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| UniRef90-_ |
| :--- |
| UniRefotM |

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UniRef90-X1CL89
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UniRef90_L9XDM0
UniRef90-M1NNB3
UniRef90-J2ZLD0
UniRef90_D7E7E0
UniRef90-U6JWP2
UniRef90 C9SPR8
UniRef90-D8J5H4
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UniRef90-D1JE51
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UniRef90_W9DR16
UniRef90-F4BVB9
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UniRef90_J3JEQ6



YGFVI IDGHGALFATLSGNIKTILYNLSVDLPKKHGR


Y GLVV
 NLIGFLAI DTKDAGWGLLHGDKIEVLRETSSGVAGKHRQ
 DKYGFIVLDGHGTLFATVQGNHVNVLQRYTVALPKKHRR KDQFGLMVVDRESAAYALLRGNHMTFLRNDHSFVPGKHGK

 DKFGFIIMDGNGCLYGTLAGNHREVIHKFSVDLPKKHGR VYGVIVIDRGEAVIALLKNSRWEVVKTVEFFVPGKHHA KETYGLLVIGRKESAVGYITGNHVEIVRDFTSGIHGKHKA DMFGFIVMDGEGTMFGTLSGNTVQVLYMYRDFPPKKHGR ESTYGLLVVERGGAAFGRYEGETVEVIVDFDSNVPGKSSA DTYGIIVIERGEAFVYAYLKNKKQULNSFSVELPKKHGR EKVIGII AID SSEAGI GVLEGNKVEVVDHI TSGGVGGKHRA EARYGFIVMDGHSTVFATLQGNVKTILQQIHVDLPKKHGR EERFGFVIMDGHSTIFANVEGNVKTILQKVCVDLPRKHGR KKVYGLIVMDRGGGLIATLIRGSNYEVVDWVTSDIPPKHSA
 V Y GFVI I DGHGTLFATLQGNGPVILQNVSVDLPGKHGR
 $K D V Y A M L V M D G R D G T I A L L K G T H L V V E K K V K S F A H S K V H K$
 KVVY G
 DKFGFVVMDGNGALFTTLSGSTRELLHKLSYDHPKKLGS
K E

KDMYCLVVMDGRDATATLKGTHVNVEKTLRSFAHAKVRK

 K GLLF GLIVLDRREANVGWLKGKRVEPVKSASSLVPGKQRK F GLIV I D R S E S T L G MLLKR GNYHYTK THVLITSP DQTWK
 VYGLIVADKS EAADGGYLQGNS DKTAYTLDSNVPGKTKA


$E$ VY G LVVLE R GRAALGRRLAGER\VSSRTFESQVMGKSRA DKF GFIVMDGNGTMVGTLSGNTREVLHKFTVDLPKKHGR

DKFGF I IMD GSGYLFGTLS GNAREVLHKSNVDLPKKHGR FGFIVIDGSGALFGTLQGNTREVLHKFTVDLPKKHGE

 TTYGLLVVSRDSATLGRYDGETDEHVDTVESDVPSKQTAA


TATHGLLIVARESAT\GRYDGETDEQVESVESDVPSKQDA Y AIL I V S GKKTLFY LHNNNDTK LLLKSIN ESSLPNQHKT T D TYGLVVVARENAVVGRYDGETDERIETIES DVPSKAAA YG G VLLDSHESRLGN $\square R S D A V K Q T S H L S T D L M N K H K K$
 ATYGLLVVERGEAALGRLEGEE\VPIDTLENEVAEETPT
EAFGLVLLDSQRAKDYVVSSGKVGYKKYATDDDNKHKK
 $\because A L L L V R R G G H S V G I A R G G V V V Q S R T D R H L V Q G R S A A$


## UniRef90_Q97w96

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UniRef90-TOZ292 UniRef90-UPIO0036036EC UniRef90-V4JXZ29 UniRef90-F4B8Y9
UniRef90 R1E456 UniRef90- H 2 C 3 J 9 UniRef90-V6ATB9 UniRef90-G3C9A7 UniRef90-O98RP4 4 UniRef90- L8GKN3 UniRef90-X1C6G0
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UniRef90 H5SVY UniRef90-Q8SRZ6 UniRef90-A0AO59EXTO UniRef90-B1L6K8 UniRef90-Q9YAF1 UniRef90-EOSPN4 UniRef90_B7X.J92

UniRef90_B9RGS5 UniRef90-E7QWQ2 UniRef90-C7DHE6 UniReffo-V2XR92 UniRef90-A6UU51 | UniRef90-W5ENA4 |
| :--- | UniRef90-D2V2K9 UniRef90-ROGMF7

UniRef90-X0XGZ3 UniRef90-X0XGZ3 UniRef90-Q8ISI3 UniRef90-T1BC14 UniRef90-17A9C1 UniRef90-Q74N59 UniRef90_U1P985 UniRef90 B3V687
UniRef90 GOQAE4 UniRef90-A0A044U5C2 UniRef90-GOOH56 Uniinefole UniRef90-F8D8A5 UniRef90-D7DTW3 UniRef90-X1UDTO
UniRef90 13 R9990 UniRef90-MOTP39 UniRef90-F7DOR1

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| :--- |
| UniRef90 |
| X1CL8 | UniRef90-MODON2 UniRef90-D8RBH9 UniRef90-L9X517 UniRef90-G5CS14 UniRef90-L9xDMO UniRef90-M1NNB3 UniRef90-J2ZLDO UniRef90-U6ETEO2 UniRef90_C9SPR8 UniRef90 D8J5H4 UniRef90-D1JE51 UniRef90-X0VHR3 Unireigo R4T455

UniRet90_W9DR16 UniRef90-F4BVB9 UniRef90_UPI0003774E83 UniRef90_XIJ174
UniRef90_J3JEQ6
.
-

GGQSSVRFERLRLIAMHDFYSKVGERASAAFLLAEPEKFKG GGQSAMRFSREREGLIRDFYKEIADTAKDLFFNK DLKG GGQSQRRFDRLIEHAAHEFYQKVGEAAREAFEDVK DLKG GGQSSVRFARLRVEKRNWY DKKVAENDNNDFEDDDIDG GGQSAHRFEQLRRIAMHDFYKRIGDAASDAFLELDPDLKG
 GGQSQRRYDRLIEQMVEDFYKKVGEHANKAFLPEQGKLKA GGQSARRFERVIEIMAHEFYKRIGERMVKYYLQDN KVDG GGQSALRFDRLGTEKRHNYLRKTAELATQYFVTSQPNVAG GGQSQRRDDRI EEELYHDFLKEVGEKVNSYFLPEEKKLKG GGQSSVRFQRLIEQDVHLWLKYLADEVRNYFEKD GGQSARRFE
GGQSARRFE
GGQSALRFS GGQSA GGQSQRR


- 

 GGQSQRRRFDRLI EQAAEAFYKHAGERASQLLLLPEQRKRLKG


 G G Q S A L R F A R L R M E K R H N Y V R K V A E T A A T QL F I T N R P N I E G GGQSSVRFARLREEKRHNYLRKVAELANQHFISNKPNVAG G G Q S A N R Y E R A $\square$ S E S $\square$ S D Y Y K T I S D S V N S V F EK Y N F K P K G


 GGQSAQRFARIRENMYDQFMKEIADKAKNAFLARD GDLLG GGQSADRFARLRMEKRHNY GGQSAQRFARLRKEMLKKFRQEMADKSKSAFLAREDKLDG GGQ S A L R F S R L R E E K R H H Y R R K V A E L A A Q H F I N D R V N V T G
 GGQS A R R L E R L ID D A A H Q F MVVR I GEEYSNNAFMPEEK KL K G





 A GGDEDGFHGRSQERADEFYDEVVEAAARVFLDDQFEGEA GGQSALRFDRLDTGCRHNYLVQASEAAVKHFIDSQANVAG
 QV R F A RLLSMEKRHNYVRKCAETATMHFDTNDPNDIEG TGGRDEDRFQGRSEERRTEFFDSVVGAVERVFLPASHELEGG
 GGWS QMRFNR LDRKEADKS F L S S V V A E S
 ADNAPEDLQSRQTEWKEGFFDDVADAAERAFLGEDP VDN A H S I T R l G Q E A R D N H V T K T A E L A T N L F I T N Q P N V K G G G M S Q A R F Q R L R K G A DD H F L K D V A E DVE K L F L Q E EVVK GGSSQARFARHREKQI E QFLDRVCGHMREHIDEHAQSLGY

 NSSNRFRRIDEQMAHEFYKRIGEVVNKEFAS QEFLKG


|  |  |
| :---: | :---: |
| UniRe |  |
| UniRef90-A2S | G |
| UniRef90-D2EE70 | 1 VGGP |
| Ref90 ${ }^{\text {S7W4S3 }}$ | YIFAGSADFKTELKNSDVLKASIKSKVLRLIDDTVGGSNG |
| UniRef90-Q4 | LIGGHSPTKDEFNEGGFLHYELQNKVL |
|  | ILIGGPAYSKYDFIEGDYLDYRLKQLV |
| UniRef90- V 4 J | VVVAGPGYAKADFVKSGYLDYRLQKLVD |
| UniRef90-13TG33 | VLVGGPAYSKYDFVQGDYL |
| UniRef90-TOZ2922 | VFIGGPGSTKDFFFERDYLRNE:KQKVIK |
| UniRef90-UPIOOO36036EC | LVVGGPGPTKNDFLDGDYUPGDLKKLIV |
| UniRef90_V4JXZ9 |  |
| UniRef90-R1E456 | K Q ${ }_{\text {L }}$ |
| UniRef90-H2C3J9 | GPGYAKKDFYDSDYLDYRLK |
| UniRef90-V6ATB9 | SGPGPTKEDFLKSNY |
| UniRef90-G3C9 | GPGMSKEDFYKGD |
|  |  |
| UniRef90-L8GKN3 UniRef90 - 1 C6G | VAGSADLKCELVSPKILDRRLLVKILKTVDVSYGMEKG |
|  | VVAGPGYAKEDFVKSGYLDYRLQQLVNKLV |
| UniRef90-UPIO003AB70A7 |  |
| UniRef90-J9D |  |
|  | NT CR |
| $\begin{aligned} & \text { Uniret90_A3M123 } \\ & \text { UniRef90_X1U6H9 } \end{aligned}$ | GGPGPSKEKFVNDESLDYRLRDKILDVVDLGYGGTEG |
| UniRef90-G7 | K E |
|  | L |
| UniRef90 D3T029 | G |
| UniRet90_G0QVoc |  |
| UniRef90 H5SVY6 | LIVAGPGPTKDDFLKNGYLDYRLQKNVLAVLDISYAGREG |
| UniRef90-Q8SRZ6 | AGQSDLKNELAQV |
| Un | L GGHSDF |
| UniRef90-B1L | V VAGPGDAKERFEEGNYL |
| UniRei90- EOSPN4 | VIVAGPGYAKQDFLEADNLDYR1RKLI |
| UniRef90-B7XJ92 | G |
|  |  |
| UniRet90_E7QWQ2 |  |
|  | YLYQIK LGVFDTGYTDEHG |
| $\begin{aligned} & \text { UniRe } \\ & \text { nniRe } \end{aligned}$ | LQAGSADFKMEFGQSDILCQRLAPKI TEETVDV |
| UniRef90-A8AC68 | FLEAGGLDYR\\|K QLTUGLYDVADVDEHG |
| UniRet90-WEENA4 |  |
| UniRef90_D2V2K9 |  |
| UniRef90 ROGMF7 | AGSSDVQVQLMKLLGLFDHRLVAKLVNVVEVSYGVENG |
|  |  |
| Q815 | LVLAGNAAFKNELSETE\LDKRLGPVICAV |
| UniRef90-T1BC14 | GGPGFTKDKLEDDY HOELOEDVAK |
|  | Geple |
| UniRef90_17MEX2 |  |
| UniRef90-U1P585 | LI GGPSPT |
| UniRef90-83 | GGPGATKDYFL |
| UniRet90_GOQAE4 | VVGGPGFTKDKLVDNDYLQSEL |
|  | D-KVVVTKSLGHSGEGA |
| UniRef90 E2M2Q7 |  |
| UniRef90-F8D8A5 | VLLGGTtGTVEDFREEADLDHRLEDRL |
| UniRef90-D7DT | , |
| UniRef90_X1UDTC | LVLAGSADFKTELGQSDMFDPRLGVKII RTVDVSYGGENG |
|  |  |
| Mo |  |
|  | VAGSANFKTELSQSD |
| UniRef90 ${ }^{\circ}$ W9QVW0 | L |
| Unil | VLNESSYS RSSR\\|CDKRLQSKVLKLVD\SYGGENG |
|  |  |
| UniRef90-X1CL89 | I I VGGPaLTKSEFLENKSLDYRL |
| UniRef90-MODON2 | LLVAGSEVTAERFLEGDHL |
| UniReef90_D81 |  |
| UniRef90 L9X517 | LLLGGTTGTIERFREEAELDDRLEELIAGEFTVEYATTQG |
|  | $v \mathrm{~A}$ A |
|  | G |
|  | IVIAGPAEIKNMIIEQDTFCSMFKKYLSKTLIIPEIINDNS |
| UniRef90-J2ZLI | G |
|  |  |
| UniRet90_U6JWP2 | ADFKNDLAMSDMFDQRLQAKIVKIVDVSYGGDNG |
| UniRef90 C9SPR8 | QVIKVVD |
| M5 | GRFDPHLQAKILKVVDISYGGEEG |
| UniRef90-D1JE51 | AGSGNAKLL KNLPPHIKSKI |
| iRet90 XOVHR3 | GGARTT LSSLRKRC |
| UniRef90 R4T455 | VLGGDRRALETLREDRRLAPLFERAEPRVEDVPEPRRTV |
| UniRef90 F4BVB9 | $V \mathrm{C}$ AGPGEAKSQLKE LLPPQARDRVLGLLDVPMG |
|  | GGPGNTKLEFLDGDYMFT |
| UniRef90-X1J174 | ALSKTEFLESKEDD |
| 90_J3J | LI VVGERTVLSRFRET ADH\|LA T|V|DASGDPDEA |


| UniRef90_Q97W96 | $\text { L REM\|I M K A E } \frac{130}{\square} L$ |
| :---: | :---: |
| UniRef90_A2STL7 | L R E L V D N A Q A A |
| UniRef90_D2EE70 | LRELVEKS K D L |
| UniRef90 Q8TXB5 |  |
| UniRef90_S7W4S3 | L N Q Al E LS A EVL |
| UniRef90_Q46FF0 | FSELL NAAEDTL |
| UniRef90_D7DB47 | LREMI MKA S DLL |
| UniRef90_V4JY24 | $V$ REVI S K A Q DV |
| UniRef90-I3TG33 | L R EMV M K A Q DVL |
| UniRef90-T0Z292 | L R E L V E K A S |
| UniRef90_UPI00036036EC | $V Y$ EL L Q K G R E |
| UniRef90_V4JXZ9 | FNLAVEQS C D |
| UniRef90-F4B8Y9 | LREMVMKAK D L L |
| UniRef90-R1E456 | L K ELLLERAK DVL |
| UniRef90-H2C3J9 | L R E MV M K S K D L L |
| UniRef90_V6ATB9 | I R E A FLK A Q DV L |
| UniRef90_G3C9A7 | IRET L ER GEDLI |
| UniRef90_Q98RP4 | FNKAI ENS S SVL |
| UniRef90_L8GKN3 | L H Q A I A L A T D V L |
| UniRef90-X1C6G0 | I RELLMEKSTEILL |
| UniRef90-L0AC30 | L R EVVMK A Q DV |
| UniRef90_UPI0003AB70A7 |  |
| UniRef90_J9DHW4 | LTNEATDLCQDVL |
| UniRef90-R1FFU9 | SREAI ELS A E T L |
| UniRef90-A3MT23 | VMEAI K N A Q Q L |
| UniRef90_X1U6H9 | I R A L I E K I K TKII |
| UniRef90_G7KLR1 | L NQAI E L S S Gl L |
| UniRef90_L2GN60 | L NQAI ELLCEDVL |
| UniRef90-D3T029 | L R Q L A E K G Q E Al |
| UniRef90_G0QV00 | L NQAll L ${ }^{\text {L S Q E S L }}$ |
| UniRef90_F0QT11 | V LEALRNAEDKL |
| UniRef90_H5SVY6 |  |
| UniRef90_Q8SRZ6 | LN Q A I ELCEDVL |
| UniRef90_A0A059EXT0 | L N EAI E L S L D L |
| UniRef90_B1L6K8 | L R ELI M K S E D L |
| UniRef90-Q9YAF1 | L K EAVMKAEKV |
| UniRef90_E0SPN4 | L K E V V I K A K D L |
| UniRef90-B7XJ92 | L NQAl ELLS DEFL |
| UniRef90_B9RGS5 | FRDAANSA |
| UniRef90_E7QWQ2 | LD QL VEK A D K Q L |
| UniRef90-C7DHE6 | M NELLEK S K EVL |
| UniRef90_V2XR92 | I D L A V D V L |
| UniRef90_A6UU51 | VRELLDKASTLL |
| UniRef90_A8AC68 | L HELVQRAAD |
| UniRef90_W5ENA4 |  |
| UniRef90_D2V2K9 | F Y Q A 1 Q L A Q |
| UniRef90-R0GMF7 | FNQAIEQLS D I |
| UniRef90-X0XGZ3 | $\square R \mathrm{~A}$ L V N K I Q D Q M |
| UniRef90_Q5DAJ7 |  |
| UniRef90_Q8ISI3 | LN EAIT LTA A EAJL |
| UniRef90_T1BC14 | I S E L L Q K K L L L |
| UniRef90-H0A9C1 | L E ELV S K A E D Sil |
| UniRef90_17MEX2 | L K Q AL Q M T E M L |
| UniRef90-Q74N59 | L R E A L Y R A E D K L |
| UniRef90-U1P985 |  |
| UniRef90-B3V687 | LRELLVTRGSNRL |
| UniRef90-G0QAE4 | L E ELLVSKS E E M I |
| UniRef90-A0A044U5C2 | FNQAI E LA E D A L |
| UniRef90_G0QH56 | LK E LV S K A E E S I |
| UniRef90-E2M2Q7 |  |
| UniRef90-F8D8A5 | LR Q L A E K G |
| UniRef90-D7DTW3 |  |
| UniRef90-X1UDT0 | F N Q A $\square$ E LS A E S L |
| UniRef90_I3R990 |  |
| UniRef90_M0TP39 |  |
| UniRef90-F7D0R1 |  |
| UniRef90-X0TMY8 | $\square K E L A A A S E T M T$ |
| UniRef90 W9QVW0 |  |
| UniRef90-H0XE58 | F N Q A $\square$ E LS T E V L |
| UniRef90-F9WMF5 |  |
| UniRef90_X1CL89 |  |
| UniRef90-M0D0N2 | LR E L V D A A E E A |
| UniRef90-D8RBH9 | FNQAI E L S E DVL |
| UniRef90_L9X517 | LEQLAERGQEAI |
| UniRef90_G5CS14 | $\square H \mathrm{KVIT}$ L S Q D $\mathrm{l}^{\text {L }}$ |
| UniRef90-X6M2N3 | FNQSI ELS K D AL A |
| UniRef90_L9XDM0 | L R Q L V |
| UniRef90-M1NNB3 | 1 H K I I E S C N D $\square$ |
| UniRef90-J2ZLD0 | LR QLVD A A E A |
| UniRef90_D7E7E0 |  |
| UniRef90_U6JWP2 | F NQA $\square$ E L A A E T |
| UniRef90_C9SPR8 |  |
| UniRef90-D8J5H4 | LR QLT E R A E GQL |
| UniRef90-M5W1A5 | FNQAIKMSQEI |
| UniRef90_D1JE51 | RLV S K A E EI |
| UniRef90-X0VHR3 | LEK Al |
| UniRef90 R4T455 | L E D A A E R A |
| UniRef90-W9DR16 | RDELVVEA G D A V L |
| UniRef90_F4BVB9 |  |
| UniRef90_UPI0003774E83 | L N E L VEK S Q DVLA |
| UniRef90-X1J174 UniRef90 J3JEQ6 | I RELLERAQDKLA $L A Q A F$ |

## UniRef90 UPIOOO374F651

UniRef90-W5W859 UniRef90-A0A044U5F5 UniRef90_D8HZR4 UniRef90_F4FFH4 UniRef90-T1CF11
UniRef90 X6P1×8 UniRef90_G7WP14 UniRef90 ${ }^{-}$T0Z1G7 UniRef90_UPI000273F58D UniRef90_R0F1Q1 UniRef90 B3T8J6 UniRef90_S9UWV1 UniRef90-D1C2J3 UniRef90-M8BAT1 UniRef90_W2F4W1
UniRef90_UPI0003B68C1F UniRef90 UPI00037765E2 UniRef90-LOJPY3 UniRef90-K0JZP2
UniRefefo-MODBF8
UniRef90_L9ZUH5 UniRef90-A4FBR7 UniRef90-W6JTB
UniRef90-IIIV47 UniRef90-C4RKD2 UniRef90-UP100037D5C5D UniRef90-A0JX94
UniRef90 LOPDT2
UniRef90-H6RSD6 UniRef90_UPIOOO4625418 UniRef90_UPIO00373FB33 UniRef90-F8D434 UniRef90-WOJN89 UniRef90-14ECZ8 UniRef90-UPI00047CE23B UniRef90_D2AV57 UniRef90-U2YVN7 UniRef90-M1PZ78 UniRef90-X1DPD6 UniRef90-B8E2J1
UniRef90 V4YD98 UniRef90-L5N7L1 UniRef90-D3SWX3 UniRef90-L9WH14
UniRef90 A9WSD1 UniRef90-L9VZR3 UniRef90-LOADKO UniRef90-UPIO003B4423F UniRef90_UPI00047C507F UniRef90-LOIBQ5 UniRef90-M0H5R3 UniR Refo-HOOKV9 UniRef90-D9UZII UniRef90-MOF3Y3 UniRef90-17BQ14
UniRef90 $14 F 456$ UniRef90-UP100037AFCE4 UniRef90-UPIO0036F2D10 UniRef90-MOPCH9
UniRef90-F7XPT8 UniRef90-D2S6R3 UniRef90-D8JAF0 UniRef90-M1XQB1 UniRet90_UPIO0037064B3 UniRef90-L9WM12 UniRef90-Q9HP22 UniRef90-1019G8 UniRef90-li3R7YO
UniRet90 E1RG81 UniRef90-E1RG81
UniRef90_G2MLC0 UniRef90-MOD1H9 UniRef90-U1YDZ55 UniRef90-U5VTW4 UniRef90-E7QNM3 UniRef90-UPIO0036E5893 UniRef90_UPIOO0478720B UniRef90-R4LKA9 UniRef90-X0ZQ86 UniRef90-A3TLB2 UniRef90-U1P5z5 UniRef90-U1Q8R2 UniRef90 ${ }^{-R 4 V S K 3}$
UniRef90-D304W2 UniRef90-D2Q4N2 UniRef90-E9C5L3 UniRef90-UPIOOO46ED389 UniRet90 KOB7W8 UniRef90-C8XKA2
 IGLLLVRLGGHSUGVAQDGRVLVSTTDRKQVHGRNKA
$\prod A L V L V R K G G H S V G \square A R D G R \prod E V S R T D R H L V Q G R S A A$
$\square G L L L A R K G A V A V G V A E G E R L P V H K V D T R Y V Q G R T A A$ TDKYGIVIMDGSDATVGVLAGSQFIVDKKLRSFAHQKVHK TFGFIIMDSNG

S REARLFCVRSDVPEEVGRLSADLMGKHKK
FGF VIDGSGA LFGTDQGNTREVLHKFTVDDPKKHGE
GYIVMADLDTLFGTLRGYTSEVLHKFSGRPKGDYTR
TVGVVLVRLGRYSVAVYRGGDLATSKTDSRYVKGKHHA
DKFGF! MDGNGCLFATVCGDVKEKLGSFTVELPKKHGR
TRTVGV MDGGGYAAGLSGNREVHKVDKKHA
IGVLLVRRGGFAAGVFVGRDLVASKVGTAYVQGTTKA
GLVLVRHGAHSVGVAEGERIVSSSTDRHYVQGRNKA
TGRHALALVRTDLFALGVYDGDERVDYRGFESDVKGSHSK
HS GVAVDGEVVASTTDSRQVHGRNKA
VALVRSDLFALGVYDGDSLTLVDDVESDVMNAHSK
TGRYALAVVRADLFAVGVYEADDRIEYRGFESDVKGSHSK
TVGLVLVRLGAHSVGVSRGGRVERSSTDRHLVHGRNKA
DPFGVILVRRGGYAVGRVRNGRLLLHKVGTRYVQGKTAA
YGYVVVHAKGADFGVAVGDNSKILQTLSVDTPSKYGK
GVVLVRLGGYAAGVFEGRRLVASKVGSRLVQGRSAA
TVGLVLVRRGGYSVAVVRDGAALASKTGTRHIQSRTAA
FGFIVMDGNGSLFGTLSGNTREVLYKFTVDLPKKH

VLLVRRGRWAVGVFDGDQLVVSKVDARQVQGRTAA
$T G A V L V R R G G Y S V A V V S G G A V L A A K T G T R H V Q S R T A A$
IGLLLVRRGGFAVGVAAGTKLVASKVDTKYVQSRTAA TGRYALAVVRTDLFALGIYEDGERVDYRGFESDVKGSHSK TGTYTLALVRADLFAI GVYEDGERVDYKGFESDVKGSHSK DTYCTCIISRDRARIFYGVMAESEDGDIDDEVPGQHEQ

GVILLRRGGYALGVVEAGRLLVSKTGTRYVQSRTAA ATVGVLVRLGGHAAG FQGDELVSSKVGSRQVHGRSAA ATVGLVVVERGGAALGRLDDDGVTTDETFDSGVPGKTRAC KEVYGLLTIEAGDAGIALLKGNHIEKDEEYTRPVDSKTAA TSRFAFGLLRSDTFALGGYEGRERESGTAFKSEVKSQHSK TETTAVALVRGDLFALGRYEDGDLEFVEGFESDVKSAHSK LALVRTDLFAVGVYDGDERVAYRGFESDVKGSHSK TGRYALALVRADLFALGI YDGDERVDYRGFESDVKGSHSK TVAVLLI RRGGYAVGICRDGKVIASKVGSRYVQSRTAA TGRYALALVRTDLFALGVYESDERVDYRGFESDVKGNHSK TDRHALALVRTDLFAVGVYDGDERLEVHGFESEVKGSHSK ERTDGVVVARKGAHAVAEFEGRELRVSKVDTHYVQGRTKA VVL!RRGGYSVGVARGGTLLASKTGTRYVQSRTAA VALLVRADLIFALGRYDDGELVYETGFESDVKSAHSK LIALLLVRKGGHSLGLAYDGRVVLSRTDRHHVQGRTAA TGRHAFALVVRADVFAVGTYEGDERVAFEGFTSDVKEAHSK TGRHAVALVRADLFALGVYEGNERVDYRGFESDVKGNHSK AVLLVRRGRWAVGVFDGPQRVVSKVDARQVQGRTAA TGRFALFALVRSDTFALGGYEGTERVAFEGFTSDVKEASAK

■CVLILSAGESFVGFGDTENFASYQVFRSSVKSKHSK AVLLVRRGRWAVGVFDGGDLVVSKVDARQVQGRTAA
 GVFLVRLGGYAAGVFHGDVLLASKVGSRLVQGRTAA TGRHALALVRADLFALGVYEGDERVDYRGFESDVKGNHSK FSLVLLNTNQAK F SVS LGLAKQQKNLSSDIMNKHKK TGRYALAVVRADLFAVGVYRDGDRRSFDGFTSNVKSDHSK DTYGVIHVDQEGARLFLFNMGVLEAVDGYDGEEVKDHRS TDTTVVALVRADLFAGGRYEDGELHYVTGFESDVKSAHSK AFVLAHAGESFGGMADAKNVLFGELVRTGVKEKHSK
TGSF TFALVRSDLFAMGEYDGDERVAFQGFDSELKSQHSK
GIVLIRRGGFAVAAASGSRILASKSGNRYVQRTSA
$\square G L L L A R K G A V A V G V A E G T K L I V S K V D T H Y V Q G R T A A$ EGRFAFALVRSDLFAIAEYDGRDRLSVAGFESDVKGDHSK GVILVRRGGYAVGLASGGAFTASKVGTRHVQSRTAA GVLLVRRGGYAVGVFDGTRLTASKVGSRHVQGRTAA GLLLARKGAVAVG|AEGTELVTSKVDTHYVQGRTAA avVLI R RGGYaVALVEGSALVAHKVGTRHVQSRTAA
YTLAVVRSDLFAMGTYQADDRTAFHGFDEDITTQHSK FAVVRADVCAVGVYEDGDRTGFEGFESTVKSDHSK
AVALVRSDLFAGGEYRGDERLAFEGFESDVKGDHSK GVLLARRRGFAVGVFTGDRLTESKVDSSYVQSRTAA GVLLVRRGGYGAGVFVAGKLTDSKVGSRHVQGTTKA FGAVVIDGHGTTLPTASPG
$\square G L I L V H \square G T Y A V G \square S R G E K L I S S K V G T G L I H G R H K K$ LVTLDQKSARIQKFHGSQi I QEAKLGDDLQGRHRK


UniRef90_UPIo00374F651 UniRef90-W5W859 UniRef90_A0A044U5F5 UniRef90_D8HZR4 UniRef90_F4FFH4 UniRef90_T1CF11 UniRef90-X6P1X8 UniRef90_G7WP14
UniRef90 T0Z1G7 UniRef90-UPIO00273F58D UniRef90_R0F1Q1 UniRef90- ${ }^{-13 T 8, J 6}$ UniRef90-SgUWV1 UniRet90-D1C2J3 UniRef90-M8BAT1 UniRei90-UPFO003B68C1F UniRef90-UPI00037765E2 UniRef90-LOJPY3 UniRef90-K0JZP2 UniRef90-MODBF8 UniRef90_L9ZUH5 UniRef90-A4FBR7 UniRef90_W6JTB0 UniRef90-111V47 UniRef90-C4RKD2 UniRef90-UP100037D5C5D UniRef90-A0JX94 UniRef90_LOPDT2 UniRef90-H6RSD6 UniRef90-UPIOO04625418 UniRef90_UPI000373FB33 UniRef90-F8D434 UniRef90-W0JN89 UniRef90-I4ECZ8 UniRef90-UPI00047CE23B UniRef90 D2AV57 UniRef90-U2YVN7 UniRef90-M1PZ78 UniRef90-X1DPD6 UniRef90-B8E2J1 UniRef90-V4YD98 UniReffo-L5N7L1 UniRef90-L9WH14 UniRef90-A9WSD1 UniRef90-L9VZR3 UniRef90-LOADKO UniRef90-UPIO003B4423F UniRef90_UPIO0047C507F UniRef90-LOIBQ5 UniRet90-MOH5R3 UniR Refo-HOOKV9 UniRef90-D9UZ16 UniRet90-M0F3Y3 UniRef90-17BQ14 UniRef90-14F4S6 UniRef90-UPI00037AFCE4 UniRef90-UPIO0036F2D10 UniRef90-MOPCH9 UniRef90-F7XPT8 UniRef90_D2S6R3 UniRef90-D8JAF0 UniRef90-M1XQB1 UniRef90_UPIo0037064B3 UniRef90-L9WM12 UniRef90-X1BIU3 UniRef90-Q9HP22 UniRef90-1019G8 UniRef90-li3R7YO
UniRet90 E1RG81 UniRef90-E1RG81 UniRef90-MOD1H9 UniRef90-U1YDZ5 UniRef90-U5VTW4 UniRef90_U1QC14 UniRef90_E7QNM3
UniRef90_UPIOOO36E5893 UniRef90-UPIO00478720B UniRef90-R4LKA9 UniRef90-X0ZQ86 UniRef90-A3TLB2 UniRet90_U1P5z5 UniRef90-U1Q8R2 UniRef90 ${ }^{-R 4 V S K 3}$
UniRef90 UniRef90-D2Q4N2 UniRef90-E9C5L3 UniRef90-UPI00046ED389 UniRef90-KOB7W8 UniRef90-C8XKA2

GGWSQQRFARRREGQARQALLDAAADTVAE ${ }^{70}$ VVPRLATLISA GGWSQQRFARRREGQARVALQSAAEDAVRVLLPVAELDA MEKRHNYVRKVAETAVEIFI RNKVNVAG GGWSQQRFARRRAGQARHALQDAAKDVFEVLLPRLSEVDA GGWSQQRFARRRDNQAKAALGEAADLAVRLLLPEAGRLAA GGQSAARYDRAREESDDDYYKAVAEAINDLF KHEFKL
 GEYEHTCF MDEHAAHEFFVRபAE IAAELFLPMKDQLKG AGLDAM GGTSQLRYTRVREGQMRRLYVKVCETIRAQFEPVASELDH GGQSKNRFAR!RMERRHELARRWTENAVSYF川TNRPNV GGWSQARYERHIDEHARAHFKRVADEL FHIFEEQPYRW GGWSQQRFARRRDKQSAEALRAAADVAHRVLVPRAPALDA GGWSQQRYARRRTNQARAAFGEAADVAVRILLPEAASLQA GGWSQKRYARRRAGQARKAVNSAAEAVVEVLLPEVESLDG GGFSQARFERDRDEQDDDHLERCREAVA TRRGDVDR GGWSQQRFARRREGQARVALQAAADDAVRVLVPRDELDA GGFSQARFERRRDEQVDNHLDRMEAKEMLAAHEDAADG GGWSQQRFARRREGQSRRALLAAADAVARVLLPERDELDA GGWSQQRYARRRENQADELVTAVADHAARILVDGRPVTPG MLSSTRCFLKMRMETQHRLVNDTKLARDI FITDVPMIHH GGWSQQRFARRRDNQAKAALGDAVDLAVRLLLPEAADLAV GGWSQQRFARRREKQAREAFGAAAEVVARILLPRAPSLDA GGGSQQRFARRRTNQADALVEAVAGHADRI F REHRIEY VVKVAEMAVQLFTTNKVNVAG GGWSQQRFARRRANQTDAVVGHAVETAARVLLPHAEGLAA GGWSQQRFARRRANQADALVEAVADHAARI FADHR I EY GGWSQQRFARRRDNQTRQI WDAAADVAARLLLPAGI ET GGFSQARFERLRNEQDEHLDECRETLEEYVGAQRAAVDR GGFSQARFERURDDQVDDHLERCHRALAEF WNERDTRR GGWSQQRFARRRANQARGLVETAGEQAVRVISG AEVHQ GGWSQQRFARRRENQAGQAHDAAAEVALRILGPHVAELEA


 GGFSQDRFERRRDGQ| EDHMEKARDEDGRLDADEVDQ GGFSQARFERURDGQDDDHLDCRDALADVLADEPD AR GGFSQARFERURDDQDDHHLEAVARCVDGLEHVPDDVER
 GGFSQARFERURDEQLDDHLERATAALEE RERVGEVDR GGWSQQRFARRRANQASSLVLEAAERAAAIFSG HPLEC GGFSQARFERTRDEQ DDHVAQARAADEDVRDEAADLP
 GGFSQGRFERRREGQDDDHKKANETLAGVEADGDDVDR GGWSQQRFARRRGHQTDAVVSHAADTAARVLVPHAGSTEA GGWSQQRYARRRGNQAAAGVREAADDACRILLPAGTDDA GGWSQQRFARRREGQARQALRAAAEDALLEVLGPRDAELDA GGFSQGRFERRREGQDDDHLRKATELAAMVAAAEDVER GGWSQQRFARRRAHQTDAVVGAAVETAVRVLLPHAGEVEA GGFSQGRFERRRDNQAAHLERCHEADA GGWSQQRFARRRRNQASQAYDDAVETAVRVLSPHLGELEA GGFSQARFERTRDDQDDDHDRCREVLAE RDADR GGWSQARFNRLRRGAIHDFYLEVKEYLEKTADEQ GGFSQARFERLRDEQLQAHLEECQRALADI
GGWSNPRFQRHEATQARRNLQEAAEMAEEFY RRTDTRR GGFSQGRFERTREGQTADHUDRCHEALDEHAAGADSETTT GGWSQKRFERLREEDVRHAEKAAAAFDSMMESHSDIVEC
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 GGWSQQRFARRRENQAREAFAAATEVAVRILAPARLDV CVFDARLMYVRRAAALCVQTFDTGDGNVNG GGSSQQRFQRRRQNQQEFLDRVCTHIMEEFEPHTKHLDY GGQSQGRFERARGNQRTASLADAADTAVRVLTPHSPPPAA


UniRef90 ${ }^{-}$X1DPD6
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UniRef90_V4YD98
UniRef90_L5N7L1
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UniRef90_UPI00047C507F
UniRef90 LOIBQ5 UniRef90_M0H5R3 UniRef90_H0QKV9 UniRef90_D9UZI6 UniRef90 M0F3Y3 UniRef90_17BQI4 UniRef90_I4F4S6 UniRef90 UPI00037AFCE4 UniRef90_UPI00036F2D10 UniRef90_M0PCH9 UniRef90_F7XPT8 UniRef90 D2S6R3 UniRef90_D8JAF0 UniRef90_M1XQB1 UniRef90 UPI00037064B3 UniRef90-L9WM12 UniRef90-X1BIU3 UniRef90_Q9HP22 UniRef90 I0I9G8 UniRef90_I3R7Y0
UniRef90_E1RG81 UniRef90_G2MLC0 UniRef90_M0D1H9 UniRef90-U1YDZ5
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$K \square V L G T T S P K N T S E F \square D V L P K R \square H E K \square I G E \prod P \square E \square D S$ I I L V GE RTVLSELLREL
 L F LTGQRGVI ET LADESELEPDATAAVDATGD
 $L F V V G Q R G V V D T L V E E S G L E D A T A A V D A T G D$
 I QRGGDRTLAS ELFEQASLVKYAALPHLP
 $L V V L G E R A V L G E F R E \quad$ RASQTATVDATGDPEAA $I L P G G D R G L A E D V L A L P A L K P W A G L P R L A Y L D V P D P R A A V$ VLLGGDRRALDELRADRRL $V$ I AVGERSVLGRVRD RADVTDVSDATGKPEAA L $Y$ L V G QR GIV V A LA A EA GLDEPTATAAVVDA GAD P EPA $L A T G G D K G L V A E V L A D P R L R A L A Q L P R L A P L D V G$
FVCGGDRSTVDAI LADARLAALLPLRHDRLLDVPEPRLTV VVLGGD R R AL E E L R A D R RLA PL FALA GPRVLDIPEPR RTV $V I V V G E R S V L G D L R E H$ I I T G G D HQL I
L F T GGDRGLVDDVLSD
D A D A R R A VD A T G DPEAALEK A
$V V L G G D R R A V D A L R R D R R L A P L L A$ $L Y V V G Q R G V V D T L V E E A D L$
$\square V L A G P G T A K D Q F R \quad D \square L S K N L Q N R D$
LI LAG TE KNVARFRE LLSNR LRSS IVIGQFDANASLAD■ LIV LGGEQTVLDDEFRE R S ALJTATVDAS GDPETA $L V L L G D \square R L A E A \square A A G S P L E R \square I R$ $V \vee V V G E R S V L G E L R$
L Y V V GERTVLDEFEE
1 V P GGDKTLVVDVLNQ GPAKPFATRTRLALLDV

$L Y V V G Q R T L L S E F R D D$
$L V V G G D R T L V R E V L D A G A L R A L A G L P M R E L Y D L P D P K R D V$ $V \vee T G G D R A A V D A V L T D R R L$
$L \vee T G G D R A A V D A I L D G P S F A P L R E V R H D R F L D V P E P R R A V$
LVVGGDK T LVGEVLEDARMSFLEKLPRREFHD $\square G D P R R A V$
 $V V L T T G E Q A V V G E L D E$

VD A RASAPVDATGKPEAA
$V$ VT GD A A D ALADE

L I LAA G A A D L K K R D L I I YGGPHH T I LQQLQKRCP FLLK SLESK TLPP I DVP

$L V L G G G D R P A D A Q V V A D P R \square A A L A A R P R R T F A D \square P E P R R A V$

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UniRef90-D1C2J3
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LDEAARRARDV
LD DAAEQA
FNQ
LEEAAVRA
LQDAATAA
 FNQAI ELSTEVLS FNHAILVTSKVLA
$\square$ NEDVEESCE】I

LKEAARRANAV
ILEDAVR
LEEAAERA
L R E A VR
LDEAARRA
$\frac{L}{F}$ ETAVKRATAV
$\stackrel{F}{\mathrm{~F}} \mathrm{~L} A \vee \mathrm{R}$ RTS

LK Q A A A DACSV
L L E
L K K A
LEAA $\square$ GQA
$\square$ NEDREESNAVIA

LDELAARA
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LK QAF
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LDAEVAER

LIEVVD Li
LDDAHRSSTELL
LRTA
LKKAAADACAV
LD DAFR
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$\square R E$

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LERA $\square R R G$
LE EAVAQA
LDEVLKRARSV. LLEAAFA

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## UniRef90 F7PHR3 UniRef90_L8TNQ2 UniRef90-B9KY07 UniRef90-X1BP47 UniRef90_Q3IRB0 UniRef90_Q466Q4 UniRef90_F4BV22 UniRef90-K2EYJ5 UniRef90-B5YG62 UniRef90_U1PLQ6 UniRet90_MOIBF6

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UniRef90_UPI0003788C4F UniRef90_F2E5G2 UniRef90_U1NLK1 UniRef90-E9URN1 UniRef90_UPI00036427D6 UniRef90 F8AGN3 UniRef90-UPIO003814962 UniRef90_K9YH99 UniRef90_Q57638 UniRef90_K2B986 UniRef90-E8MZR4 UniRef90_UPI00046F3D7E UniRef90_D3E137 UniRef90-Q0W6H4 UniRef90_B1L659 UniRef90_Q1AWD3 UniRef90_O27679 UniRef90-UPIO003721D47 UniRef90_X0SZ35 UniRef90_X1BFA7 UniRef90_U1P506 UniRef90-A5UKW7 UniRef90_UPI00047AEE40 UniRef90-D7KD22 UniRef90_K2RTY6 UniRef90-I0A1Y6 UniRef90-D3D1W5 UniRef90_UPI000478A5E7 UniRef90_D3L491 UniRef90_D3EZ98
UniRef90_Q9YAZ5

G VI

VIS RDRAR $\qquad$ | $A E G D L L A S K A G T R Y V Q G R T A A$ |
| :--- |
| $R G N F Q E V A V R L D E E V$ | TGRHALAVVDASCTR LVVAGQVMEDMDGFCKKVHHLSKV $V$ ALV VRSDLFAMGEYDGREQTAFHGFDSELKSQHSK $V L V L H A G E S F D G F A D A Q V F D T E E L I D S S V K E K H S K$ $V V$ SAHA GS T F L G VLLSRE GFAVNE KVES QVKEKH S K VIMLDSKYSRIFNIKGFVINEDDTEESMVHRFHEQ

 V ALVRADLFALGGRYEDGGLQYVTGFESDVKSAHSK ERTVGVLLVRLGGFAAGVFTGERLIASKVVGRPVVGRSAAA

VVLVRS D $\square$ F A L G V Y D G S T L T H VT EIT T DI MN TH S K
WGVAVVSRRGARL $\quad$ LRGGRLVVEFAVIIEDDVGGRTAA TGRFAFALARADTFALGVYEGTERVAFESVETDVMNEHDK $\square \mathrm{CVLQI}$ HA GESFVGIANPDEFENYSVIKSSVKAKHKK TGEFTLALVRSDLFAMGEYHGRERDAFHGFDSDLGRNHSK GLLLARKGAVAVGIADGPELITSKVDTHYVQGRTAA TVCVLATHAGESLIGISSDKNIFDEDVDRSSVKAKHTK VIVAHAGESLAGYSRDSRFDSYEIIRSNVKSKHSK V L LA RKGAAA GVVD GT TVTV S KV ER F YV Q GRTAA $T L G L L L V R L G A H S V G V A E G G L V T A S R T D R H L V H G R S A A$
 GIVLVRRGGYAVAMSLAGEEGDSKVGRRHVQSRTAA $G L I L V R R G G F A V G V S A G A E E V Q H K A G T R Y V Q S R T A A A$
 $G L V L A R H G A H S V G V A Q G E E V L F S S T D R H H L Q G R S K A$ V V A A H A GETLL GLALGREFI EEAVVKSTVKEKHTK GVI LVRRGGYAVGLAPAGALTVSKVGSRHVQSRTAA 1 V V I D D GEADMA I I R E Y GVEILLKGIR Y NL G G K $\square V L V S A G N T K \square F R E K G G D W E E D E S I K S R V D R E H S K$ $C V L V A H A G E S F T G F L D S Q E F D S F Q M I K T S V K A K H A K$ $\square G F L L A R K G A Y S V A V V Q D G R F D A S K T D T S Y V Q G R T K A$ $\square V V I E D G E A E I A I V R E Y G L D F D A S D R Y N I G G K$
 $V \vee L V R R G G Y A V A V V E D G S L V R H K V G T R H V Q S R T A A$
 $\square$ I V RKRAH GVVGVFSGEHLLEGRHDNHYVQARTKA $G V L L V R L G G F A A G V F V G P A L T E S K V G S R H V Q G R T A A$ WGVLLVRKGGFAVARLAGLRMTDSKVGQRHVQGRTKA

 | $I$ | $V$ | $T$ | $E$ | $D$ | $G$ | $A$ | $E$ | $M$ | $A$ | $V$ | $R$ | $E$ | $Y$ | $G L$ | $D$ | $F$ | $I$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | $A L V L L R R G G Y A A G L A R S G R L A H A K V G S R H V Q G R T A A$ $L \vee V L D Q Q S A W I R E F T G G K V T A E E R L G T H L Q G R H K K$ TGRYAFAVVRADLFAVGワYSGTDREHYEGFESDVKGAHSK $V V L V R R G G Y A A A V V S D G S L L A H K V G T R H V Q S R T A A$ $V G V A G E G L V L A S K V G S T Y V Q S R T A A$ LVAVDTGEGTI GI VRDYGLDVVARVRHNVPGK

 WGVLLVRKGGFAVARMAGPTMVEHKIGQRHVQGRTKA $\square V L A R K G A A A G V A D G T T I T V S K V E R F Y V Q G R T A A$ LISAHAGDSMLMVSLGDQIESFEIVRTPVKEKHSK AV ALVVRADLFALGTYEDGERVDVTARSADVEENHSK
 A Y G FI I L D N S G L L F VRLK G N N WY P I Q R V S F RLPR WK I ALV R S DVF ALCTYD GETVDTVDLT Q TAIT E Q H S K WGI LLVRKGGFA IARMNGAEI ADHKIGRRHVQGKTKA
 IV A L E D GEAEDAVMREYGLDFMATVRHNLSGK ERYGVVLAD K A H A R L F T I Y M G E I E E H Q T T F T E E DV R HV K $V V V$ M D D E E A D I F E V R D Y S I K E DC S I K S H T S K K L D
YMVILVDRKKARFFIVYGEIVEHEDVVDQAVPRKIHE

Y G V V K Q Y AVVVADGQESR IF LIS SEEAQR DGGTEADEPKRFDA $I V V I E D D V A D F G L M R Q F G D E Y Y G P \prod M G N V S G K$
 GIV L VDAKRFRFFVTS LGGQI E E EREVT DSPSSANP Q $I L V M E D D V A E D G L I R Q Y G V E Y R G P I T G H D P G K$


Y S V G V F E G D RL L T S K T GT R F V K GR HR A $M Y \square G E \square N E Y \square A A F \square S D V P S K V N F$
T GRFGF GJVVRSDTFAAGVYEA TERLD FEGFRS DV TS E HD K Y G
YGIVLID K QRARLFSFHLGELQELEPFQGEEVRHTKR YAVGVADNGKLVASKTGTKYVQSRTAA
DCYGVIVMDRKC DMFA TIRDNRHEFHDTYTFELMWSHQV $V V V I E D D N A D M G I L R Q Y G D E Y Y G P \| I G G I S G K$
K K S F GIV AV DYDEYS IALAFRRQGYKILVSNDLHIPGK


 $\square A A V D Y$ D E F A L A V LA G H GMK ILED T S A RLP GKD DP

| UniRef90 F7PHR3 |  |
| :---: | :---: |
|  | GGFSQARFERLIRDEQUDSHLQRC Q |
| UniRef90-L8TNQ2 | GGQ |
| UniRef90- X1BP47 | GGWSQMRYQRRRDKQU |
| UniRef90 Q31RB0 GGFSQSRFERTRDEQQ |  |
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| UniRef90-Q46604 GGFSQRRFERLREED |  |
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| UniRef90 UPI00035E1003 G G WS Q Q |  |
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|  | GGWSQQRFARRRDNQAKAAAADGAGIVERLLLPQVRSLAA |
| UniRef90-Q12WR5 |  |
|  |  |
|  |  |
|  | GGWSQQRFARRRQGQARQSLLAAADDAADVLAARAADLDA |
| UniRef90 H5SV50 |  |
|  |  |
| UniRef90 GOLMH7 |  |
| Unirefoluriouo3701542 G GWS |  |
|  |  |
| EGRRSIPVVY |  |
|  |  |
| UniRef90-GOHLC7 |  |
| iRef90-W9DT33 G G F S Q R F |  |
|  |  |
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|  |  |
| iRef90-NODZ38 GGWSQQRFARRRGNQADALVGAVQDHFVR】, |  |
| UniRet90_UPIOOO25 | GGWSQQRFARRRGNQADALVEAVAGHAEEMTTAASVALGG |
| 俍 |  |
| UniRef90 UPIOOO37CA8D4 |  |
| UniRef90-A1s |  |
|  |  |
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| UniRef90-H12 | GGWSQKRFERLIEEEDITKKHGDKVRGAYEEFIRDSGLVPES |
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| UniRef90-UPI0003B455 |  |
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| Ref90-0024P4 |  |
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| t90 |  |
| UniRef90 AOBSH7 |  |
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| UniRef90 V4XT91 |  |
| UniRef90_UP10003788C4F GGWE ERRUARSTEQKVVHHFQDVVDULLEHFRKGRFEVFF |  |
|  |  |
|  |  |
| UniRei90-UPIOOO36427D6 |  |
| UniRef90 |  |
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| UniRef90-Q57638 |  |
| ef90-E8MZ |  |
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| UniRet90-X0SZ35 |  |
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| UniRef90-U1P506 |  |
| UniRef90 ASUKW7 |  |
| UniRef9-UPIOOO47AEE40 |  |
| UniRef90-DTKD22 |  |
| UniRei90-K2RY6 GDES RNTQKN |  |
|  |  |
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| UniRef90 UPI000478A5E7 |  |
| UniRef90-D3EZ98 |  |
| UniRef90 Q9YAZ5 |  |


|  | 90100 |
| :---: | :---: |
| UniRef90_F7PHR3 | LYVVGEKTVLDAFDD EADVTATVDATGEPEPA |
| UniRef90-L8TNQ2 |  |
| UniRef90-B9KY07 | LVVAGPDEVVADFV DGLHPY L R ERYVGS F |
| UniRef90-X1BP47 | 1 V I A G NRMLT ALEQE |
| UniRef90_Q3IRB0 |  |
| UniRef90-Q5UX73 | LYVVGEGSVIHEFEDLSTA MKPVDATGEPDAA |
| UniRef90-Q46604 |  |
| UniRef90-F4BV22 | AVLGGEEGL |
| UniRef90-K2EYJ5 | LI GQEHEIKMFQLD |
| UniRef90-B5YG62 |  |
| UniRef90_U1PLQ6 |  |
| UniRef90-M0IBF6 |  |
| UniRef90-D6Y1R8 |  |
| UniRef90_UPI00035E1003 |  |
| UniRef90-U1MXQ1 | $V 1 V L G E Q T V L G A F S D L A D R Q \quad$ S |
| UniRef90-UPI00037FAF6B | L VCGGDRRAVDAVLA DRRLAP L SVLRAERLLAVPEPRHAV |
| UniRef90-H0E039 | A S D L L P |
| UniRef90-V4HBU0 | TVLVGERSVLSELDEY |
| UniRef90-D7E8N6 | IITGGGDRGTQHVLKN】NTNSPVIEKSMDSK】 |
| UniRef90-C7NRZ4 | LYVVGEQTVLDA |
| UniRef90-10H1H2 |  |
| UniRef90-Q12WR5 |  |
| UniRef90-K4MAD6 | LLI GGDQQMAKM |
| UniRef90-F4F8E8 |  |
| UniRef90-UPI000466261A | VVLGGDRAALDTLRDDARLAAVFAKAEPRVLDVAEPRRAV |
| UniRef90_H5SV50 | L I I A GP ED K TLLP YLIK E HLA H S YLRER L A GEF |
| UniRef90-E6SA13 UniRef90 UPI000478CD73 | $L V L G G D R S L V Q Q V L A A P P L R A L H G L P V R E L F D D P D P R R D V$ |
| UniRef90_UPIO00478CD73 UniRef90_G0LMH7 | LALGGDKALLELVLAEPTLKNYAGRTRLRLLDVP VVVLGEKTVLGAFSD |
| UniRef90_G0LMH7 <br> UniRef90 UPI00037D1542 | VVVLGEKTVLGAFSD |

LVLGGDRGVLSELGSDTRLAELWRWAEPRVLDVAEPRRSV AVVGGESALVRMIR
LVVGGDRALV
AIVA GPGFVKEDFYKF LRENYGE $\square A K K D A D E D T S V T G R T G$ VYLGGFDPNRKRPEQ MLMAGD LLLLAKE $\square A M D \square P \square D$ VVTGG
AIVAGPGFYKEDFVKFDKENYPEDAKRVVTDDTSMGGRTG VVPGGDRALAGLVLEHPALKDYAGLPRLAYDDVPDPKTAV LLVGGDKALAAEVLADPRLVHDTTLPSRAAYDIGDPKRSV LVVGGDRTLAEAALQE
$L Q L G G D R P L A S E T L A N P V L R S Y$
$V A T A G D Q A A V T Q V L A T P A L S G L A A L P R V R V D A V P$ LVLGGERKAVDRVLADRALAP

GGDHTAVEEVL A IVAGPGFVKENFYRFLQENYPDLAKRVVIEDTSVTGRTG AIVAGPGFYKEDFYKFLKENYPDLASKIVLDDTSMGGRVG VI LCGE
$L V V G G D R A L V R D V L S A P T \square A A \square R A L P R R E \square Y D L P D P T R A V$ VLI GGPGQAKTGLE


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| :---: | :---: |
| UniRef90_F7PHR3 | LLADAFR |
| UniRef90_L8TNQ2 | LRKAAADAA |
| UniRef90- $\mathrm{X1BP47}$ |  |
| UniRef90_Q3IRB0 |  |
| UniRef90-Q5UX73 | LD D A V R |
| UniRef90_Q466Q4 | L R |
| UniRef90_F4BV22 |  |
| UniRef90_K2EYJ5 |  |
| UniRef90_B5YG62 | L E K V I |
| UniRef90_U1PLQ6 |  |
| UniRef90-M0IBF6 | LA E A |
| UniRef90-D6Y1R8 | L E S A |
| UniRef90_UPI00035E1003 | LEDAVD |
| UniRef90_UPI00037FAF6B | $\underline{L}$ A A $\\|$ P A A |
| UniRef90-H0E039 |  |
| UniRef90-V4HBU0 |  |
| UniRef90-D7E8N6 |  |
| UniRef90-C7NRZ4 |  |
| UniRef90-10H1H2 |  |
| UniRef90_Q12WR5 |  |
| UniRef90-K4MAD6 |  |
| UniRef90-F4F8E8 |  |
| UniRef90-UPI000466261A | LD |
| UniRef90_H5SV50 |  |
| UniRef90_E6SA13 | LE T A L R R G |
| UniRef90_UP1000478CD73 |  |
| UniRef90_G0LMH7 |  |
| UniRef90_UPI00037D1542 |  |
| UniRef90-UPI00047AC301 | L |
| UniRef90_G7WLY9 |  |
| UniRef90_UPI00047A3193 |  |
| UniRef90-G0HLC7 | $\square \mathrm{Y} E \mathrm{~V} \square \mathrm{KRGT}$ |
| UniRef90 HOAET9 |  |
| UniRef90_W9DT33 |  |
| UniRef90_UPIO0046C8F60 |  |
| UniRef90-I3RFD6 | ITYEVIKR G |
| UniRef90-A0A024H2A0 | L RKAAADACAV |
| UniRef90_NODZ38 | LDETLRRS |
| UniRef90_UPI000255E646 |  |
| UniRef90-UPI00041A30BA |  |
| UniRef90-UPI00037D5ADD |  |
| UniRef90-UPI00037CA8D4 |  |
| UniRef90_A1SJS6 | LEEAVREACAV |
| UniRef90-FOLIL4 | 1 YEVI R RGT |
| UniRef90_O59148 | 1 Y EVI K R G T |
| UniRef90-H1Z325 |  |
| UniRef90-W9GML3 | LE T A L R R G |
| UniRef90-A0RY88 |  |
| UniRef90-W0K133 |  |
| UniRef90-UPI0003B45516 |  |
| UniRef90-F0M2G8 |  |
| UniRef90-Q8TZ98 | L $\quad \mathrm{EMDR} \mathrm{R}$ GA |
| UniRef90_Q024P4 | L AKTLEKVQE |
| UniRef90-R7XX14 | LDQAILDAQAV. |
| UniRef90-UPI0003734860 | LADAVVAA |
| UniRef90_A0B5H7 |  |
| UniRef90-V4XT91 |  |
| UniRef90-UPI0003788C4F |  |
| UniRef90-F2E5G2 | QMQALD HLLEKELLA |
| UniRef90-U1NLK1 | LQEAV |
| UniRef90-E9URN1 | L D Q Al EDAQKV |
| UniRef90_UPIO0036427D6 | L K EALK L K N |
| UniRef90-F8AGN3 | VYEVIKRGT |
| UniRef90_UPIO003814962 |  |
| UniRef90_K9YH99 | RSEVLDK |
| UniRef90-K2B986 |  |
| UniRef90-UPI00046D8978 | S A E V VERS $\square$ A A L A |
| UniRef90-E8MZR4 |  |
| UniRef90_UPI00046F3D7E |  |
| UniRef90-D3E137 |  |
| UniRef90-Q0W6H4 | FQEVLRRGA |
| UniRef90-B1L659 | VLEMIRRGE |
| UniRef90_Q1AWD3 |  |
| UniRef90_O27679 | \S EVLR K G T |
| UniRef90-UPIO003721D47 |  |
| UniRef90-X0SZ35 |  |
| UniRef90-X1BFA7 |  |
| UniRef90-U1P506 |  |
| UniRef90-A5UKW7 | \HEVLKK K T |
| UniRef90_H5SF23 |  |
| UniRef90-UPI00047AEE40 | LK Q A |
| UniRef90-D7KD22 |  |
| UniRef90-K2RTY6 | 1 HEVLQKG |
| UniRef90-I0A1Y6 | 1 KETI AKGTEI |
| UniRef90-D3D1W5 | A D HLLATRVAEVLA |
| UniRef90-UPI000478A5E7 |  |
| UniRef90-D3L491 |  |
| UniRef90-D3EZ98 |  |
| UniRef90_Q9YAZ5 | VREA L R R |




