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A
A
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$\stackrel{\square}{A}$
A AHKRFVEA
A A HRRIKELL
CAH T R V V
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I V HAKLKERLE
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A A H K K L F E C $\square \mathrm{NN}$





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 AVHKRF


EAHKKILEKDKD G
A A H HRLI QALDKGE
A A HKRMVQA I S N GQ
R A H K R I I ER
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IV H A NL R QRLL N E G G E L P D DE I K G QA
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I K E K A V Y MA A V G GA GALLSKCI KESEVI A Y D DLGGT








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 IK H Q S V Y L M AVGG G A A Y L V S K A I K N A KVV V F F E D L G M E A I Y


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150 QRHAAYLIAVGGAAYLVSRA:RSARVIAFEDLG CKFGALHCVFPAGNAVVAAKEVEEVEESHWGELGMPEALW CNEYGGFYSIGGPAALLAKDHIKNVEVVDFPELGMEAVW IRQHGVYLIAVGGAAYLVQKAI KRARPVAYQDLGM EAV W LHDHGVYLSMTGGAAVLGARMVKRVAGVEWTDLGMAEAVW LKEHGVYAAYTGGCGALAAERIKSVKEVHFEELGTPEAVW LKNNAVYVVATGGCAALYVDAVREVDSVTWDDLGVPEAMW MKYGAVYLATI GGAGAYLAGKVKKAEMVAYPELG TRNKSVYLTAVGGAAYLVSKAITHAEVVAFPELGM IKHRTPYLIAVGGAAYLISKSIKSAQVVAFEDLGM EAVY
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A N
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DA HAK
A A H K R AAHKRMVDADRYHKKLPDDLKNKTVFYAGPSPTPPGK KS E
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MGHLEILKKSLEAGKALPVDFTGSAIFHAGPVVKKDEDWEL
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VAHRRLVEY ASY Y I ALFDQGRATRFDMNGHAVIHTAPNVRKPAGYES QACKKLVDMIDKGVELPFNLKDDIYHMGPSPAPPGRV V AA KKVLTEALDRGEKLPDDLKNQVIYYMGPSPAKPGEPD ATQRRMLHEDKGRKTRFDLNGHAVIHTAPNVRKPAGYEP AAHKRIKDMLDRGEGLPVDFTNRFIVYVGPVDAVGDEV V AAHKRLCELLATGKELPLDRNQVI YYVGPTPAKPGAV I
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$A A H R R M A E A L K R G E N L P F D L G Q V I Y Y A G P A P A P P G A P ~$ AGH■RLLGELDKSGMLPYGLSGQVIFYAGPTPSAAGR PF A TQ
AAHKRTVKLIEE

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GSAGPTSSYRMDPFSSMLMEK GILIKDMIGKGPRSKEYKDA $\square A A G P T T S A R E E P Y Q S D V \square C E Y N V R A V I G K G G M G E K T A K G$
 GPAGPTTATRMDSFTEMMLDSVGLLGMVGKAERGDETDAT VAA GPTTSSARME IFQDDFI ETVRPAIII GKGGMGDRTSKA
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 VAAGPTTSARMNALQAQVLEKTGARLVIGKGGMKEDLLDF GPAGPTTANRMDPFMGTVLGAGGAFATIGKGERGPGAIEA


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| UniRef90-F8C442 UniRef90 A4YFS6 | R S |
| UniRef90-UP | VDIRGQV |
| UniRef90 JoKTII | AHKRLVDLLLQRGQPLPVDL |
| iRee90-Q0R | ASLIRLFDQGERPEGT DFE |
| UniRef90-F60 |  |
| UniRef90-E8N2X3 | AGHKWLIDTFVQGDDLEVYLNGGV |
| UniRef90-R6H8H4 | AGHQRLLAEMGESKELPYGLTGQT |
| UniRef90- ${ }^{\text {PFFOJ2 }}$ |  |
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| UniRef90 V80SVV9 | PTHARFLDCLDDKEPFPMDLHGA |
| UniRef90-E8ZZB4 | AAHKK EVALSNGEKSPVDFQNQ |
| UniRet90 A0 | AAHKK\| QDILTRGEKLPDSLCKRFL |
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| UniRef90-S3E090 |  |
| UniRef90-A5IJN3 | Q |
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| UniRef90_UPIOC | DRPPPVSMDG |
|  | A AHKRMADMLARGEELPVSLRGRVIYYVGPVDP |
| ef90-D817 | RLLSQLRHGDEPPLDLHGKALFHVGSSEQ |
| UniRef90-UPIOOO471 | , |
| UniRef90-J9GES2 |  |
| UniRef90-A7IIF15 | AAHQRLTDMLKAGTPLPVNLDGRVIYYVGPVDPVGDE |
| UniRef90-X1N2S7 | QAHKRLVDELEKQPNLPFPLEGQVIYYVGP |
| UniRet90_A3 | HKWVETFTKKTRPPQGDDRGVI |
| UniRef90-F7V0 | GVLP YNLA |
| UniRef90-UPIOOO3B5: | ATHRRILQALQEG SFQFDFTNQAMY |
| UniF | LAHKRIIK |
| UniRef90-J4TAF6 | A AHKRMVDTURKGEPLP |
| - | GP |
| UniRef90- BoVIF2 | VAHKRMVDILKRGEKLPLNLAETTLFYCGPSPARPGN ITC |
|  |  |
| UniRef90- S3JVE5 | AAHAKWKALLESGKPLPDYTKHY |
| UniRef90-E2》 | , |
|  | QAHKRIYDLLADDKVLPVDLDKAlIFYTNPSPSPKGQKT |
| UniRef90-A5 UniRef90_F5 | WHNMIDNGEGLLPVNFDNKFIVYYVGPVDAVGG |
| UniRef90-F4BT24 |  |
| UniRef90-A8TTY8 | SVYKRV LQDGMAPPVDLKANVN |
| UniRef90-R6 | AAHKK! SEFYKNNSNFPFSLKDK |
| UniRet90 ${ }^{\text {C5 }}$ | A AQKRTKTHLEGNLRLL |
| UniRef90-B4UMA9 | QVRRWTEGAVL |
| UniRef90 R6X8 | GELPFPLEGSCL |
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| UniRef90-F7STT1 |  |
| UniRef90 U6M797 |  |
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| UniRef90-G5ZWM3 | GVYKR ALEDKANLPVDLPQA |
| G7L | GVYRMT LDEGRPLPLDLRSLVNFHCSPAAAPDGGY |
| UniRef90-F7Y | RQMLKEGRDLPIDLSGKIVFYAGPAKSK |
|  |  |
| UniRef90-LOHJ46 | E |
| UniRef90-UPIO0047BD636 | N |
| UniRef90_UP1000375317D |  |
|  | GVYKRLEEKANIIPMELPRD SAANFHCSPAARPDGSFEM |
|  | A |
| 90-A1WM |  |
| ef90-UPIO004725842 | G |
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| UniRet90-D4LG53 | AGHKRMCEALAKGEKIPFDPTDATIYYVGPTPAKPGEV D |
| UniRee90-A3PRJ5 |  |
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| UniRef90-H1Z412 | II EIIKDL PLLTVAMDSEGGNL |
| UniRef90-F8C442 | RIKVENF PA V V I NS $\square$ YGDDFYEK |
| UniRef90-A4YFS6 | EVEVNSLGPAFVA\DAQGGN |
| UniRef90_UPI00046EA9AC | RLVVEDL PLLVTNDAHGLDMY |
| UniRef90-JOKTI9 | EFEVVDF PVTVAVDS H |
| UniRef90-UPI0002C3F218 | K $\mathrm{I}_{\text {K }} \mathrm{V}$ ENLR AFILVDDKGNDFFKQ |
| UniRef90-Q0RXW9 | K FRVKDFGPLEVTMDSVGNSAYEQ |
| UniRef90-F6D7Z1 | ELEVEKFGPLIVTMDSEGGNLYEK |
| UniRef90-E8N2X3 | VI EVEDF PVVVTMDANGNS |
| UniRef90-R6H8H4 | K I IVSDF PVFVGID TMGED |
| UniRef90-F8F0J2 | RI RVVQDLL AFVII DDQGRDL |
| UniRef90_B9XC81 | QI R F N GLGPLTVGID AKGNNL |
| UniRef90_UPI0003954F46 | RLVIEDF PLLVTNDAHGRDMY |
| UniRef90-R6CMN4 | RYKLKDF PVTVAADSTGRNLFD |
| UniRef90-A8EW27 | EFDVVDMPVTVAVDTEGNS |
| UniRef90_V8QSV9 | RLRVKGLGPVTVGI DA H G N NLYTQ |
| UniRef90-E8ZZB4 | $K L Y F D R Y R V T V G I D S E G N T L Q K Q$ |
| UniRef90-A0P6P6 | EFEVVDM PVTVAVDTKGMSI HEQ |
| UniRef90-H2C0N0 | KVKVNALGPAFVAI D T L G N L |
| UniRef90-UPI0004703D6D | EFEVVDM P V TVAVDARGS |
| UniRef90-C9RL56 | K T I K D P AFILVDDKGNNFFE |
| UniRef90_G7WP25 | ELVAEGWGPMIVAI DAS G G D |
| UniRef90-R5L719 | KLLFCDF PLTVAVDCSGGNIFAR |
| UniRef90-UPI0003737AB5 | KFRVKGF GPLLVAMDSHGGSL |
| UniRef90-GOTTC0 | R DEVVDF PAFIVVDDKGNDFFAK |
| UniRef90-S5R496 | EFNVENM PVTVAIDSLG |
| UniRef90_UPI0003B310AE | RMTVEDL P L TVAMDA ${ }^{\text {L GHS }}$ |
| UniRef90-S3E090 | EFEVKDM PVTVAMDASGKNI HQK |
| UniRef90-C7N6V4 | R 1 EVVDF PAFVGI DTA GACI |
| UniRef90-A5IJN3 | EI EVEDF PLIVAI DSSGNT |
| UniRef90-W7A8V1 | LI DVVDF PAFIVIDDKGNDFYKK |
| UniRef90-UPI00035E6C9C | R V R L DMF GPLTVAIDAHG |
| UniRef90-K2CCK4 | ELEVKDF PVICMMDSKGKSLFSQ |
| UniRef90-A8LJE6 | EFTVEDM PVMVAVTTQGAA |
| UniRef90-D817X2 | QVEVERLGPLTVGIDAHGES $\mathrm{L}_{\text {L }}$ Y R N |
| UniRef90-UPI000471A031 | K I HVGDF PAFIITDDKGNDFFD |
| UniRef90_J9GES2 |  |
| UniRef90-A0B6L9 | EFEATDLGPMVVATDSHGRDLYYR |
| UniRef90-A7IF15 | EFEVEDM PVTVAVSAAGQS |
| UniRef90-X1N2S7 | CLEVEDF PLIVANDVYGNDLFD |
| UniRef90-A3CTS9 | VI EADHL PLTVGDDAHGGD |
| UniRef90-H5SAL3 | VI QVEDF PVTVTMDARGQS |
| UniRef90-F7VOH2 | KI EVVD F PVFVGIDVCGHDVY D |
| UniRef90-UPI0003B5902E | RIIKVRDF PAVVINTVSGED |
| UniRef90-F8AIJ3 | ALEVEDL P L L A A A A GRTLYRK |
| UniRef90-J4TAF6 | RLTVVED M PVA $\mathrm{A} V \mathrm{~A} V \mathrm{D}$ |
| UniRef90-A2SQV1 | - PVVVGLDAHGGD |
| UniRef90-F4PG05 |  |
| UniRef90-B0VIF2 | K L WVQ D $\quad$ PPVYVAI |
| UniRef90-F2L8L8 | TLEVEQLGPATVAI DAHGNSLYQQ |
| UniRef90-Q7RE85 | LI EVVDF PAFIIIDNKGNDFYNK |
| UniRef90-S3JVE5 | LISVVKD PVFLLITDDKGNDFY |
| UniRef90_E2X7F5 |  |
| UniRef90-R6BRM0 | RYLLKDF PVTVAADSTGRNLFE |
| UniRef90-A5CW41 | EFEVKDM PVTVAVDTQGN |
| UniRef90-F5YEZ1 | LITVKDL PVFIII DNKGNS |
| UniRef90-F4BT24 | ELEAEDLGPMVVAVDSYGRDLY |
| UniRef90-A8TTY8 | VFEVEKFGPLLVESDLDGNSLFER |
| UniRef90-R6QCG1 | KLVVKDF PLTVE |
| UniRef90_UPI0003AD0B10 | K FRVT GF GPLFVTMDSHGASEYER |
| UniRef90-C5Cl68 | RLKVKNF PLTVADDSDGNC |
| UniRef90-B4UMA9 | LAEVEDF PAVVTMDAHGETLHAR |
| UniRef90-R6X8P1 | KLVFDDF PLIVGTDAYGNDIFER |
| UniRef90-H7ENS4 | LVEVRDM PCFVITNDKGDDF |
| UniRef90-A9BJS9 | NI NVKDF PLLMVAlD TS GNQI |
| UniRef90-B0NH77 | KLKVEDF PAIVVADCEGNNL |
| UniRef90-W4LRV3 | VLEVEKFGPFLVECDVEGRSLFSR |
| UniRef90-A71689 | EIELDRL PLVVGIDAQGND |
| UniRef90-I3U834 | LFEVEDFGPFIVESD\NGNSLFHQ |
| UniRef90-F7STT1 | RLRVEALGPTTVG\DAHGKSLYD |
| UniRef90-U6M797 | KIRVEDF PAFVIIDAKGNDF |
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UniRef90_UPI0003F714B9


V I E A ENMGPFTVESDLEGNSTFER MFEVENFGPFIVESDVQGNSLFAQ


KQLQTPLGDEVL SLKAGEMVTLSGTVYTARD EGEAVKVDLNRPMKEAQLSQYPVSTRLSLTGTIIVGRD

MEMQDSTPD DQSVRDLVAGQRVLLSGVVYVARD
EGDVVK $\square \mathrm{NLL} \mathrm{N}$ QPMADKELTKYPVATRLSLINGTIIVGRD
RRVDVDT LTRADMTGWRAGETLLLSGR\|LTGRD
MGNDKEDRTPDTNYKDDDLVCCQELYYTGKLLVMRD EGESVKDNLNRPMDEAELSKYRVSTRLSSLSGTVVVGRD KLKTPLTPSDI ENLQVGDRI TLTGEILTGRD $K K$ I K TP I S D E E I S E L
 KRITTP】SDDDINDLKI GDKISLSGKMYCGRD
 $K \prod R T P V S A E T V R Q L K V G D Q V E \prod S G S I Y T G R D$
 MNEKKIITSPFHDDTIKSLKAGEMVYLSGVVYTGRD EEEVASWKPGQTLLLNGKLLTGRD
$M A \square E \square S T P D S E D A A A S W Q V G D T V L I T G Y Y I \quad L C G R D$

 HI QTPLTSKII KNLKTGHQI MLS GSILTGRD EGAEVVKVDLNRPMAEATLSKYP KTRLALTGTLVVARD

ELTLPLTKEKAKTLKVGD\|LFLTGFAYTCRD

ARRVNLDT LRKEDLADWKPGDTLLLSGKLLTGRD

 LT TP P S ETAEDLHDGDMVLLSGRI Y CGRD

$K T L T T P$ T S EEAAAQLHTGDMDLITGRПYCGRD QAKRVNLETVTREETQTWRTGDTLLLTGKGLTGRD

# Y Li G S VY T A RE <br>  EGKVVKIDLNRPMKEKELSQYPVSTRLSLSGTIIVGRD  

## $\square R \square E \square P A T G D E \square A K \square S V G D R V M D G T \square Y T G R D$



MK T Y H $\square$ T M P M S D E Q $\square$ S Q $\square R$ VG D E VY $\square S G \square I Y$ M A R D
 L S S GVWVKYTGEMGI ARD

GVIGITRD




A VLP K TCKMDEGTED\KKK\KGS\IFHTAVSPA AALPRLVKLAQENKSBDTLEGAAIMHTAVSPA $\square$ AHAKLLERVESGQGDPEYVKDHDI YYAGP AKTPEGYAS AAHKKIEVALSNGEKSPVDFQNQTIYYAGPCPARPG LPD LYYMGPSPARPGQ II SAHKK L DD LVKE GKELP $\square \mathrm{D}$ VK G QF $\square$
 AVLPKIVRLYEQNKEAGLDLRGTVVLHTA A ALPKLVSS $\square K N G Q P A V N I Q G M V I M H T A \quad V S V$ AAHKRIVEAMEQGKPLPI DI KGQTI YF MGPSPPRPGRPD TVLPKI CKLIEEDTEYGI DLRGSVI FHTAVSPA AVLPKIVSLI ERDQDTKi NLQGSVI FHTAVSPA A ALPKLVDALKRGEE PFDVRGAAI MHTA V S Q LDGGALYHCGPVVADTGNYRF
$A V L P K \prod C R L I E K N G Q Y G \prod D L Q G S V I F H T A V S P A$
A AHKRIQTMLANGESLPVDFTNKFI YYVGPVDAVRDEADV GVYDRVVE DKHPLPMDEQGQVVFYGGPGPTKPDHV A ALPKLVKYDKNKKEL FNI EGSVIMHTAVTPA AVLPYVVELAKKGEEHGDELDGAVIFHTAVSCA GDAPT I AHAKLEERLKNGEGLPQYVKDHPIYYAGPAKTPEGYAS LADPK L 1 CLI ESGTTSGQELQCAVMFHTAVSPA AA HKRLVAMLDAGEPLPVPLRNRADYYVGPVDAVGDEAV

MDK R V A V L P Y V VEMAKNDTLLG $\square \mathrm{D}$ DEGAVIFHTA

A A H K R $\square \square$ A LLD QAN $\quad \square C R W \square C K G R L F F T A D P G R P N \quad R \square$

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| :---: | :---: | :---: |
| UniRef90_X1HCT7 | $\square$ I A G P T T S A R M N S VE N DII IK F LDDIH\\| L I G | G K G GM K NLD EK N |
| UniRef90-X0YXV9 | GAA GP T T S Y R M D P Y A P A L L D K GLLK GM I G | GK GLR S K EVIE S |
| UniRef90_Q2FLD1 | IVAGP T T S A R M N R L T GYMLD A G 1 R G I I G | K G GMSAEVREL |
| UniRef90-N3TKF2 | GSLGP T T A GRMDSYVDLLQSHGGSMI MLA | A K G NR S Q Q V T D A |
| UniRef90_X1M7D8 | WVI GP T T S $\square$ R M EPYA EMVGQLLGIKVIV G | G K G G M GE D TLLQ S |
| UniRef90_HOUPIO | GSMGPTTS GRMDPFTVRLL Q M M L K K M | GK GRRSREVLD M |
| UniRef90_R5RB39 | GSMGP T T A GRMDSYVNLFQEHGGSMVMLA | AKGNRS Q Q V T d A |
| UniRef90_E8FZ35 | GS L G P T T A GRMDSYVD QLQS Q G G S M I MLA | AKGNRSQQVTDA |
| UniRef90_I1ATZ4 | GPAGPTTASRMDGYTQMMLD Q G L L S M G | GKAERGPGTVD |
| UniRef90-T5LVM4 | GSAGPTTSGRMDAYAPTMMS VGARGMIG | GK GARLP EVVDA |
| UniRef90-I2F556 | GA I G P T T S $\square$ R M D C F LEMLLFQ Q GVQ A TIG | G K G K R S DL S T S L |
| UniRef90-K6U3P2 | GIA P T S S NKTEED S I A PL S Q A GVK M Hi G | GK G A L S P E TVD S |
| UniRef90_C3J9B9 | GSFGP T T A GRMDS YVQLLFQEH GASLIMM A | A K GNRS A EVTA S |
| UniRef90_U6EEA0 | G $\$ A P T S S N K T E E S SIIS P L S E A GVVKMHI G & GKGALSSAPTQEA  \hline UniRef90_A5ULQ6 &  & GK GML NDETKKA  \hline UniRef90_A8F5P9 & GP T T S ERMDNY L E L L Y K L G I A TVVG & GK GKR G K V A R E L  \hline UniRef90_R7T4Y2 & GSFGPTTA GRMDS YVGGKFQEN G G SMM & A K G NRS K QVTNA  \hline UniRef90_D3DZR7 & A GlA P T T S NKAEESS M E A L S A GVK F HI G & GKGSLSSDETKK T  \hline UniRef90_C9RML5 & GVVGP T S S N K LEE E S SFE P L S R H GI K M H L G & GK G A I K P E TV K A  \hline UniRef90_A7HKF0 & I I I GP T T S K RMD R F L EFLGR H GVI G T I G & GK GERTPEGVET  \hline UniRef90_F6CLI2 &  & GK G A L S R Q TVMA  \hline UniRef90_F6D1W3 & GI S P T T S N K E ElE E NP FLIA K S GVK M H I G & GK GAL GEKTVEA  \hline UniRef90_R9SJG1 &  & GKGALNDKTKDA  \hline UniRef90_W4UW68 & GSVGGP T T S GRMDL Y A P A L M K K GL K V M & GKGLRDTEVKNS  \hline UniRef90-UPI0003C17EF6 & GPAGPTTATRMDKFTHMMLE Q T G L I A M I G & GKA ER G P V A I E S  \hline UniRef90-N9VNQ2 & GVGGP T S S N K L E E S S I E P L S K A GV K L H L G & G K G Q 1 H K E T I K A  \hline UniRef90_I8S9P1 &  & G K G K L T D E T V R A  \hline UniRef90_X0TXY1 & GAAGPTTSSRMDAFSPKLIAN G L K K A M &  \hline UniRef90_A0A011A7K8 &  & G K G S L K K E T VE A  \hline UniRef90_R5MGF7 & GSMGPTTANRMDPYVDEFQDHGGSMVMIA & A K G N R T QVVTD A  \hline UniRef90_R5KYF0 & GVGP T S S N K LE E S S I P A L S E A GVKILHL & G K G Q I S K T I D S  \hline UniRef90_K2QZIO & GlA P T S S NKTE E S SilG PLSS Q A GVKM M H I G & GK G A L S G K T IE L  \hline UniRef90_I2CRB8 & GSFGPTTAGRMDSYVDTFMANGGSF■TLA & A K G N R S  \hline UniRef90-ION6V0 & GSNGPTTAARMDPFVEMMFQQ GATAFL & $G K G D R A D Y V A E L$ |  |
| UniRef90-X1NKR8 |  | GK G S R P E V R E A |
| UniRef90-X1KHS0 | GSAGP T T S Y RMDSYAPTL H K L G L K G |  |
| UniRef90_X1K7J2 | GSA GPTTSYRMDSYAPTLHS L G L L K G T | G K G S R N E E VK E S |
| UniRef90_T1C2S8 | GPAGPTTATRMDKFTEFMLERTGLMGMIG | GK A ERGPQ |
| UniRef90-F7NJU3 | A G I G P T S S N K LEE E S IP LL S K A GVK I H L G | GK G S L S Q D TVR S |
| UniRef90-F0T912 |  | GKGALSEKTVDA |
| UniRef90_X0XJC0 | GSAGP T T S GRMDA Y S PRLIA A A GLK GM I G | GK G S R S E A V |
| UniRef90_UPI0003758907 | GVGP T S S N K L E E S S FPALS R A GV K L H L G | GK G A I G K N TVV V |
| UniRef90_UPI000476DB27 | GVVGP T S S N K L E E S S $\square$ P $\dagger$ L S K A GV K L H L G | GK GAI SERTVK E |
| UniRef90_D9PXY0 | A GIAAP T S S NKEDEESSMPYLA S R GVVLVHIG | GK GKLK DETV R A |
| UniRef90-X0RIN6 | VAA GPTTSTREEPYQGDVMRHFNLKVVI G | GK G G M G LK T L T A |
| UniRef90_X1RHX1 | GSAGP T T S GRMDSYSPRLMAE GLLKGMI G | GKGMRS QEVKDA |
| UniRef90-G5HH73 |  | GK GA $\square$ GKNTVA A |
| UniRef90_B9TBQ2 | GPAGPTTATRMDSYTDMML NTGLLGSI G | GKAERGEEA |
| UniRef90_I3U957 | GVVAP T S S Y R M D P Y TPKLGE Y GVVKA A G | GK G N R A K E $\square$ R Q A |
| UniRef90_UPI000262D031 | GAVTATASFRFSKWLD D WFKVS GAKLILLG | GK G GMND Y RRDF |
| UniRef90_E3GX94 | G I GP T S S N K E DE E N P Y LVK K G A R I Hi G | G K G Y LKKE TVD A |
| UniRef90-D3AJW5 |  | GK GRLLP E T I E G |
| UniRef90_B6A864 | GS LGP T T A GRMDS YVDLL Q S H G GSM\ML |  |
| UniRef90_D6SU73 | GV V P T S S NKY E E S TIIPALS K A GVKI H L G | G K G R L S P E T VK A |
| UniRef90_H1SID1 |  | GKAER |
| UniRef90_R5BU90 | M DPYVDEEFQD H G G S M V M L A | A K G NRS QVVTD A |
| UniRef90-K1YGM1 | GPAGPTTSTRRMDKF TGMMLEK A G L I GMI G | GK S ERGDATIE L |
| UniRef90_O27187 | $\mathrm{G} \square \mathrm{A} P \mathrm{~T}$ S S N K E D E E S $\square \mathrm{P}$ Y L A S R GVVLVHI G | GK GK LG DETVRA |
| UniRef90_C3KNM1 | GPAGPT T A T R M D KY T DMMLE L G L L GKV G | GKAERGPAADAS |
| UniRef90-N9ZZJ8 |  | GK GR I LPE T $\square$ A G |
| UniRef90-N1MR38 | GPAGPTTATRMDSFMDMMLEQ GLLGCVV | GKA ERGVAA TK A |
| UniRef90_K2STP0 | RMDKFTR Q I L D Q T GL L G M | GK SER G P T A I D A |
| UniRef90-I3U956 | M S LG WWR Q R R LT EW | S R L P L G K E I V Q K |
| UniRef90_R7BKR2 | MRMEK F EYEFVETT GVRVIVG | GKGGMKGNTERA |
| UniRef90_R5BDL3 | NSNGPTTAARMDPFVEMMF K L G V V A FL G | GK G D R A P Y VA DL |
| UniRef90-W1EVX8 | LR F S WP NDRRTD GF L C R |  |
| UniRef90_UPI00036F532A | GS CGP T S DS R M LP F L P S CK DLGVRLIVVS | S K G M S K D VLNV |
| UniRef90-B5Y8W4 | GSCGPTSVSRMLLPFLEAM NRLGVQLVIA | AKG VSDGVLET |
| UniRef90_F7YX25 | F E ES FEP F LE K I F L F G AV | $A \vee V S D V P V V S N H$ |
| UniRef90_A8F6X8 |  | SKANSANPFYF |

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UniRef90_X1HCT7
UniRef90- X0YXV9 UniRef90-X0YXV9 UniRef90-N3TKF2 UniRef90-X1M7D8 UniRef90_HOUPIO UniRef90 R5RB39 UniRef90_E8FZ35 UniRef90_I1ATZ4 UniRef90 T5LVM4 UniRef90-I2F556 UniRef90-K6U3P2 UniRef90_C3J9B9 UniRef90 U6EEA0 UniRef90_A5ULQ6 UniRef90_A8F5P9 UniRef90 R7T4Y2 UniRef90_D3DZR7 UniRef90_C9RML5 UniRef90_A7HKF0 UniRef90 F6CLI2 UniRef90_F6D1W3 UniRef90_R9SJG1 UniRef90 W4UW68 UniRef90-UPI0003C17EF6 UniRef90_N9VNQ2 UniRef90_18S9P1 UniRef90 X0TXY UniRef90_A0A011A7K8 UniRef90_R5MGF7 UniRef90 R5KYF0
UniRef90 K2QZIO UniRef90_12CRBE UniRef90 ION6V0 UniRef90 X1NKR8 UniRef90_X1KHS0 UniRef90_X1K7J2 UniRef90 T1C2S8 UniRef90_F7NJU3 UniRef90_F0T912 UniRef90_X0XJC0 UniRef90 UPI0003758907 UniRef90 UPI000476DB27 UniRef90_D9PXY0 UniRef90 X0RIN6 UniRef90 X1RHX1 UniRef90-G5HH73 UniRef90_B9TBQ2 UniRef90 I3U957 UniRef90_UPI000262D031 UniRef90_E3GX94 UniRef90 D3AJW5 UniRef90 B6A864 UniRef90_D6SU73 UniRef90_H1SID1 UniRef90_R5BU90 UniRef90 K1 YGM1 UniRef90_O27187 UniRef90_C3KNM1 UniRef90_N9ZZJ8 UniRef90_N1MR38 UniRef90_K2STP0 UniRef90 I3U956 UniRef90_R7BKR2 UniRef90_R5BDL3 UniRef90_W1EVX8 UniRef90 UPI00036F532A UniRef90_B5Y8W4 UniRef90_F7YX25


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CDFNAVSFSA TGG GSATDFACDRKAE VVAYEDLKTEADQ VPN GAI Y LT TVGGTGALLGRGVQRVRDVYWDDLGLA

 | Q A | W |  |
| :--- | :--- | :--- |
| E A | $W$ |  |
| E A | $F$ | $Y$ |

$\square D$ D H N S $\square$ Y A V LPP P VT A L LE S K $\square$ I E R R V VA F P E LGM E A L H
CHKHGGFYS\|GGPAA\|LAQNNIKS\|ECVEYPELGM I K K H TVYCMAVGGAA YLVSK A I K K S RVVAF G DLGM LK E A G AVFI VTPP T A ALLTSRVKSSRC
I A HRRAYLMAVGGAAYLVSKAlVSSRVVAFEDLGM KADF L K Q N G A Y F LI TP PVA A L L T A A M S G CRVVALHPEFGM EAFY


CKF GAI HCVFPAGNAVVAAVEVEE VVEAQWKDLGMPETLW CKKYGVSLLGVGGASAINAARIKSAEVVLYPELGT ESLK

LQETNAYGIAPGGAGAFYGVRIERVLKRKYEELGPEAFF FRR $\emptyset G S Y G I A D G G A G A F Y G T K I V Q V L S R K Y E S G G A A E G F F$



| UniRef90_X1HCT7 |  |
| :---: | :---: |
| UniRef90- X Y Y XV9 |  |
| UniRef90_Q2FLD1 |  |
| UniRef90_N3TKF2 |  |
| UniRef90-X1M7D8 | VLEVNKWGPLIVGMDAHGRSDFK |
| UniRef90-HOUPIO | R\EVLRM PLVVIADSKGNDLYD |
| UniRef90_R5RB39 |  |
| UniRef90-E8FZ35 |  |
| UniRef90-I1ATZ4 | EFHIRDM PVTVAVDGAGQSTHR |
| UniRef90-T5LVM4 | KLYVEDM PLVVIIDSEGNNLYE |
| UniRef90-I2F556 | EI EVEDF PLIVATDKNGLD |
| UniRef90-K6U3P2 | SLEVKDF PG\\|VAV AHGKS |
| UniRef90-C3J9B9 |  |
| UniRef90_U6EEA0 | RLEVKDF PGTVAV AHGKST |
| UniRef90-A5ULQ6 |  |
| UniRef90-A8F5P9 | VAKVVNF PLIVAIDSLGNDL |
| UniRef90_R7T4Y2 |  |
| UniRef90-D3DZR7 |  |
| UniRef90-C9RML5 | RI KVNKYQAlI AA AKGESIY |
| UniRef90-A7HKF0 | EI EVENF PLLVVIS A |
| UniRef90-F6CLI2 | ELVVEDL PAIVAI AHGESIF |
| UniRef90-F6D1W3 | KLEVRG IP CIVAV AHGESIY |
| UniRef90-R9SJG1 |  |
| UniRef90-W4UW68 |  |
| UniRef90-UPI0003C17EF6 |  |
| UniRef90-N9VNQ2 | $R$ RKVNQY PAlIAA AHGRS\YE |
| UniRef90_18S9P1 |  |
| UniRef90-XOTXY1 |  |
| UniRef90-A0A011A7K8 | EVEVEKF PA\VA\AHGES |
| UniRef90-R5MGF7 | K Q VENF PAFILVDDKGNDFFKQ |
| UniRef90-R5KYF0 | ELEVKDY PMII AA AHNQS |
| UniRef90-K2QZIO | Q IEVKDF PG\\|VAV AHGES $\mathrm{V}^{\text {P }}$ |
| UniRef90-I2CRB8 |  |
| UniRef90_ION6V0 |  |
| UniRef90-X1NKR8 |  |
| UniRef90_X1KHS0 |  |
| UniRef90-X1K7J2 |  |
| UniRef90-T1C2S8 UniRef90 F7NJU3 | ELEVVEF PA\\|VA】 A HGQSTFK |
| UniRef90-F0T912 | ALEVSRG PCIVAS AHGKTIY |
| UniRef90-X0XJC0 |  |
| UniRef90_UPI0003758907 | ELKVKEF PAII GA AHNRSIY |
| UniRef90-UPIO00476DB27 | TLNVFEY PAIIAA AHGKSIY |
| UniRef90-D9PXY0 | EL RVEG $\square$ PGIVAA A G GRSVHD |
| UniRef90-X0RIN6 | VI EVKDF PVFVTMDAHNHSL |
| UniRef90-X1RHX1 |  |
| UniRef90-G5HH73 |  |
| UniRef90-B9TBQ2 |  |
| UniRef90-13U957 | RLEDENFPLLVTNDTQGGDLYEQ |
| UniRef90-UPI000262D031 | LI DVEEFGPFIVESDFEGNSLFER |
| UniRef90-E3GX94 | KLKVEG $\square$ P GIVAV ANGKSLF |
| UniRef90-D3AJW5 | EITVKDF PAlVAV ADGESVFSN |
| UniRef90_B6A864 |  |
| UniRef90_D6SU73 | QLRVEGF PC\\|VAA AHGKS $\square$ F D |
| UniRef90_H1SID1 |  |
| UniRef90-R5BU90 | K $\square$ RVEDF PAFILVDDKGNDFFKK |
| UniRef90-K1YGM1 | EFEVEDM PVTVAVDSSGEAVHK |
| UniRef90_O27187 |  |
| UniRef90-C3KNM1 | EFDVKDM PVTVAVAADGENVH |
| UniRef90-N9ZZJ8 | E DTVTD P PAIVAVA A G E S |
| UniRef90-N1MR38 | EFDVQDM PVTVAVDSEGQNVH |
| UniRef90-K2STP0 | EFEVKDM PVTVAVDSTGESVH |
| UniRef90-13U956 |  |
| UniRef90-R7BKR2 | HCHVKEFGPLIVSTDSYGKNY |
| UniRef90-R5BDL3 | K LYFDRFR VIVGID TEGNVLQKQ |
| UniRef90 W1EVX8 |  |
| UniRef90-UPI00036F532A | DNVKEF PFYV |
| UniRef90-B5Y8W4 | LAEVQDF PFYVCV GGDV |
| UniRef90-F7YX25 | E I EVQDLM L RVVIDSEGN |
| UniRef90_A8F6X8 | EVEVEDLL MRVTIDSRG |

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[^1]:    lupas 21
    lupas_14
    lupas_28
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    sol25
    sol5
    sol0
    jhmm
    jpssm

