQG  -

E | $D$ |
| :--- |
| $D$ |
| $D$ |
| $D$ |
| $D$ |
| $E$ |
| $A$ | GRRGGCLFYEVGCRGPMTRASCNNILWNRQS KDSDLGC LYFELGCSGSYTRSPCNVILWNSQS

UniRef90 XOZPL5 UniRef90-UPI000361E8C9 UniRef90-D7CK55 UniRef90-D8K1V UniRef90-A5FSH8 UniRef90-FOJKJ4 UniRef90 D8F4Y3 UniRef90-I6D087
UniRef90-LOH2Z9 UniRef90 UPI00030410F6 UniRef90 W9VGG0 UniRef90_G4KU69 UniRef90_C1FNY0 UniRef90- R7B513 UniRef90-UPI0003690923 UniRef90_A5D1L0 UniRef90 UPI0001E2E2AE UniRef90-UPI000378D708 UniRef90-UPI000365D9F1 UniRef90- Q01R84
UniRef90-17J673 UniRef90-A0A011ABP7 UniRef90_S6C081 UniRef90 UPI000319847E UniRef90-T0JTU9 UniRef90-A0A037Z8X2 UniRef90_W7WM16 UniRef90 B8FWY3 UniRef90-DOWFL3
UniRef90 G7WCQ UniRef90-A1VCV2 UniRef90 C7N5Y2 UniRef90-X1SXI0 UniRef90_UPI0004750508 UniRef90 F8B5C4 UniRef90_Q8TRN4
UniRef90-B8D1R7 UniRef90-B8D1R7 UniRef90 UPI00047BD8BC UniRef90_Q10Z53 UniRef90-A1HLY8 UniRef90_M1WTK1 UniRef90_B5EP0 UniRef90_B11618
UniRef90_G7ZE58 UniRef90_Q2JE33 UniRef90-A2SJM2 UniRef90-F8IBE7 UniRef90_10HV97 UniRef90 A0A018QUF8 UniRef90-G8QKV0 UniRef90_F8JI08 UniRef90_A9WK96 UniRef90 DOIAG8 UniRef90-UPI000360A9B1 UniRef90_Q46BF4 UniRef90 V7EPU UniRef90-UPI00036DEACA UniRef90-A6E4D5 UniRef90_UPI00037BA93F UniRef90 WOSEZ4 UniRef90_Q0A734 UniRef90_N0B1JO UniRef90 F1W459 UniRef90 E1QFN UniRef90-GOL5K1 UniRef90 UPI000361707D UniRef90- F3Z320 UniRef90-UPI0003702A78 UniRef90 G7ZV66
UniRef90 A0LAK UniRef90_W9V316 UniRef90_A4YF94 UniRef90_G3IW23 UniRef90_O28890
UniRef90 S5AAG5 UniRef90-E312H2 UniRef90 UPI0004752F40 UniRef90_C6PTB6 UniRef90_A0A031LM5 UniRef90 I1AUG4 UniRef90-UPI0003B56BAC UniRef90_UPI00047E06DC UniRef90_UPI000380076B UniRef90 UPI0003AD278C UniRef90_A0A022MLA4 UniRef90_I4ED19
UniRef90 D2RD73 UniRef90-Q8PV03


WCVEADSPCTGCAHPGFPDAVSPMFE WPVQS GHPCI GCSQPDFWDG
WPVEAGHPCIGCSEPAFWDTMTPFF F P
WPVEAGAPCLGCSEANFWDAGG FYR WPI GDDTPCI GCAQFGFPDAMAPFYDT FPI QSGHGCI GCSEPNFWDKGG

| WP | $G D D S P C I$ | $G C A M F G F P D K M E P F Y D T$ |
| :--- | :--- | :--- |
| $W P$ | $G D N T N C C I G C A Q E R F P D G M E P F V R$ |  | | WP | GDNTNCIGCAQERFPDGMEPFVR |
| :--- | :--- | :--- |
| FCCI | NAGSPCSGCSEAGFFKTFSPLYDK | WCVESGGPCIGCCGENWVETNTPF

WCVD NAVCIGCVEPGFPDASSPFYE WCI KAGAPCMACSEPTFPDAASP $\square Y$ WPIEDDTPCTGCAQFGFPDQMEPF FPMMSGHGCI GCSEPDFWD WCVQNAVCUGCVEPDFPDGKSPFYE WP I G LGHPCFGCTEK

WPI GDNTPCIGCANAYFPDGMEPF $\square$ RT \begin{tabular}{l|l|l}
$W P$ \& $G G D S P C$ \& $G C A Q F G F P D A M E P F Y D T$ <br>
$W C V$ \& $Q S G A P C$ \& $G C C E D N W A E V N T P F Y K R$

 

$W C V S G A P C$ \& $G C C E D N W A E V N T P F Y K$ <br>
$W P V E D N T P C I I ~ G C A G E R F P D G M E P F V R$
\end{tabular} WPVKVNTPCIGCTNQDFPDGSTPFF WPIGDNTPCIGCAQAYFPDGMEPF



$M$ VN K K $T$ T MLDWMQA GA CS G D T M S L L C A D R P S WP E F V $L N L Y W L Q C G G C G G D T M S F L N S E T P D \| L Q L F S G G I$

PNDVWMQTGACSGDTMSALLDAEHPDLYGALLS D


ENE QVLH ILDWMNGGSCDGESVALTAATQPS DEE VVAGAL

 E T D D R P D $\square \square W L Q A L S C D G C S V N F L N A E \square P \quad V T E L L N R F A$
 LNLFWLQCGGCGGDTWSLDNASSPNVVDFLAQDI

PTALWLQCGACGGDTMS LLGMETPHLPALLAEMR V L WMT GLGCDGDSVAMTSATNPSLEDI I T GA I
 QKSTI I WLQ GLTCNGNSHSFFNYPQ MKVVWLQRLTCCGNTHSFLNY
SRPR P


M K A K K
$K \square K \square I D W D A V G C N G C T H S F T N Y \quad P F \square N E T Y K K F$ M K L L W L Q G L T C S G N T Q S F L CAE D P S A D E I N N F
 P P V I WLQ GASCGGCS $\square$ S L LDNDH PK LR NAL DK $\square K$ MKLLWLQAAGCGGCTQSLLGAESRVLAQFADS GL
$\square S N D K E Y P A D W L Q C A A C T G C S V S V L N A D N P S \square K N L L V D H \square$ $\square N V I$ WTGNGWC GGN T I A FI DAMNPA V E DVI L G NV
 M A K L K V K L A M I Q Q L C G C S G C H M S L L D L MAKLKLAI YW A A ACGGCDVAVLDVVEKIL DI A DAA

 $\qquad$
 VK TAMEWLS S CS GCEI A ILLNDGE DLLI P II TEAAL

 MSKPKLALYW A A S CGGCEIAAVLDDEEKILLEVDANF


UniRef90_JTQJ71 UniRef90-U8MPH3 UniRef90-M1N323 UniRef90-F1Z41
UniRef90 E6W070 UniRef90-R4K194 UniRef90-F2KN81 UniRef90-IOKOB9 UniRef90-UPIO002FA6FEB UniRef90-LOAJIO UniRef90-QoW5V7 UniRef90 W4LIK6 UniRef90-W7SNR3 UniRef90-X5A0K5 UniRet90_UPI0004766B40 UniRef90-H7C6E9 UniRef90 M7T487 UniRef90-A1B6N1 UniRef90-17D062 UniRef90-G0A0Q2 UniRef90'UPI0003A577F4 UniRef90 UPIOOO30B477C UniRef90-E5Y7K3 UniRef90-V6F1S5 UniRef90-Q07SA3 UniRef90-F8E9Q6 UniRef90-H5WLE3 UniRet90-E6VKKO UniRef90_E5Y8F1 UniRef90-UPIIOOO3B708EE UniRef90-F7XLCO UniRef90-G2HXD3 UniRef90-E6QGY2 UniRef90-Q2BJK8 UniRef90_O2W8A6 UniRef90-A8V3C4 UniRet90-S6BV/4 UniRef90_Q47C13 UniRef90-Q21QY5 UniRef90- B1Y6B2
UniRef90 X1HET6 UniRef90'UPIO00365E9F9 UniRef90-WODC35 UniRef90-F8XNW8 UniRef90-V4PIP1 UniRef90-B9L9VO
UniRef90 G5MHI6 UniRef90-АЗКАЕ2 UniRef90 B8FII3 UniRef90-W5W9W9 UniReffo-E8RDD2 UniRef90_D3F8J8 UniRef90-B9L8NO UniRef90-W6EGX2 UniRef90-D3SMR2 UniRef90-D6Z1C3 UniRef90- ${ }^{\text {SGA5K }}$ UniRef90- ${ }^{-12 L Z 85}$ UniRef90_UPIOOO4652252 UniRef90-A8UUA9 UniRef90-A6Q3L2 UniRef90-Q8L2Z2 UniRef90-UPIO00262CBB0 UniRef90-A1RR00 UniRef90 D6SSII UniRef90-F2L648
UniRef90
N6YZ94 UniRef90 - D5XDS2 UniRef90-AOAO11NHH5 UniRef90-×1BZM3 UniRef90 - X1J3W3 UniRef90_-_ONJV7 UniRef90_V6E8J3 UniRef90-UPIooo36DBB44 UniRef90-R4KBW2 UniRef90-13IGJ8 UniRef90-T2SSSS UniRef90-D3S3U1 UniRef90-X8AQS7 UniRef90-V6KWA8 UniRef90_Q6API3 UniRet90 AOLP54 UniRef90 C9RG73
UniRef90 H5SN18 UniRef90-TOLDT5 UniRef90-B8FDK4
UniRef90_E6N715

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80
PVRDHNVLSYEVGDDFMKAFHQGARGEENFVLVVEGSIIPN ELLWHPSLSLESGNEVLTDLDDCLSGRHLDALCIEGALDR SLKYDTTLMTAAGNTAMDTLEECATTYNGFILVVEGAVPT HIVFHHDLSLATGDQVIAIKEKLLASEEPFVLVLEGSIPVV SLKYGTTLMTSSGDLAMQTLDQAANTYKGFILVVEGAVPT PIDYMET HPASGSLAERLKKERWEKKGRRILVVEGSV PVQFHWPLDDYHDDFIEWFFKADRGEVDPFILVVEGSIPN PGVHWPLVDYDNGDELMAWWWKAANGEDPFVLVVEGSIVN
 PLLHHPVLSVAAGEAFMEPFHRAARGEAPFVIVAEGSIAD PGLHWPMLSYDSGPDFMRWWHRAARGEDPFVLVVEGSVTN SMKYDSTLMAASGESAMQADENAANQYNGFILVIEGAIPG PWLLNPFLSFENGDEFLARFHLAAEGSDPFILVVEGSIPN NLLWHPSVSEETGEEAVEVLQSVLDGKQLDLLLLEGSVAR PLDYHATIMLPWGEEAMKAVEAAEKGEAPFVLVLEGAIPD PLDFCSGPDGGADSFIEWWHRADRGELEPFUGIVEGSUTN
 SLEFHPTVMAAEGEGAYEHMMRVAEKFKGFIFAVEGAVPV HLLWHPSLSEETGADALALLAEASGTKVDALCVEGAALT SLLVHPMLSEESSDDYLEMLEKTVK NGDYULVFEGSIPM DLIWHPSASEETGDQAVALLDRLVAGEQRDALVIEGALLC AMHFHPTDMAAEGQLAQSMLDKSKEFNSQYVLIVEGS|PLD DLSYHEAFLMQQGDFVNNKKANTAEENNGYVLVVEGSIAN NLIYHPSLTGANNSLEYGLNQKEIRRFLLVEGSISS DVVWQPSLSTRPMSELMEDVDAVINDKDDDVCVEGSLACL
ELLWHPSLSEASAEEFLDLLGRDSRGEQRDILCLEGSVMQ NFLWHPSLTAEFGDVLETVLS RCGRETHDLLCDEGSLMIT ELLWHPSLSNGHARRLDRVIDQILAGEQADVLCVEGSIUT PTAMHWPYFDFDSGPTEWWHRADRGELDPFILIVEGSVPN DI LYHPSLSVEEGNVLDALLE EK KKDDVIVEGAVSK RLLWHPSLSEASTHELVDLLEAVVAGDEPDVLCVEGSLDR N IVFHPTUMASDGKEAMDULMNYKSDNM LLVVEGAIPT
EMLWHPSFSEATGGEVRALLSATEAGEKपdVLCVEGSVLM NVLWHPSLSVQSHEEHRETIIRRVTEGRERDVLCVEGSVIR DTLWHPSFSHGNMGAYETLVADFRQGKQPDLLLI EGFI LA PVVHNPVIAYEQGEDFMRAWFAAERGEDPFVLILEGSLGN NFEYHPLTTAET RFGSVLSNDLEGKQCDLLIVEGALKN RLLWHPSLTAET RFGSVLDAVTSGREPDICCIEGSLMT EMLYHPLLCGEABEDFLSFLKSDTKFDFLILEGAVALE RLLYHPNLAQATGNQVGELLSTLADGDEPYLLVLEGGIPA

$D F$ FHPVFDSPP EVLFCPFLSWERSEE EVVPSTLEGQEEDDVLIFEGAV EFLYHPLLPSP SLDYDDMVMAAAGHQAEAVLQESRARYNGYVLAVEGNAPL PVLHHPVLSVTAGDTFMKAYHDARDGKAPYVVIQEGSVAD
RLIFHEAVMPQWGTDAMKLLEEDAEGYGPYVLVLEGSFPQ DLLWHPSFSCIAMQDQKRLLEDLAAGKIPDI FI LGGSVIC RLLFHETVMPQWGANADALLTDLANGYGPYVLVLEGSFPT
SLAFLQQPVAKKNDFVEKMLT TARDYKGQFYLITEGATPT DLLWHPGLSEACGDEARA LLQAAADGRपPD LCVEGALDR
NLRFHPTVMAGSGAPVIKVMEDTSKQKRGYILIVEGADPT NLVYHPTLM PQDDMAYPTMEAALAGFDPYVLVVEGTMYD SLEYHEVLSAAFGHQVEENKHNALEKYKGYVLVVDGSПPD EIVYAPI ADA DI LLWPVATDHKYADVEKMAPGSTBVCLFNGAVRN DI SVFLEA SRTVKKGPYDISLAEGSIRN
 EiVYAP!ilMDA

 LDGRGPYDLLVEGSIV

HKYFGQTGEGLT
HKYFGQAGEENFIGIPEADIGGVSGG1
 EIVFWPCVMDPKYKDVQAMPDKSI
DFVHDPALMDS
EIAY

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| :---: | :---: |
| UniRef |  |
| UniRet90 U8MF | GPNGHVLAGTGIPM MID WVRRLAAVADYTLGAGTCAAYGGQ |
| 90-M1N323 | GESGNYCIIGEQTMEQAVLKYGPMAKYVVAAGTCASFGGV |
| 12 | GPNGTGGAGTGRPMREMIEGIARHATHVVAVGSCAAYGG |
|  | SMP HTCMVGHRTMDSWMERILPKATACIAAGTCASFGGI |
|  | GASGNYCVIGEQTMQQALLKYGPMAKYVVAAGTCAAFGGV |
| UniRef90-F2h | HL REAA EUADA |
|  |  |
|  | EAEGYWAAMGNMTN |
| UniRet90 Q0W5V7 | GPDGKYCTTGGRAVKEWFSEAAEKAETII ALGGTCAAFGGM |
| UniRef90- W4LIK6 | EDGGYWSGLGVRPSAEWIARLSKHAAAA |
| UniRef90-W7SNR3 | KAEGYWTGFGTDTASEWLDRLAPKAWAVLAAGTCAAYGGl |
| Un | G |
| UniRef90-UP10004 | EDEGYWASLGTDTTCEWIDRLTPHAW |
|  |  |
| M7 | GYwCV |
| ef90_Q8TR |  |
| ef90_A1B6N |  |
|  | KAEGYWSGFGTDTASEWLDRLAPKAMAILAVGTCASYGGV |
| UniRef90 GOAOO | APRGTYDSYQGRAR |
| Ref90_U10003 |  |
| UniRee90 UPIO0030B477C | G |
|  | dit |
| UniRef90- 007 C |  |
|  |  |
|  |  |
| UniRef90-E6VKK0 | GPNGR |
|  | KADGKYCVVGEYTVAETTDULARSAAAVVAAGTCSSYGGV |
|  |  |
|  |  |
|  | GPNGTGLAQTGRTMLD WVKALAPRAGSVVAVGSCAAFGGV |
| G22 | N |
| UniRef90--223 | G |
| iRef90-Q2W8A6 | GPTGMYDTKGRRPKKD |
| A8 |  |
| S6BV/4 |  |
| Q47C13 |  |
| 210 | AGVAAHVVAVGSCAAWGGI |
| UniRet90-81 | GPRGTHDPWRGGAKMNLVRDAAKAGAVAMGTCAAYGG |
| UniRef90- UPIO00365E9F9 | KAEGYWSGFGNDTAGEWLNRLAPKATAVMAVGTCAAYGGV |
| UniRef90-W0DC35 | ED |
| iRef90_-88XNW8 | GPHGRFHVLAGTPMIDWVRHLAARARYCVGVGTCAAFGGV |
| V4PIP1 | R |
| B9L9V0 | AMP H |
|  | G G |
| UniRef90-B8FI |  |
| UniRe990 W5W9V | D GGL |
| niRef90 E8RDD2 | GPSGGFDTLRGEAKALIVEELAARAGAVIAVGTCACFGGI |
| niRef90 D3F8J8 |  |
|  |  |
|  |  |
|  | GPFHE■L |
| UniRef90_D3SMR2 |  |
|  | CAlV |
| niRef90_S6A5K1 |  |
|  |  |

UniRef90 X2L 785
UniRef90_UPI0004652252
UniRef90-A8UUA9
UniRef90-A6Q3L2
UniRef90_Q8L2Z2 UniRef90_UPI000262CBB0 UniRef90_A1RR00 UniRef90_D6SSI3 UniRef90-F2L648
UniRef90-N6YZ94 UniRef90-D5XDS2 UniRef90-AOA011NHH5 UniRef90-X1BZM3
UniRef90
$1 . J 3 W 3$ UniRef90-FONJV7 UniRef90-V6E8J3 UniRef90-UPIO0036DBB44 UniRef90-R4KBW2 UniRef90_I3IGJ8 UniRef90-T2SSS9 UniRef90-D5VR50 UniRef90-X8AQS7 UniRef90-V6KWA8 UniRef90_Q6API3 UniRef90_AOLP54
UniRef90_C9RG73 UniRef90-H5SN18 UniRef90-TOLDT5 UniRef90_E6N715

GFNDNDLIRKLFFKADK\IALGTCAVYGGV GKNLRRLCGMEMRKVLKKLAKKAHYVIALGNCAVFGNI G W NEGGVFCDDGGKPFVERLRWMAEASMAVIAAGTCASWGCVV EFGGYWSGMGSRPTAQWLKDLAPGAAAVIAVGTCATWGGI EYGGYYCHVGHRTCTEWAKLLFKNADAVVTVGNCSSYGGY GPSGTFDTHMGRPRKDLVQQLTMQADTVIAAGTCASFGGF TEGGYYCK $\square G Q H T C T E W L K K L L P N A D A V V A V G N C A T Y G G(I)$ GADGDYCIVGEDSLLNVKKLSASAKAVLALGTCAAFGGV GPNGSGLSGSGRPLIDDVCELAARAAYVLAIGTCSAYGGL
AKNG $\square H G V V G E K T M D S Q F E E D A K D A L V V I A D G T C A A F G G \square$ EFDSFWCSAGRTPCDEFVFNLMKRAALVYATGACATYGGI KDNGDYCMVAGEP VVDHIRKAAEGAAAI IA DGSCSAWGGV

SENE
QHDA
EHDE
KHDE
EDEGYWCGFGNNTTS
AEDA

K ENE
PHDA
SEN
SEN

UniRef90_J7QJ71 UniRef90_U8MPH3 UniRef90-M1N32: UniRef90-E6W070 UniRef90-R4K194 UniRef90-F2KN81 UniRef90 UPIOOO2FA6FEB UniRef90-LOAJIO UniRef90-QoW5V7 UniRet90-W4LIK6 UniRet90 W7SNR3

## UniRef90-X5A0K5

HAMKGNPTGCMG|L|QDYLSKAG|L|P|IV|N|PGCPVQPDNFMET
TAAGNNPTDACGLQDYRSARGLPVINVAGCPTHPGWVTDT
 TA G G GNAVEA G GL A Y F RAR G GLDPVI N I A G CPIHP GWFV D T TKMPGMDTGCMGGLLQYFK GYT TPPLI TMEPGCPMKPE HLL Y A SATSSNSSTSCQSVVKTVLS QTTNTPVINDAGCPVHPTVMVQT P A A K P N P T GAAMSVVQE F L K Q $\square$ N K TVV I N L H A MA GNP T GAMGL P D Y L S K A G HAMQGNPTGAMGI ADYLSKAGVPIVCVPGCPIQPDNLSET P A A E N N V T G A R G L L Q D F E S G A G L


 PAA GSNPTDAVVGLQFFRSRLLGLPVI NVAGCAPHPGWMMET PHGKPNPT GAKGALDYFSALGIPII NVPGCPSHGEHMAEV
 T T A G G NPS DAVGV QYFRARAGLDVI NIA GCPTHPDWVTET
 TAAGPNPTDACGLQYYRAGSGEGVINVAGCPTHPGWVLES HAMAGNPTGSMGLADYLSQAGLPIVNVPGCPDQPENFMET



TATGSNPTDACGLQDFRAAGGLPVVNIAGCPTHPGWVTDT
PMAGDNPTDATGLQEFRSAAGLPVINIAGCAPHPGWIVET
PAARGQQTQAVSVSRFLKMRGIPVINVPGCPPHPDWMVGT

TAGAPDPAEACGLQDFRAKNGLPVVNIAGCAPHPGWIGET

PAAPPNPTESTGMQGFKSRSGQPVINISGCPTHPNTIIQT
GAHRSEPGGF LGADFRAKSGLPVLNLSGCPCHPQVLSSV
PAAYPNPTGAVGVMDVVK GKPDVVNDPACPANPDVMVGV
TAA GDNPGEACGLQDWQAAGGLPVINDAGCPDHPGWVLDC
HAAGPNPTDCTGLQQWRSRSGLPVINVAGCPAHPNTI TKV
TTAGRNPTDACGLQDFRAGAGLPVINIAGCPTHPGWVLDT
HAAPPNPSDCTGGQFWRSRSGMPVINVAGCPAHPHAMTQT
PAARPNPTGCKGAKDVLEQ DDVPVINNPGCPPHPDWFVGT






 QFHHRQPGGLLGGH F RSARGWPVINLVGCPVHPTVLKDT PAMAGNATGAMGLRDYLSKAGDPIVNIPGCPAQPDNMTEM F GEGGLMYNKEQKGHYY KCRDKII NLPGCPPHPDW DA F HAAPPNPTDCT GMQFWRSRGGQPVINVAGCPAHP NTMTK FRLR R DPQK ITGALFS GKEKKNNVI NI SGCPDVPRWLVET



 FG E GLMFNKE QKGAFYKCRDKI I NI P
$P G K Y S Q Q V K G L Q Y F R S G S G L P V I N L S$
FK EFDPTITGVLFDLYEQFFDKTVNIP

 GA DGEAGSTGLQDFRSGSGQPVINLAGCPCHHDVMAGA PAWSQSPTGAEPFRKY DDEGGVPDVAVPGCPANGNGIMRT TSSSGANPTDAC GLQDWRAPDGLLPVIVNVAGCPPTHPGWVVET
 PA A H P NPS Q C L S V G DV L R D PSTTNGPTYTMGMLDWLSTLKQPIVAIAADPPAGDWDMRT A A A GVVNPTGAVS LQEVVLP GKTVI NI P
PATTTDNPGELLDDVVKPVPEDIDVVLILPGCPPKPEMNAEAA
 Q SLLRNE Y $\square E T L D T S T P F S R H V H V D Y E L Q G C P \square N K H Q L L D V$ QAAYPNPSNAQPDHKIIDK
$P$ GLGGNLYTKEE LLLNYVI SAVVVKVDYVIPGCPPTPEMIADA

 Q A A R P E Y DS T LDETS T P I S A H V P V V D L E L R G C P D D R R Q L LEEV PALMNGQDRA QSWKE I Y DEKV KI DL QLP GCPPNPA HI AEV




UniRef90_J7QJ71 UniRef90_U8MPH3 UniRef90-M1N323 UniRef90-E6W070 UniRef90-R4K194 UniRef90-F2KN81 UniRef90 UPIO002FA6FEB UniRef90-LOAJIO UniRef90-QoW5V7 UniRef90 W4LIK6 UniRef90-W7SNR3 UniRef90- $\times 5$ AOK 5 UniRef90 UPIO004766B40 UniRef90-H7C6E9 UniRef90_M7T487
UniRef90 Q8TRM9 UniRef90-A1B6N1 UniRef90-17D062 UniRef90-GOA0Q2 UniRef90-UPI0003A577F4 UniRef90_UPIOOO30B477C UniRef90-E5Y7K3 UniRef90-V6F1S5 UniRef90-Q07SA3 UniRef90-F8E9Q6 UniRef90-H5WLE3 UniRef90-E6VKK0 UniRef90-E5Y8F1 UniRef90_UPI0003B708EE UniRef90-FFXLCO UniRef90_G2HXD3 UniRef90-E6QGY2 UniRef90-Q2BJK8 UniRef90_Q2W8A6 UniRef90-A8V3C4 UniRef90-S6BVI4 UniRef90-Q47C13 UniRef90-Q21QY5 UniRefofo-B1Y6B2 UniRef90-X1HET6
UniRef90-UPIOOO365E9F9 UniRef90-WODC35 UniRef90-F8XNW8 UniRef90-V4PIP1 UniRef90-B9L9VO UniRef90-G5MHI66 UniRef90- B8FII3 UniRef90-W5W9W9 UniReffo E8RDD2 UniRef90-D3F8J8 UniRef90-B9L8NO
UniRef90
G2E UniRef90-W6EGX2 UniRef90-D3SMR2 UniRef90-D6Z1C3 UniRef90- ${ }^{\text {SGA5K }}$ UniRef90 - 2 LLZ85 UniRef90-UPIOO04652252 UniRef90-A8UUA9 UniRef90-A6Q3L2 UniRef90-Q8L2Z2 UniRef90-UP1000262CBB0 UniRef90-A1RR00 UniRef90_DESSI3 UniRef90-F2L648
UniRef90
U6YZ94 UniRef90-D5XDS2 UniRef90-AOAO11NHH5 UniRef90-×1BZM3 UniRet90-X1J3W3 UniRef90-FONJV7 UniRef90-UPIOOO36DBB44 UniRef90_R4KBW2 UniRef90 13IGJ8 UniRef90-T2SSS9 UniRef90-D3S3U1 UniRef90 D5VR 50 UniRe990-X8AQS7 UniRef90-Q6API3 UniRef90-AOLP54 UniRef90-C9RG73 UniRef90-H5SN18 UniRef90-TOLDT5


170
180
190
200
 LMALAA GLFANQDDADGRPRFYADQLVHHGCTRNEFYEYK LLDLILIGGAPADDSNNRPTKYYGTTVHKQCERRGKEKVK LLYFTAHGRPPASDRYGRPRHMFGRTVHDRCVNYADFQEN LLDLILTGM PT LDTYNRPTKYFGATVHSTCPRRSAGDAS ILAAVM 1 GAPDELDKYGRPKVFFSTNMHDECPYRPYYDRG FLY Y Q A A GKA PMI DENLRPSWLFEQTVVHEGCDRGGYYEQ G LLYYQAAGSAPMI DDQLRPQWLFGRTVHQGCDRAGYYEQA
$L$ L LADVLSGAEV TVVDDYRRPAAFFSKSVMBTCTRRGSYDQG LLHLLYYQYGSPTPDEALDRPKWLFETTVHDGCDRASYFEQD LLDLILTG GVPSLDNNSRPSKYFNTNIHSVCPRRGKTQVP L LYYMAA GRAPMIDEADRPTWDFGSTLHEGCDRGGYYEQA I LALTSKDLAATDDGYGRPKFI ANHLAHHGCSRNEFYEFK



A $W$ W
$L$
$M A$


 I S Y V A ST GEDIP KV T E LLKTPKTYYK DTIHN HCNRF QHF S Q D
 LA S L A L G GLGP DGDRYGRPRFFADHL AHHGCARNEFYEYK


 LL I S LVEGYPLD L NHFNQPGEFYSTMVHQGCTRNEYHEY D

 L A M L A D N E P L P L L D A L N R P S A F F A S L V H Q G C T R N E Y H E Y D
 VA H L L L Y G L M D DL D E L N R P K IF Y G QLI HENCPPRRPY F DE G

 LF Y Y I K HK S L P P L DMSHRPDKFFSNTIHERC DYYNDY QQN I T Y M V





 LLYFMRHRSLPELDGRRRPNRFFSHTIHQRCPRYASEGEQ L A A L V L L W A P $\operatorname{L}$ L P E I TYMVT F DRLPELD RMGRPLMFYGQRIHDKCYRRABFDA G IV L N M L
 $V T F D T$ T F GRPPE LDR QGRPKMFYSQRIMDKCYR
 LALLTLVARKAFLDQYARPRFDFENTVHEQCPRAGSYAAG LAAAARGTAMD LD E Y H R P R E WY GTMM H Q GCTTRNE Y H E Y R

 $L L S$ L AL G A R A A DL D A WQR PRFY TE ELVVHHGCPRNEFYEFK $V$ A S I I L N GK A D DL D D N L R P L A F Y GCLLI HENCPRRA YF D E G

$\square A A G L E R E L Q L P T K D V C D E C P R E K K G T Y P$
 1 S A FL

H GRKPNT TSYSVC $\square$ E CKRRG
V V L L K GEESKLPK K V VCDECPRKKENVFP $L E A \square L K G E A P \quad K D S K K I V C D E C P R K K E G V V P$
 I T A Y L A 1 F S LLL E
MF RTLLD GQWPEMPT
MS A LL LE GK K P
 DRPPVLPGKSVCDTCPTKREGKGD E L P K K N $N$ L C E E C P R K K S N E S I NAFL

NGRKPNTPTYSVCDECKRRG

| L E H | Q G K A L P P | Q G SVLGA GLLK T CCDECPRTREE |
| :---: | :---: | :---: |
| V A L V | K G E A P | VLP EK SVCDTCP TKRELLKR F |
| A F |  | NIPSHSVCVECKL |





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| :---: | :---: |
| UniRef90_A4GOM4 |  |
| Ref90-R9T554 | DIAFWPITAVDTKLKDVEAMPDKSMTVPAV |
| UniRef90-A5FRK0 | E $1 V^{\prime} H M P \vee L M D$ |
| UniRef90-D6SSB3 | DFVHTPV |
|  | E |
| UniRet90-HotM | EANFPCAMDPKYEDVEEASSAVLEGPYD |
| UniRef90 M1PO | EVVFWPCAMDPKYEDVEE M M |
| UniRef90 A6UWB9 UniRef90_F2KRB5 |  |
| UniRef90-A4FXM9 | ELVHCPVLMD VKEDPDG |
|  |  |
| UniRef90_AOLJ77 | EFVHIPPVLLD |
| $\begin{aligned} & \text { UniRef90_F6D2B6 } \\ & \text { UniRef90_UPIO003 } \end{aligned}$ | EFEFMPVLMDVKYDEVPD |
| UniRef90-M7TSM2 | Di LFWPVAMDFKYKDVE AMKDNHDDVCFFNGS |
| UniRef90-Q00409 | E1 VYAP |
| UniRef9-F0 | E |
| UniRef90-C1D | ELAY WPDADDFKYK F AEAMPSAMEDGPYDLSLVEGS |
| UniRet90-UPIOOO36565E9 |  |
| UniRef90-B1L5Y5 |  |
| UniRet90-F2NCl | Q1 AY |
| UniRef90 UPIIOOO36F5C | DI VFWPVAMDFKKRDVEALPDKSTN |
| UniRef90-UPI0003AB1EA |  |
| Ref90-K1XV |  |
| UniRef90 W4L8288 | DI ANFPEA |
| UniRef90-G2DGAX9 | EFEFSPVICDEAGPSDPTA PGVM |
| UniRef90 UPIooo37D | A |
| UniRef90-E8F | EIVFWPTVADVKYQDLEDMPDKSI |
|  | EVVHF AEAGYLDLAT PVDITEVEG |
| UniRee99-P84627 | EVV |
| UniRef90-F3YZM4 | PVLDDKKYYGQTGEG |
| UniRef90-H86611 | ELVYSPlLMD |
| M5RW7 | E |
|  | EMVHF AEAGMVDIEAASSRTLPGPFVD |
| UniRef90-W2EO | ETVYFLEASSAAGP GPYDL |
| UniRef90 G4 | VYFP |
|  |  |
| niRef90- UPI00045E | QIA YFP |
| UniRef90-Q21H66 | DG |
| UniRef90_B5 | V |
| UniRef90_UP1000376 | QVRUA A MLEASS |
| UniRef90-D5C1P6 | DI AYYVEASSDLGE GPYDVSFVEGSV |
| UniRef90-E1RGT3 | E |
| UniRef90 N6 | $\checkmark$ |
| $\begin{aligned} & \text { UniRef90-B5EQ53 } \\ & \text { UniRef90_FANB2 } \end{aligned}$ | ELVVYF |
| UniRef90-UPIO003664A1E | DLVHF AEAG |
| UniRe990 UPIO0036BEODF | Q ASFPEASS ATFLEASSSV |
|  |  |
| UniRet90-13CK81 | DiVHFVEAGANQPERA VDIA |
|  | M D P A |
|  | NMMWP |
| UniRef90_M9S9L6 |  |
| $\begin{aligned} & \text { UniRef90_UPIO0046FF2B8 } \\ & \text { UniRef90 C1DUT4 } \end{aligned}$ |  |
| UniRef90-UP10002559 | EiL ${ }^{\text {a }}$ HFLEAGMSDT ETEVDПAFVEGSL |
| UniF | D |
| 16 |  |
| UniRet90-T1B1 | SLAYNDTLLAAAGEAAEAARE |
| UniRef90_UP100035E85F0 <br> UniRef90 H81849 |  |
| UniRef90-D3PVM3 | TIAH F Leads tivegry dislvegs |
| UniRef90-W8AFZ3 | R $\downarrow$ AHFPE ASSVDVA |
| UniRef90-F8AF43 | STKEKGP号 |
| UP1000370B4E8 | DVASFPEASSA VVAGPYD |
| UniRef90-E3ESE3 | DIKHFLEAQAEAG PVDENAKVN |
| UniRef90-s4Y50 | Di AYY FKEATSLERAGPFDLSLVLEGS |
| UniRef90 UPIOOO37 | PVKFVSLIFCEEK SGKELLENILQMTD F |
| UniRet90-H1XQX |  |
| UniRefoo-ETFHU |  |
|  |  |
| B5 | QVVEFRENMSEKWD |
| UniRef90-B7R163 | V |
| UniRef90-B4S4P4 |  |
| UniRet90-F4HJQ0 |  |
| 90_Q2LYD8 | D |
| UPIO003B697EF |  |
| ef90-B1L | SLV |
| ef90-P80 | D\|L V|Y C LTMA D |



## UniRef90 A4G0M4

 UniRef90-D8K0A5 UniRef90-R9T554UniRef90 A5FRKO UniRef90-D6SSB3
 UniRef90-M1POY6 UniRef90-A6UWB9 UniRef90-F2KRB5
UniRef90 A4FXM9 UniRef90-H1XT83 UniRef90-AOLJ77
UniRef90 F6D2B6 UniRef90-UPIO0035F6470 UniRet90_M7TSM2 UniRef90-Q00409 UniRef90-FOS2F9 UniRef90-C1DJB0 UniRef90-K1Z7P7 UniRef90-UPIOOO36565E9 UniRef90 B1L5Y5 UniRef90-F2NCW4 UniRef90-UPIO0036F5C76 UniRef90-UPIO003AB1EAF UniRef90-M3AZU9 UniRef90 K1XVQ8 UniRef90-W4L828
UniRef90-G2DGX9 UniRef90_D3E033 UniRef90 UPIOOO37DB576 UniRef90-E8RGM6 UniRef90-WobBV6 UniRef90-P84627 UniRef90-TOYA466 UniRef90-F3YZM4 UniRef90-H816J1 UniRef90_M5RAW7 UniRef90-G9EQIO UniRef90-W2EQ15 UniReffo-G4E3J4
UniRef90-FOTAD9
UniRef90 B5YFX1 UniRef90_UPIO0045EA830 UniRef90-Q21H66 UniRef90-B5JEM3 UniRet90_UPIOOO3761208 UniRef90-A7HID9 UniRef90-D5C1P6 UniRef90-E1RGT3 UniRet90-N6VS71 UniR Refo-B5EQ53 UniRef90-F8ANB2 UniRef90 UPIOOO3664A1E UniRef90-UPIO0036BEODF
UniRef90-I4BGT4 UniRef90-UPIO0037C2274 UniRef90-I3CK81 UniRef90-W8L3G2
UniRef90-T1CCM1 UniRef90_M9S9L6 UniRef90-UPIOO046FF2B8 UniRef90-C1DUT4 UniRee90-UPI0002559B6B UniRef90-Q46A79 UniRef90-X1GZ69 UniRef90-T1B1P3 UniRet90_UPIO0035E85F0 UniRef90-H81849
UniRef90
D3PVM3 UniRef90-W8AFZ2 UniRef90-F8AF43 UniRef90-UPIO00370B4E8 UniRef90-E3ESE3 UniRef90_UPIOO03755296 UniRef90_S4Y504 UniRef90-UPIOOO37CD853 UniRef90-H1XQX0 UniRet90-10A1Z9 UniRef90-E7FHU4
 UniRef90-UPIO00363D08C UniRef90-B7R163 UniRef90-B4S4P4 UniRef90-F4HJQO UniRef90-Q2LYD8
UniRef90 UPIOOO3E UniRef90-R9L134
UniRef9_B1L3Q1
UniRef90_P80491
 PAAGDDPNEALPAVYSVNEVIKVDUSUPGCPPTPEWIANA
 PAMINMYSDEELKKFTYKDLVKVDLYLPGCPPHPDWI AGA QAARPDYDQTLATSTADDHVKVDFERGCPDSTRQLET
 PGAGTDPSENVPELKPVSDVIDVDVELPGCPPTPAMIANA PGAESNEEGETIPSPEIKAVIDVDLFVPGCPPS PELIGTV MTHFKAPEGDLELPEFFDQVVEVDYYLPGCPPTPKLLLQA PALJANSYRNQELILDRYLDEK:KVVDIYLPGCAPHPDQVFAAB QAAHPEYDHTLETSTAISDHVPVDFELRGCPDNKGQLVDV PGSTENPKKVTPKTSVLDQTVDVDYYLPGCPPTPDMIMTA
$P G L G N D N V G E L P S D E P V P S V V D V E Y V ~ P G C P P R P E N N A G A ~$ KGTTDNTEGVVPQPEYVADVVKVDYYVGGCPPH YNHIKW QAASPRYDETLATSTPIAAHVPVDFELRGCPDNKVQLLEV

 PALANLYSKFEVLNDVLDE:VISVOYYLPGCAPTPK|LIANT QAAKPEYUETLATSTPISAHVPVDFELRGCPDDRGQLIUEV
 PCSTVNPEGI PNEDVLGEAI QVDLLIPGCPPKSDVVAEA

## $$
5
$$



 S GLLS II H S K A I P K D DVV G D I I K V D Y Y I T G CP P K E A F L R K A P G S T E N E K G II P N N E E P L P D V I D V D



 QA A H P E Y L S T LAA R S T PI SA H V S V D F E L R G C P DD K G Q L L E V VGGLGN N P EA P L P G G P V L A D V V S V V Y T I P G C P P S P A V V Q A A


## 青

 P G L G N L Y T K E T E V V V K PQA A Q P E H DH S L A T S T P I A A H V P V D L E L W G C P V N G R Q V L G A
LRYSRGGQMSKPAHVAVGDVIKVDLAIPGCPPSPETIVKV
QGLDRNAKGAEWVSTPIVSCHVKVDFELWGCPVVSGPQILAAV
Q A
QA PAYRPEFIRTLATSTP IQDHVRVDFELR
 QSNFRNDDDUKTVYNPDSQVVKVDFEVRGGCPVSTDVVKDF

 QAADPGYLDSLADSSPVAELIKVDLELWGCPDSERQL $\square A A$ LNNSRGGQWNQPQHEPI NRVIKVVAYYPGCPPSPEQIYNA
 YGTRANPMKALEESKPVTDYVPVDYALPGCPYDKEELFQV
 QA LDRNTTIEALDTAQAI EDYI EVDFEVRGCPVSSEQMYHA QAASPAYIETLATSTAIADHVPVDFELRGCPVNKRQLLEV LR EAGSKGVKEVIGD RKKVFEVPGCPASPQMMVAT NAMRNDQPLEQVQEEVYGEHKKVDYEVRGCPMSPPEYLHVVIV QS LIRPEY D DEGDVYSVSE\|IKPDFIVP Q GARANPMKALDSKPVI EYIAVVDFALP NGMKNSFP LE E V V GK Y V YGESYKFFP T L Q $P G T T K N D D G I I P N E E V L$
$Q S W K F Q P K M A E P V S K Y I ~$ NSLKNSFTTEQCVRDVI QGGLENPTKVLEPRAV NGMKNSFVLDEDRQSVIH QAMPFEDTHARPVEEVV PGMAA GAC GS LRAPAPVSAVIDVVD TV QATEKNGYGFLGEHKGI SEVVPVDYEI Q

 UniRefi9-AOLJ77 UniRef90-UPI00035F6470 UniRef90_M7TSM2 UniRef90_Q00409 UniRef90_F0S2F9 UniRef90 C1DJB0 UniRef90 ${ }^{\text {K1Z7P7 }}$ UniRef90-UPI00036565E9 UniRef90 B1L5Y5 UniRef90 F2NCW4 UniRef90_UPI00036F5C76 UniRef90_UPI0003AB1EAF UniRef90-M3AZU9 UniRef90-K1XVQ8 UniRef90-W4L828 UniRef90-D3E033 UniRef90_UPI00037DB576 UniRef90-E8RGM6 UniRef90-W0BBV6 UniRef90-P84627 UniRef90-TOYA46 UniRef90-F3YZM4 UniRef90 H8I6J1 UniRef90-A6UT68 UniRef90-M5RAW7 UniRef90 G9EQI0 UniRef90-W2EQ15 UniRef90-G4E3J4 UniRef90_FOTAD9 UniRef90_B5YFX1
UniRef90_UPI00045EA830 UniRef90_Q21H66 UniRef90-B5JEM3 UniRef90-UPI0003761208 UniRef90-A7HID9 UniRef90-D5C1P6 UniRef90 E1RGT3 UniRef90-N6VS71 UniRef90-B5EQ53 UniRef90- UPIO003664A1E UniRef90_UPI00036BE0DF UniRef90_I4BGT4 UniRef90 UPIO0037C2274 UniRef90-I3CK81 UniRef90-W8L3G2 UniRef90_T1CCM1 UniRef90-M9S9L6
UniRef90_UPIO0046FF2B8 UniRef90_C1DUT4 UniRef90 UPI0002559B6B UniRef90 Q46A79 UniRef90-X1GZ6s UniRet90_T1B1P3 UniRef90 UPI00035E85FO UniRef90-H81849 UniRef90-D3PVM3 UniRef90_W8AFZ2 UniRef90 F8AF43 UniRef90-UPI000370B4E8 UniRef90_E3ESE3 UniRef90 UPIO003755296 UniRef90-S4Y504 UniRef90_UPI00037CD853 UniRef90 H1XQX0 UniRef90 $10 \mathrm{~A} 1 \mathrm{Z9}$ UniRef90-E7FHU4 UniRef90_WOI5A3 UniRef90-B5YHQ7 UniRef90-B7R163 UniRef90_B4S4P4 UniRef90_F4HJQ0 UniRef90_Q2LYD8 UniRef90_UPI0003B697EF UniRef90_R9L134 UniRef90-B1L3Q1

TEFKRSGQGTPDPDKCLFEQGCMGMATRAGCGAM LQAPEFTPGRYDNMRCLNEQGCLGPATRTGCG GSEKTP DGVHDPHE DD DDPEKCMLEQGCLGPATRAGCGA LQNAQFTPGRYDNMRCLNEQGCLGPVTKAGCNR\|LGEEDP LSAPEFDPEKPDEMRCLLEQGCLGPVTGVGCG GKEGAP $\square A G N L C V M V G H G C L G P V T H A G C G A L$ EELKPVQEVEDDTDECILDQGCMGPATAGMCEAA ETLKRTFEGTPDPVKCLYEQGCMGMGTKAGCNAL ERLYRPHEVVANDEKCLLEQGCLGFATRGGCGAR VSIG S $\square Y$ E GTPDPKKCLLEQGCMGDATRASCGA I
 $K I V R Q F E L G R P E E E L C L V P Q G C M G P A T D S L C G A E$
$N V C V M V A K P C D G P V T H A G C G A D$

 VKKFYRPWEINDDGTCVMV VT $\square$ DT $\square$ HQTEAGTPCVLVA

TQGCMGPVTRGGCKAL
 NACVMVA

CLEGFDCLGPATRSGCGER

F $\square K R Q F E \square G K P E D V C T L V S S G C L G P V T \mid L A G C G A L$
EEDKRTDDDRPDPVCVTVAHGCLGPVTHAGCGAL VTKKEP CMGPVTRTGCGAL KEVKRMHEGDPDEEECLLNQGCDGPVTQGDCGAL QSVCVMVTKGCMGPVTRTGCGAI VLKRMLETPEYDPMRCLLEQGCLGPVTRAGCGGMQA RTP WKLKRRYE G IP E E GKCLL GQGCLGSVTFGRCGAL

$N \nabla C V L V N K T C M G P V T Q T G C G S L$
$N P C V M V A H G C D G P V T Q A G C G A L$
DKDHRRVEGTPDPDLCLLSQGCMGSATLGRCGAL EVKRTLDGAPSEDGCLLEEY LCLGPVTQGDCGA $\square E \square H A L R T S A V D P E C D A V A B G C L G P V T Q A G C G A L \quad Q P$ NTCVMVA

GPVQGGCDA!
LIETVARTSPVD
$P E R C F L A Q G C L G P A T R Q G C$
Q P
WK LK R R Y E GVPDREHCLLGQGCLGPVTFGRCGA KEFKRPFEGKPDPERCLFEQGCLGFATRAGCGA
 CDLITNVVN S C MV

G S C
HGCMGPVTRAGCGAL
ITCCVVVA E GCCLGPVVTHAGCGAL
TTCVLVKTPCLGPATQAGCGAL
SGKACVMVTQPCMGAVTRTGCGVL
IVVVLVTRGCLGPVTRTGCGAI
TK $\square Y$ Y P Y QVDVDPHKCLMDQGCLGPATVGGCNA

QAVCVLVAAPCMGPVTRTGCGAL
$F C D \square M D D V I N Q G L C$ C $\square G C G$ CAASCPVRA $\square$ THEF ESVEFEPGKPLDTVRCFMEQGCNGPATRAGCG GAEKTP

A G QVCVLVS QPCMGPVTRAGCGAL
STRIENSLCMGCGTAASCPTRADEMVG AS GTTCLMVAEGCLGPVTRAGCGA GTTCVTVSDGDPCLGPVTHAGCGAL




NECVLEKMFCLGPTTRAGCDA

 CMYDRGCMGPVTKAGCN

|  | 250 260 |
| :---: | :---: |
| UniRef90＿A4G0M4 |  |
| UniRef90－R9T554 | KCidandPCRGCMG |
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| UniRef90－H1 ${ }^{\text {T } 83}$ | CVNGNMPCTGCF |
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| UniRef90＿C1DJB0 | CPGCRRGCYGCYGP |
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| UniRet90－81L5Y5 | CDKGNMPCTGCFGP |
| UniRef90－F2NCW4 | CPSYHRGCYGCYGP |
| UniRef90－UP100036F5C76 | ClKGNMPCTGCLGP |
| UniRef90－UP10003AB1EAF | C $\\|$ RANMPCEGCFGPG |
| UniRef90－M3AZU9 | CPAYGRGCYGCFGP |
| UniRet90－K1XVQ8 | C DKGNMPCTGCFGP |
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| UniRef90－G2DGX9 | CPSQGRGCYGCYGP |
| UniRet90－D3E033 | CPSTADPCRGCYGP |
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| UniRef90－E8RGM6 | SCDNVNDPCRGCGGP |
| UniRef90－WobBV6 | CPGINRACYACYGP |
| UniRet90－P84627 | CPKVNDRCAGCGGP |
| UniRef90－TOYA46 | CPSFGRDCYACFGP |
| UniRef90－F3YZM4 | RCDSARVPCRGCYGP |
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 $K P K V A F F E F T S C E G C Q L T V L D T L Q R \xrightarrow{C} H P E L E V I$ RPRI GY $\square$ HLS GCTGDVMSLTENYD ILAELLTDMV EKVKVIESWMGACAGCEISVLDLHEALLP
 MAKAKVATFWLEA

$K P V A D A G L T A C S G C Q L T L F N C E E E L P Q V A E R$ RPTIAFAGLTACSGCQLTLLNCEDELPQQVAEKF $M M \square K R K \square K I A T T S L A G C F G C H M S F L D M D E R L A G$ VKVAHVQLSSCCGCLVSLTDTYEKLLG DLLERV APRKLKVATVSLAGCFGCHMSFLDDDERLLP
 C ${ }^{-}$ CAGCHMSFLDDDERIV MSKPKVATVWLEA CAGCHMSFLDIDERII DLLDKV




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 PA A GR GNGGGA V P N D F P I N E V V R V D Y F V P G C P P P E Q A D WK L








 PA QRN H P E L P P L P L N K V I
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 P S M R N R P T S V L G I P K V L P L H Q V V
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| UniRef90-C6A4M8 | L M NLAKGLEPPTKD Y P L CVECKLNEY |
| UniRef90-B3E0W7 | LYAFS RHLDRPAFSTG SVCMECKRR |
| UniRef90-UPI00029A303B |  |
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| UniRef90-X0RJC7 | IKDFLKTGNLPAKGT VIVASEKTLCDECPLEREDKMD |
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| UniRef90-W7KT26 | L Y Y V L K G G K |
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| UniRef90-A0L609 | VTALLNGVRPVQT DA |
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| UniRef90-J6JAZ3 | LS DLIVGHMLRLEDKLIR |
| UniRef90-UPI00047D6FEB | \|LTAI I S GEPL D |
| UniRef90-A5UZ45 | LEQILAGGDI |
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UniRef90-A6FYA5
UniRef90-E8T219
UniRef90-XORJC7
UniRef90_E8T5B9
UniRef90_W7KT26
UniRef90-B3E9J2
UniRef90-S5TNI6 UniRef90_K2EQM3 UniRef90_A0A031LJD4
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UniRef90-H2C1G2
UniRef90_C8WGI4
UniRef90_D3E0T8
UniRef90-F6BCB9 UniRef90_A6UNB7
UniRef90-K1ZMI6
UniRef90-F7PL37
UniRef90 F6D4Z0
UniRef90-D1Z2C3
UniRef90-A0L609
UniRef90 UPI0003673CD2
UniRef90-14BYB3
UniRef90-L2TNZ5
UniRef90-A5GAS5
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UniRef90_C4ZJZ7
UniRef90-A2SPD5
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UniRef90 E8N317
UniRef90-LOGZ29
UniRef90_B8G3U7
UniRef90 D0IAF6
UniRef90-K9TY95
UniRef90_A1K5C6

$C M G C G T S A S C P T R A$

LS IIKEPYE KK $\square$ DPEKCFLEQGCHGPFTRSGCGET

ECVLVK LDPCLGPITLGGCNAA

ESLERVHEVEPADGECLLNEGCLGPLTAAGCNAR
ETSCFFGKQ
NPCVLLE
$R G C$
$Q$
$L_{P} C$
$C$
GKPCLGITSAGCGAV
$N \mathbb{N C V V M V T Q G C M G P V T A D G C G S V}$
RCLLLDKKPCFGPMILGGCNSV
$A G Q V C V T V A H G C L G P V T H A G C G A L L A D S E G$
DK FDRLHSEVVNKGFC
ECDTLVGDPCQGPVSFAGCGA
A A $\square$ K Q H T DGMPDPE $\square$ CF $\square$ S QGCMGSAT $\square \mathrm{DRC} \quad \square \mathrm{L}$
A G DT CVMIA K GCLGPVVANGCEA L
RCLLLDKKPCFGPMIQGGCNAV
ACFCELMTQVINQGLCM GCGTCAAACPVNA $\square$ T MEYG
T S CFF GK GCLGLVTTA GCGA

QPFAELAEKGEACGCLLYKVLCMGCGTAAACPTRALEMLD KA DDMIDGKPNDMTEFCIKCGVCG AQCPR\RFPKVV

TCAFERGET
LCLLLQGQ

RATTMTNGRPEVNCDRCVKCG
I CYlQQCPSWW
KKILRPFEGTPDDKKCLFEQGCSGAATR

$\square T C V M V A D G C L G P V T H S G C G A L$
IERNEM

## NSENLCLLMEKLCLGPLIQSGCNAR



NK $\square \mathrm{Y}$ RTWE $\ \mathrm{I}$ PEPEVCL
$N G C L L E E Y L C M G P V T R A G C K A \square$
$\square \mathrm{A}$ GNVCDF DKMTCLGPVTRGGCKAT

| UniRef90 G0EF99 | $\text { PCTRAG ПPCFGCGGP } \quad 260$ |
| :---: | :---: |
| UniRef90-D5VRI0 | R PVVDPVLCDKCGLCSFQ |
| UniRef90-J1AMZ8 | GKPQVNRLClK C G A C |
| UniRef90_Q39QE2 | P CPLNG |
| UniRef90-UPI0004700111 | CIK A N MPCRGCFGP |
| UniRef90-C6A4M8 | $C V K$ S Q $\square$ G C $\square$ G C R GP |
| UniRef90-B3E0W7 | CPGVGRGCYGCYGP |
| UniRef90_UPI00029A303B | CPGF GVACIIGCRG |
| UniRef90-UPI00029ACF65 | CVRSGLGCI GCRGP |
| UniRef90_I3REP5 | CPALGLGCIGCRGP |
| UniRef90-B5EFC2 | PCPTNGVPCTGCAG |
| UniRef90-LOAJC7 | CLEANVPCRGCFGP |
| UniRef90_F8AJ82 | CPAYSIA CVGCRG |
| UniRef90_D6E9Z8 | $C \square N \square G R P C N G C R G L S P D A N L P$ |
| UniRef90-C0QP84 | CPSYNRGCYGCFGP |
| UniRef90-UPI0003B38A84 | CPNHNLPCTGCWGP |
| UniRef90-UPI0003FD778B | CPG $\square$ GRDC Y G C Y G P |
| UniRef90-K2B816 | CTNSGMGCQGCRG |
| UniRef90_A6FYA5 | CPRFSRGCFGCYGP |
| UniRef90-E8T219 | K PNFTPE】CVHCGSC |
| UniRef90-X0RJC7 | C $\square$ NVLMPCRGCMGP |
| UniRef90-E8T5B9 | PCTASG $\square$ GCQGCRGCDFP |
| UniRef90-W7KT26 |  |
| UniRef90-B3E9J2 | PCPTNGVPCTGCAG |
| UniRef90-S5TNI6 | CPS $\triangle$ GRGCYGCYG |
| UniRef90_K2EQM3 | CPTSRMTCQGCRG |
| UniRef90-A0A031LJD4 |  |
| UniRef90-LOHI61 | K P Q G R D L C $\square \mathrm{KCGAC}$ |
| UniRef90_H2C1G2 |  |
| UniRef90-C8WGI4 | KCVNLGRPCNGCRG |
| UniRef90_D3E0T8 | RPSHNKNRCIKCGAC |
| UniRef90-F6BCB9 | GRPNVKELCIKCGAC |
| UniRef90-A6UNB7 | QK ${ }^{\text {a }}$ |
| UniRef90-K1ZM16 | CPS K G $\square \mathrm{K}$ C Y G C WG K |
| UniRef90-F7PL37 | CVSAGTHCWGCRG |
| UniRef90-D3RQF0 | CPAQGQGCEGCRG |
| UniRef90_F6D4Z0 |  |
| UniRef90_D1Z2C3 |  |
| UniRef90-A0L609 | $C \square Q Y$ G QPC Y G C R G P |
| UniRef90-UPI0003673CD2 | R P NVIK D $\square$ C $\square$ K C G A C |
| UniRef90_14BYB3 |  |
| UniRef90_L2TNZ5 | CPSVSRGCYGCFGP |
| UniRef90-A5GAS5 | CPTVS ${ }^{\text {P K C E G C R GP }}$ |
| UniRef90_B9M7G1 | CPAVS $\$ A CEGCRGP  \hline UniRef90-F8GLN0 &  \hline UniRef90-D7DU36 & R P A $\square \mathrm{DKE} \square \mathrm{DC} \square \mathrm{K} \mathrm{C}$ |
| UniRef90_C4ZJZ7 |  |
| UniRef90-A2SPD5 | R P Q $\square \mathrm{E}$ R D $\square \mathrm{C}$ ■ K C G A C |
| UniRef90-D2Z2N4 |  |
| UniRef90-UPIOO04669121 |  |
| UniRef90-D1Z1F3 | R P N NVFER R CVK C G A C |
| UniRef90-B5EBV9 | CPATG V C EGCRGP |
| UniRef90_UPI0003B556FB |  |
| UniRef90-C5A2R7 |  |
| UniRef90-U5N705 |  |
| UniRef90-X1LLP4 |  |
| UniRef90-B5IEA4 | CPSNNTQCLGCRGP |
| UniRef90_UPI000372941B |  |
| UniRef90-J6JAZ3 |  |
| UniRef90_UPI00047D6FEB |  |
| UniRef90-A5UZ45 |  |
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| UniRef90-K1YUW9 |  |
| UniRef90-W9VC12 |  |
| UniRef90-Q9AJB7 |  |
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| UniRef90-N6YIX6 |  |
| UniRef90-Q2Y8F1 |  |
| UniRef90_UPI00037E5D51 |  |
| UniRef90-X1AJD4 | C VT S G A T C WG C R G |
| UniRef90_E8N4C4 |  |
| UniRef90_W0SFZ3 |  |
| UniRef90-X1NZX4 |  |
| UniRef90_Q6XQK2 |  |
| UniRef90-TOKSB8 |  |
| UniRef90_F9ZZN8 |  |
| UniRef90-UPI00035D9984 |  |
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| UniRef90-Q0W2X8 |  |
| UniRef90_UPI00035EC00A |  |
| UniRef90-Q6AL35 |  |
| UniRef90-E8N317 |  |
| UniRef90_LOGZ29 |  |
| UniRef90-B8G3U7 |  |
| UniRef90-DOIAF6 |  |
| UniRef90_K9TY95 |  |
| UniRef90-A1K5C6 |  |

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 HASAKPRDATCS LTGCFGCHMSLLDDDERTL ELIDLV
 K RLATVWL AGCSGCHMSF LDLDEWLLELTE QA KLKIGWFSFTCCEDSTIDFTELLNTHYREWL SK』 IS RKKCI HVMLVYTGGCNGCDI EAVNA LSRKKNIHIMLVYTGGCNGCDIEVVNCVLSPFYDAEQYNV ATPRKPRLATVWLAGCSGCHMSF LDLDEWLLEEADRA GIPYVAKLDELV
MSGRLRVATVWLDG CSGCHMSF LDMDELLLELAPRL VYRVDCGGCNGCEENVIFTTMDDLVDWLMFGT MA $\square R H \square D G G S C N G C E S E \square Q L L T S P D Y D F S R F G$ LEGAG TGASLGLLNSAAPAPMRVVEKMA伿 $M \square D L R E G F L T T R L D V L$

N NGAPVILT T I DKI V



[^0]


[^1]


[^2]

lupas_21
lupas_14
lupas_28
jnet
conf
sol25
sol5
sol0
jhmm
jpssm

| UniRef90＿UPI000476C5CA |  |
| :---: | :---: |
| UniRef90－K9QRZ6 | L EPLLRGEKP |
| UniRef90－K0C542 | I T D L L A GREP |
| UniRef90－UPI000466AE6D | I APLLEG |
| UniRef90＿B4WTE5 | L A PLLK G ERPVMT G |
| UniRef90＿Q603S4 | L S DLAA GREP |
| UniRef90＿UPI000467192A |  |
| UniRef90－B6YTX0 |  |
| UniRef90－P94158 | $L Q A L L D Q Q T P P H S G R D L T$ L |
| UniRef90＿UPI00034D9208 | 1 EPLL L GAMPLMEGRSM】K F |
| UniRef90－F8AJ50 |  |
| UniRef90－E8MY00 | L VQLLE GEPSPEVKEMLR |
| UniRef90＿D7DW66 |  |
| UniRef90－K9T715 | L EPLLR G E K P K M E GREM |
| UniRef90－E4TF19 |  |
| UniRef90－14C019 | $V$ LGELLEGRVPNDKGK T R |
| UniRef90－F7UQ55 | L EPLLNGEHPLMEGR |
| UniRef90－B4VT01 | i EPLLRGEKPVMEGREM |
| UniRef90－K9S877 | LEPLLRGDRPQMEGRDM |
| UniRef90－UPI00047A3365 | LKALLMGRKP |
| UniRef90－W013D9 | V A M |
| UniRef90－X1FCW5 | YVRGCPMGERDTSLLLNTKPSFPEYCVCVECKLKGA】 |
| UniRef90－B8ERX2 | LKALLTGTEP |
| UniRef90－Q0EZV1 | LTDLLEGKEP |
| UniRef90－D3E0C8 | V VAALP H |
| UniRef90－UPI00020011D8 | LEALLQDQRPP |
| UniRef90－K2E8A4 |  |
| UniRef90－D5VSA6 | 1 V |
| UniRef90－A4G0V0 | V |
| UniRef90＿UPIO002002409 | ALEPLLR G ELP H |
| UniRef90＿S0EUR0 | V M |
| UniRef90＿UPI00037A38BC | 1 L |
| UniRef90＿D6Z318 | LTAVLD G E T L |
| UniRef90－UPI0002F10A89 | 11 |
| UniRef90－I3DCD4 |  |
| UniRef90＿Q58136 | VKAVIEKDKKP Y EVIA GKP I I D A Y M K V D V |
| UniRef90＿UPI0002FB9DC5 | LLQAVETYP】QQGENQN |
| UniRef90－F8AVH7 | 1 L |
| UniRef90＿C7Q2D7 |  |
| UniRef90－F2NJZ9 |  |
| UniRef90＿DOMDC0 | L M D Q E |
| UniRef90－Q7VFS3 | I MVLQQK ${ }^{\text {V }}$ R R Q K A LP H L K P K |
| UniRef90－S3YM82 | LMILQKKILRKQSANRSQKPK |
| UniRef90－K9QVZ4 | 11 |
| UniRef90－UPI000470DAF6 | L M L Q K K $\square$ R R Q P P R S Q ${ }^{\text {P }}$ K |
| UniRef90－F6BB30 | VEA！LNNDEKPYRVIA GEP |
| UniRef90＿G8TBC8 | L 1 |
| UniRef90－D5V7K6 | L M M |
| UniRef90＿E1IF10 | LEALLEGRTP D |
| lupas＿21 |  |
| lupas＿14 |  |
| lupas＿28 |  |
| jnet |  |
| conf | 999985157777777766405425545544577776543 |
| sol25 |  |
| sol5 | B B B B |
| sol0 | B |
| jhmm | $\rightarrow$ |
| jpssm |  |


UniRef90_K9S877
UniRef90- UPI00047A3365
UniRef90 W0I3D9
UniRef90_X1FCW5
UniRef90_B8ERX2
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UniRef90 D3E0C8
UniRef90-UPI00020011D8
UniRef90-K2E8A4
UniRef90 D5VSA6
UniRef90_A4G0V0
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UniRef90 SOEURO
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UniRef90-D6Z318
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UniRef90-F8AVH7
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UniRef90-F2NJZ9
UniRef90-DOMDC0
UniRef90 Q7VFS3
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UniRef90-D5V7K
UniRef90 E1IF10
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lupas_2
jnet
conf
sol25
sol5
sol0
hmm
jpssm

CPHEGD $\square$ CFGCFKP

CPSHRRACYGCWGP

K P TVNMDKCVKCGTCFF



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

[^1]:    lupas_21
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    jpssm

