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 VMSS L N DV Q R V H I I I H F L R F L K E Q GK S Q K T L A R H I A S V R A F H
 K V A A L P A S T T A V R L F L E K Q S E T R K Y A T L K R M A I T










 KI S W S EVVRYVL L S F L E KLLR K E GK S V P T I GRMTS S L R Q F H
 R L S S A L

 RSALVKASTDDLRAYLADLDTRGFKSSSVARRLSALRHLY GRSLLHDADSALLRDYMGSLARAGLSPRTQARRLSCLLKQFH


 $N V D S R F A T L P C I \quad L E Y$ L L Q L L H D N GLLA LA S L R V V H L A A I N A F H GI QLLPLAESATI RSYL DDIANNGFAATSQARRLSALRQFF
 $E L N V N D V Q R V H I D H F L G F K E Q G K S S K T I A R H V A S V R A F H$
 <br> \section*{ <br> \section*{ <br>  <br>  <br> <br> } <br> <br> }


UniRef90_U6B9W8
UniRef90_T0K769
UniRef90_B8GTW3
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UniRef90_W4VDZ7
UniRef90_D1XVH4

QLLRS $\square \mathrm{E}$ LAS ${ }^{50}$ R R Y 1 Y $\operatorname{y} \square^{60}$

60 $R R Y \mid L$ Y A L Y D QELLARAT $\square^{70}$


 ARSFDTATRADVEAY LLHCDARGLARSTRARRLSAI RQLY


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DAHFENVVKRESNIV,

 A L L L A I D S T D V




 G G DPA A I R P L HV A D F L A HLKE S GLLGARSRARALSAVRMFH QETLLTPSPQRFAEWLERRREQGYQLRSNARLLSSSLRSFY


 LTVLK S IDD S DV I R N WV E Y M M D N K A A V S S V N R R L S A L R S L Y
 Q L

 GKPSLLQVGRADVMGY L S A RVVA A GS S R R S SA R LL L S T L R R F Y






 QL K F VD CDY S S I R DY L S QL H A N L L S R R TV S R K I S S L R S F F

## ,


 DAHFASATQDHVER Y LI S CEA E GL S SATRARRRLSS I R Q L F
 $R V E L V A A S F E D L Q D F V E W R Y Q Q Q Q K P S S A A R Q L S S M R R F Y$









 H R V P P T E L K T $T$ TDFT QVDQF LI L NYLESLQQQAGKSRSTVIRAVSSSLRKFF




| UniRef90 U6B9W8 | $R F \quad \square T R D T \stackrel{90}{D E P N P F D G L K A P K R Q Q G}$ |
| :---: | :---: |
| UniRef90-TOK769 | R F $\quad$ L |
| UniRef90-B8GTW3 | R H Q |
| UniRef90_W4NAT0 | R F A LS E H A V H D D VA A R VK A |
| UniRef90-E6SPY8 | HFLVLA |
| UniRef90-UPIO00463041A | RFA |
| UniRef90-E9V0Y2 | RCRDLTDPTATVAVRQVRRGLHR\\|LGTA |
| UniRef90-M4RQZ6 | RFAGAVSDDASAKVRA |
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| UniRef90-S2XLD8 | K F |
| UniRef90_A0A058ZQU5 | R F A |
| UniRef90-G2PM97 | K F L |
| UniRef90-U2C7P3 | RFL L MAD |
| UniRef90-UPIO004636799 | $\square R H G F V D P T K G A R V R D V L R G \square R A E H$ |
| UniRef90_H7F875 | HFLLHD |
| UniRef90-I1DTG1 |  |
| UniRef90_S1R2S3 | $\square Y \square Q \square Q Q \square T$ T H |
| UniRef90-A0L890 | SAVEMCNPAHSPEVRESLRKA |
| UniRef90_UPI00036AAA04 | RFLVREK\\|VK ENVAQLLDR\|RR |
| UniRef90_UPI0003463BFB | Q Y Q |
| UniRef90-UPI0004755037 | R Y A |
| UniRef90_R6U072 | R Y L |
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| UniRef90-UPI000372008D | Q Y L |
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| UniRef90-W4VDZ7 | KFL |
| UniRef90-D1XVH4 | R Y |
| UniRef90-K2EGH9 | R F L |
| UniRef90-Q74C56 | RFLAETNPTS I IEAPRRVAKL |
| UniRef90-H0J1Y4 | R WARL |
| UniRef90-F7NL33 | R F L |
| UniRef90_E6MQA3 | RFLLLD D P |
| UniRef90-Q92C75 | T F L |
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| UniRef90_C3JCW8 | R Y L GLLE Q S P A L V R |
| UniRef90-E1GWR7 | R Y L |
| UniRef90-TOEY24 |  |
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| UniRef90_11F819 | \S A GLP DPASFAHLTYVLR GLRRS GA |
| UniRef90_H6CM22 | HFL |
| UniRef90-W4PXN6 | K F H |
| UniRef90-S0F4C0 | R Y L |
| UniRef90-UPI0004680732 | R Y L |
| UniRef90-U5T4Q3 | R F Q |
| UniRef90-I1YGA8 | R Y L |
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| UniRef90-K6YBR2 | QYMLRRQK $\square$ R S D D P V SLL |
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| UniRef90-M1WLJ3 |  |
| UniRef90_UPIO00469E84A | R F L |
| UniRef90-E6SRA6 | R F ${ }_{\text {R }}$ |
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| UniRef90_D1CD80 | Q F L |
| UniRef90-T2KSM6 | R F L |
| UniRef90-V2V504 | K WA |
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| UniRef90-X1S0E3 | RFL |
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| UniRef90_C8RZ69 | R F A |
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| UniRef90_M5J8C4 | Q F A |
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| UniRef90_B6IUX3 | R F ${ }_{\text {L }}$ |
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| UniRef90_Q2LT92 | K Y L |
| UniRef90-G9ZSF2 | Q Y L |
| UniRef90-C6AAZ2 | Q F L |
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| UniRef90-R5FCN1 | R F A |

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## Uni eigo-

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UniRef90_S8FGT8
 EDA乌ESYKTYLILEKSLSSNSVEAYLNDIKKLAKYCADK QAARRESTERRYQQALAHFED QQTEQFSVHTGVERGLSPATVSAYQSDLNKYDTWLTSR EQQLDNFDHYLEAVRKSSRNTLLSYKRDLEKFAAFLDAQ
 LI QLIFLDYLALEKNYSTLTH TSYKRDLDDFVAFYQQE EQVQQFLD HLRVERRYSANTVLAYQRDUQNFEKVVTAN FLAYQRDIRQVSRHTLEGYGRDIRRFVSFCASN RERWLRHRRLERNLSRNTLDSYRRDTDRYLAWLGAR ASERFLRHLALERGLSQNTLAAYRRDLDSYLGFLSER EKLIKDFMEYLKNEKNTSGNTEVSYQRDLKKMAVYFKKQ ENYUREYLSYLSAVRGDSERTRHAYEGDLGRFAAYCENR EDIYYRYKTYLRDEKALSANTLDAYMTDLDKLIRFAESE VVAGYVDSLWEERGARPTLEAYRTDLEHLASWLAAR PEETRRFDAYLASEKRASPHTRKAYQVDTAQYAAYLADS
 EAAVHAFLGHARHARGLSEQTLRAYANDLEQLVAFAASH LVQAAQKSSTKKAYQYKWDRFKKFVEPQ TETVADSYLSYLRSECHLAANTIAAYGRDIQRFATWLGTG SKDIVGRFRRYLKLEKGCSPNTLDAYGHDVDKLLRYLAGE EFVRGF AFLEVEKGYSPATLRSYGTDLEQFEEFLRGR
$\qquad$ LSKFLNQLAREQGASHNTQLAMARDLRDVAEYLGTR SADGVDAFLEMLAAERGAALNTLKAYRRDLDRLGTALARVE FLDHCSVERQLSDHTLQAYGYDLADFAAWVGTR VADFLEK STLKNLSPNTVJAYRTDLFQFFSFLAQH NAEMIKQYRRYLKLGRNYSENTLKAYMDDLQKLLNYANCE
 DQLTDQF NYLVVEKGLSRNTVAAYSKDLILYVESLRKN GKYMAYLKHERQYSPHTLTQYSTQLRQAAHYFQPY EDLLERFLQYI MQVNSGSEHTKAAYQRDIQEFDMYDREQ

S T | D D A |
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| T D L |


D P
SDVLIDRFCDH■W
EDGLANLTLSAYR SDVLIDRFCDHLWLEDGLANLTLSAYRRDLKTF SAWLEER
 LSERAADFVAGGRRDSTAVVYNSRLSVFFEWCQER VLDAFVGYLRAERQYSVHTLDNYQRDVKRLQRYAHAN EDLVEDYLGHKVERNLSPNTLEAYGNDLRRLLDALSGA DSSLKQFVEYLTVEKRHSPHTVAAYRRDIASFLD AFS RAERWLVHLRVERGLSANTLSNYRRDVQRYLSWLEEVH
 ADDFLKLY KY KNERNY SENLLKRFGRYLKLERGLSANTVEGYTGDVEKLVDFOQAE KFLDYGKYEKGFSDHTIRNYEDDLKEFYNFAGKE LVDAFLEMLAAERGAAPATLAAYYRDLSECSDSLAAR ADSAVEDFRVYLAYARRRSPRTVRAYMGDVGQLLEWMADR ADRAVEKDRKNQSEHTLDAYFRDISGFIDFCYEK EEYLEEFLSYKLABKNASFNTIVSYGYDLRDLEEFLQKK QEDAFLAHLAGERQVSAHTLDAYRRDLSSLIAAWSATH - FTEYLSAERGVSSNTLRSYGTAFASYSDFMRAE TDPTVGRF Th A A
 EVLNEFUHKKDQGKSPETVRGYKYKLLHFEKWLGAV DALQAWLDYERALKSASDNTIKAYATDVTGFLAFLAQH DLANVFADYGTGERQLAATTVQGYENDLRMFRKFLTAH SEEILAKYRQYLKLEKSDSGHTVEAYDTDLTKLMHYCSDE

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UniRef90-S8FGT8
UniRef90_S8FGT8
 HHTPDAISYDHLKDYLMFINEVGVTNRTQARCISSIRSFY WGGFLPASSEATARYLADYAETLASSTLRANLAALAKWH GTEAEETHREDIEQFITSG SGMSARSI ARSLASIIHEFH AVDLTDVNETMNAY DMMEQKQFATSTISRNIAALKSFF GVSRLDVEYVHARLFVTQLYNEQKARATISRKI SAIRSFF KINPEEAKLENTENFAAAVGDLGDGARSLARTLSGVRQFF ENSSEITATKNHIRAFVMYLTELEKSEKTVNRKLSALRTFY RHSSLMACSEDLKAFRTLQQERGTKKTSVSRQLSALRGCY DQSFAKDDGLDVSSFLNTLDQADLAASTVARKVSSLRTFY KQSATSVRESDVRNWVSQLHRQGLSPTSUQRALSSVRSLY SVTELNTGDVESFMASLAGEGLAASTRARDLAAVRNFH
D DLQPTAVKLEDLQQFA
 HLPFEEVGHRDMRHYFAMMTEANKSATTVNRSISALKRYY GGGLLSASRADLMEHVGWRDGQGYQARSTARLLSCVRGFY GQPLVPSSPALVRGFLARQAGAAGAVS LGRKLSALRSLY GVERLDVELELLRDWLWDADHRGLARSTIARRSSSVRAFT QPGWEVVDRSLLLNYLVNLGERSYAPATMARKVAAVKSFF GLDPVSAPTPVILDFLVHLSKEGLSLTSLKCYIAALSWFR G| DRLDDRADVEAFVCAKRDGGYSSASIERALSAVKGFH OV SVT VT SDLSSYIGELNEAELAPASAARNVVAVRTFF KASPARLNRDHVRGFLAELHRRQMTKTSMGRKLSSLRAYF G GFATATQEAVEGYLDACEAQGLAAATRARRLSAMKQLY GRTGFEVTEEDVASYVEAVRGHPLSPTSTSRAVVAVRGWH GASLPQASARQLGAYLSGLAQAGLSARTQARRLSCLRQYY GLDPEQVTVEVRLFMAALIERGVRQRSUARKLASVKSFY GLLALEVKLDDLRNFAAALDDVGUSPRSQGR\|LSGVRAFY EFKTWPTQATDIDAFLAYEKDQGKA GПSDDDAMTLVLKHLDDLRDAGGPRSRARHLVTLRGFY IISELDVRYLEVRVYLTRLREKEYSRSTVSRKLSSLRSFY
 A DSFDVDRUVVMNY AFLRDKGMKNTTIARKLSSLRSFY GISETAADTEDVRDFLVALRRGGMADSSVARTLVAARGFH CQSWLSVSSDLIRRFSMHRRTKQYNPRSDNLKLSCIRSLY GQRLPAAGPPELTAYVGEFSRGARPASQRRLLASCRRYY RVTAVPADPESLVHYLHWLARAPAKPATLARRLASARIH ARGLDAAATGDLEAYLAWRFARRTQPRSAARYTSTLKRFY AESLLTAGSSQLQSYLGLKLRQGASPRSSARFLSAARSFY

 DESPKTASLGSMADFLDHLFDKGRALSTIRGYRSAIGADH
 NYKFLLPDKYDFREFLSULSERQLSRPTLARKVSSLKNFY GVEASQVSPAALLGFLRSLAEAGLSARSQARRWVAVRGLF NVEDLAADAPMVEDFVADVRRGGMSVRSAARALSVVRGMH
 G| DGADLDRDALRGWLAQRHQRGUARSSQSRKGIAAMVHSFY
 KVDI ELVRKYLRKGYEDKYSSRSISRKVSSLKSYE GEALPEASGEGLQAWVAEMGAAGLSRRTVSRRVSCVRQYF GTGGWDLTPVRIRDFLAELWDRGLSRRSVARMLSAYRTGY NIELREVESSDLREYLAKKVEQGLVSSSLQRHLTSMRQFM GITSDKVRKEDISDYLIFLNKNEYTDTSVARKLTTIKNFH AVADEQLDGEHLRAFADEHRRGCAPKTLQRRLSACRSYF KLTLEHMGRKNVLDYLDWLQDKSSSVSTRNQRLAAVHAFC Qi PVLRTSRQDLQDFIVWRVAAGARPRSTARALIVRGL GLGVLTLDSAHLQQFVAWEVRAGARPRSLARA RPTPAEITPEHLRAYLEACRRRQIAARSNARRLSACRAFF SVDFEQVEYSDVRGFLTKLENQKLARKSVARKLSSLRSFY GLK KKSPLTASGGRDLSAWQADLSVRGMAATTSARKLSAVRRFF

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R Y
RWLGMENPKADRP $\square$ PKT $L$
NFL
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RFL
T F
$\begin{array}{ll}R F \\ H & L \\ R & L \\ R\end{array}$ K G VVVSEDPSENLRAPRDEK
RWL
K Y L
K F L L LDDP T
KFLQRED LVVKD
R H A
R\AK\PNP
RFLGLAPGNPARAVA
R F L
RWASESA $\square$ TNDPGVRL
NF L
K GPS GQSCFQDP $\square K K \square F \square K G$
RFA
$K Y$ L $Q$ L $E$

RFATLEGHTDTDPAAAV
RY品EMPNPFDGWRLKL
$\begin{array}{ll}R & \text { Y } \\ \text { K } & \text { L } \\ \text { L }\end{array}$
$\mathrm{K} F \mathrm{~L}$
RF
L

K F C
RDEGRADKVEPPE $\square R R T \square$
KFL
K Y L
RML
KRSELENPCRSPAVRDLIARTRRSYAKRGE
R L L GFP LP T QAGMVRDTLKA
R Y
R WA
RF L
QWL
Q F L
$\square \mathrm{EAGFTS}$ I R D D LLLHFTMQG $\square \mathrm{KRHHG}$
RYMNREGLLCEH
K F L
RWL
RFL
AFAVEDDAVAANVAKDV
RFLI YED
R Y
RFL
RWA
K F LLLDNKRMDDPTワNLEAPK DERK
QAHGFADPTRAPVVRKVLSRASK
K Y L
A WAKTERLPDDPGVRLQGPRPNRT
R F
K WA
K F L
GWAGLRAPKAARK $L$ PRVL
$R \mathrm{~F}, \mathrm{~L}$
RYMQYEDVTRLYQWQE $\quad$ G $\quad$ V $V M K K A \square K G$
RFA
A W L
RFL
$K F L_{1}$
$Q F A$
RWLSQREGFDATAV
NFL


| UniRef90 Q5WFP9 |  |
| :---: | :---: |
| niRef90-W4QB46 |  |
| UniRef90-UPI0003B5 |  |
| UniRef90_A0YW67 | D HLLEVVFADFLDLDVGAAT D T L D Y K R Q L DQF LD WCDQR |
| UniRef90_R6JVV2 | EIVVGRWQDWLKSERGYSEHTLDAYFRDLSAFFAFF EK |
| UniRef90_UPI0004676B92 | AL D Y Y LE QMRFAK S M S L N T I E N Y A DDL NQFAHYLLEQ |
| UniRef90_R6I298 | LI A QWQS WLLNERRYSPHTLDAYSRDLS GFFDFAAEH |
| UniRef90_G4QBK3 | S E E WI D RFVVDSL WLE E G L S K T L N S Y R LDL NSLDK F S A EK |
| UniRef90_17LBG0 | QLFI D Y L K SERNYSDK TI SAYQTDLLLKAKSFWQEN |
| UniRef90_UPI000050 | ETYLNSLRFERGLS R N S I D A Y A R DL AR Y G T WL N G Q |
| UniRef90-M2XTQ3 | LLAA Q GEHL RLERS RSEATI T A Y TA DLELLLLA WARRR |
| UniRef90-F8L5N7 | D R F L R HL EVVK N A S Q H TL R N Y R L D I A F Q S F L E K |
| niRef90-Q5 |  |
| UniRef90_D2R3Y9 | D RWARSFI E Y L R T ECHLLAKNSVAA Y Q R D M TRFCRWL G D R |
| UniRef90_UPI0003F7 |  |
| UniRef90_UPI000471AA72 | A F L Q Y L S EKNVASSTLESSYGRDIA Q F Lidy A E R |
| Ref90_R7GJE9 |  |
| UniRef90_R5DIR2 | LED F K S Y I DAEK NFSEHTAK A Y C S D I L S F L VWMD DE |
| UniRef90_Z7LX29 | ID A F 】D A I WLE D GLA A N TLA A Y R R DL SAFARWLQ T |
| UniRef90-X5HJ61 | MLVERNASFNTIASYK T D L V L L Q K F L E T |
| UniRef90_UPI00037 | NTEDAR Y S DL C Q Y V E Y CVR M |
| UniRef90_UPI00029/ |  |
| UniRef90_R5NRE1 |  |
| UniRef90_R6YMD7 |  |
| UniRef90_G2FXD9 | DEALSLLFAGY QSSQNRSEHTVIAYQTDLGQFFRFAAE Q |
| UniRef90_UPI000477 | D R Y A D Y LR LE Q GRSP H TVRA Y T G D I R S L I T Y A G A R |
| UniRef90_A0A010Q556 | NTQRAY $\square$ S D Y NEFA $\square \mathrm{FCRQQT}$ |
| niRef90_A1U8C3 | EAARSTNTEDATANATKHY R EVV |
| UniRef90_V7Z8C4 | VE DF LA Y LQVER QVSAHTVDAYRRDLA A L V S WA A E Q |
| UniRef90_UPI00046D16BB |  |
| UniRef90-F6CIQ2 | D N F I Y Y L Q LEK N A S P H T L S Y Q R D F Q G L D F A R H |
| UniRef90_UPI00046F8188 |  |
| $90^{-}$R6 | F L G Y L K N ELNRSQA TI D D Y NEDLS LFESFFKSE |
| 90_M4 | $F L D R F W A E Q G V A R Q T L E S Y R R D L E G L A R W R D G A$ |
| UiRef90_UPI000475C185 | D HAVTGYLD HLLVEERGLAANTLSSYRRDLRRYADFLAAR |
| UniRef90_B2IA18 | VEDFFAFLHVERGMS H T L D A Y R R Di G A L I A WGGQQ |
| UniRef90_R7GL54 |  |
| 90-R5T1N0 | S E Y LE YLK Y Q K Y S DETI H S Y S ID I E EF LD Y I N S E |
| UniRef90_R5VTQ7 | K D S FLK Y L L L E R N Y S E K TVLS Y GId L D E F EA Y FKG V |
| UniRef90_F0IFS6 | D A F ENYL RLEKKYS P H TVTA Y LTD V E E F A A F LKE E |
| UniRef90-W8YPB4 | A Y LEELQ L ( GRRVSAS TYDAYRRDLEHALLAYLE G Q |
| UniRef90_W0F1J9 | S F Q S Y K L EK SLLSPNSTEA Y L R DI D K L T Q Y L E A E |
| UniRef90_UPI00047E6 |  |
| UniRef90_Q48C04 | E Q HL D A Y CMHL R SER QVSPHTLEAYRRDLSKVLA Y C Q A Q |
| UniRef90_L0FYG6 | ENHIK QF EYYLKIERSLLSKNSI SAYRRDMEKLSAFMKDA |
| UniRef90_UPI000474FAF1 | K Q S L Y L Q E K N A S P Y T I N Y K Q D L |
| UniRef90_R9LXC7 | D DVTRYGTYLTEEKQASRNTV ASYLRDVNQFADYLQNH |
| UniRef90_Q5YY88 | D A Y LD HLAVERGAA R N TLGAYRRDL GRYRDFLT ER |
| UniRef90_Q4UYY0 | AVEP F L A HLQ I ERQVSAHTLDAYRRDLAALI GWASA Q |
| UniRef90_S9ZEA9 | D R FID S L WLE H GLA R N TLS GYRS DLA L FAVWLSAR |
| UniRef90_C6LGQ0 | RFAD Y L E EKNASNSTVMSYQRDLK K L F H Y L S G K |
| UniRef90_UPI0003B553D6 | E Q IE R F L N Y I S Q $\square$ NTNSEHTR D A Y ER DL HKFRD FLHRE |
| UniRef90_A0A021WA66 | AI T A FLD TI WA ENGLAAQQTLDSYRRDLEGLARW R D |
| UniRef90_D0DFP0 |  |
| UniRef90_C0GE84 | D TIE QF QQYMNDIE R S PVTI A LTY LTR DLRYF G S M M K K |
| UniRef90_R6A842 |  |
| UniRef90_A0A059FPF8 | ETLA AF LS HL Q D ERRMA AK TVEA Y G S DL S GFFNFLRVVH |
| UniRef90_I4WZE1 | I A A FVERVVWSED GLA D R T L E A Y R R DLEALVLLWLATR |
| UniRef90_D8PA17 |  |
| UniRef90_R7GIE6 | QFAFYLEAEKHLSANTISAYLT DLKDYGFFLKKC |
| UniRef90-Q128D7 |  |
| UniRef90_K6BVU3 | LI D GFEE WL F HQE K S P N TI H T Y K S A I QKL S Y WLE ER |
| UniRef90_A2SHE1 | AI D A F LEAL WVED GLS DNTLAA Y R R DLT LYARWL HAS |
| UniRef90_G5IN54 | I K K F I Q Y L S DVKK T S VNTQVS Y QRDLTQ M A A F L D |
| UniRef90_R5HU78 | NEFLD Y L D E K GYS NY T I K S Y NEDLL A F Y M Y L D E N |
| UniRef90_A5WAU7 | LEAYCAHL R NER QVSEHTLLGY R R D L E K V DA Y CKEH |
| UniRef90_J8TPG3 | E LF F Q Y M K I E K NVS G H T M T N Y Q DDL N D F NHFMF VQ |
| UniRef90-R6B8Z8 |  |
| UniRef90_B5 | GV D D F L A Y L T E K GLS D N TIE NYQS L S QFLA HVEKS |
| UniRef90_W4LRN6 | QLDAFSQHLVVEK GLA A NTVSA YMA DL QRFCDYEADA |
| UniRef90-R7BH48 | EREVE E Y DT Y I ENHSRKSENTLLLSYRRDLKK L V I F LT DK |
| UniRef90_U3QDL1 | $V G R F C D A L W L E D G L S R N T I D A Y R R D L T L L A R W L Q H E$ |
| UniRef90-J4QYN3 | REGSSANTAASYRAAI R Y W T A WF ELLR |
| UniRef90-F8E4V4 | V L L N Y K Y L R TE LGGFSENTDK A Y IM DVR S F FEWSEKY |
| UniRef90-H1Q3M4 | LIAARYRNYLKLEKGLS P N S V E A Y MLLDL S K MLT F L E M E |
| UniRef90_Q01SN8 | TAA F L N C CRIE K GLS P N S I S A Y S A L A RFVQF T |
| UniRef90_D5BMW5 |  |
| UniRef90_S0 | QKFVQYMREDRKTSDNTVVSYERDLRKMNQFFQEQ |
| UniRet90_A1R418 | $V E A Y L A F L S A I S E R S P N T V K A Y A ~ H D L K D F F A F L A Q R ~$ |
| UniRef90-X1ITR7 | DFIE D F L V K K VEE GCAP S T I K A Y R Y DLE K F $\square$ NLVE DV |
| UniRef90_T0PHA8 | VI R DFQD A A LATSTRGRYA A A WEQWRA WRERQ |
| UniRef90_B6YQW3 | N S SLI K S Y R M Y L L L K A L S H N S VNA Y M S D L K L L K Y L D S |
| UniRef90-D5BIP7 | K F K D Y L L L E K N Y S L H T L K A Y EA DL LS F HEFL L A E |
| UniRef90_UPI0002DAA183 |  |
| UniRef90_UPI000225AEFB |  |
| UniRef90_UPI0003493822 | R Q F Q P L RLEERSLSP N SVEA Y VR DI QKLAQF SEE |
| UniRef90-R5YBF0 <br> UniRef90-F3GMR9 | QR WT E WL R T QRNYS S H T I Q S Y L S D L E IF L GY LA K E |

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UniRef90 R5VTQ UniRef90 FOIFS6 UniRef90-W8YPB4 UniRef90-WOF1, 9 UniRef90-UPFOOO47E65BC UniRef90-LOFYG6 UniRef90-UPIO00474FAF1 UniRef90-R9LXC7 UniRef90-Q5YY88 UniRef90-Q4UYYO UniRef90-S9ZEA9
UniRef90-C6LGQ0 UniRef90-UPIOOO3B553D6 UniRef90-AOAO21WA66 UniRef90-DODFPO UniRet90-C0GE84 UniRef90-R6A842 UniRef90-A0AO59FPF8 UniRef90-14WZE17 UniRef90-D8PA17 UniRef90-R7GIE6 UniRef90-K6BVU3 UniRet90-A2SHE1 UniRef90-G5IN54 UniRef90-A5WAU7 UniRef90_J8TPG3 UniRef90-R6B8Z8 UniRef90-B5JH98 UniRef90-W4LRN6
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UniRef90-TOPHA8 UniRef90-B6YQW3 UniRef90-D5BIP7 UniRef90-UPIO002DAA183 UniRef90-UP1000225AEFB UniRef90_UPIOOO3493822 UniRef90-R5YBFO UniRef90-F3GMR9
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 G G G WT T $L$ S A



 GLSPD DI R K P L V T L Y L S GLK A A GRAAATINRNKVSLRAFF
 GGDLCAA G GADI EA WFAQRHEDSR PT TANRRLATALRRFY < GYSPEKITATSSNTY L LWLEKNGCASTTI SRYIASMAYFE K I N Y K N M D Y N D A K E Y V I Y L N K K N D A K S T I S R K L S S LLRTM Y


 $P H D W Q A V E P A G D I R A Y L A S L H G R G R A R T T L G R A L S A S L R A F Y$
 GVVSRLDVDRRQQVENFALHLLDSSGLAPRTRARALVAVRRFH TLTWETVD S DVI R D WME QMMDK GNKASSVVCRRLSAV R S F Y
 AVGEVVADRA QLQAFV SAEHRRGLSAKS LQRRRLSACRGFY NKKFDLAHLDT YFSELKDDGYKV DVVE F T
 GLSSISSVQKHHLVRYLQRI KEEGCRQSTVLRRLASIIRSFY


 REC GLLQAKAEMVRDYMDWMLDGHGKSTASVTRELASVVKSFY $G \square G G L E Q V R E D V A A F T V A L R S G G L A A S S V A R A L I A V R G \square H$

 GI EKLEMDRSIVLNYI SYLREECLKNNSVLRRVSTLRSFY
 HNGPVDIK SADI E GF LLR SLK E R NDA P N S R S R YL Y T L R S F Y


O



 GVDAGKVTKTVLNSYVLVLEKAGKATTTTDSRVLASMKAFF GI A E WQ A Q
 SRSWKKLTASHVSDWI YALSEGDYSNASLCRKLSSLRS L
 GRELGVDDSVLSAYFNARHTQTRA SSANRRLAVERRFY QRFTLPLPEAAVIQFVVDHADHGLLKWNTLLQRLSVLSKAH

 DKTLLHNATVDDLRQAIHAWHLRRLSARSVARRLSALRRG
 DLES P FLLRQKI RLFLKKLK DLDYSKKGISRKIASLLRSFF GYHPWP DQREQQLDNYVEY L R DQGNSAGTIRS KL C G V A WH H GK D L L N VE LDS DL QK MF T T L C E M G IIH P R S QA R II S GII K S F Y

 QGDQDDDADAKDI R S WLS DRLLHRGFSPRSTARAVASCRSFF SVAP EAVNEVHLHNFLLEWVNELGMTPHSQARVLSGLKAFF $K V T V S D L K K L D I R A F R N F R A K R G D R R T S D A R E E S S V R N F F$ F Q ELS S A T S K L L A S W GDSLLLSAGTDVVRTYLAFLNEKQYSKATDARKLATLRSFY

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UniRef90_Q5UF10
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S F H
$R$ F
QAA

A WA

GFA
G W
K Y L
G WA

$\mathrm{R}_{\mathrm{Q}}^{\mathrm{Q}} \mathrm{Y}^{\mathrm{L}}$
Q F L
$\begin{array}{ll}\mathrm{K} & \mathrm{Y} \\ \mathrm{K} & \mathrm{L} \\ \mathrm{L}\end{array}$
A WA
N A F MEMDDPRASFKVRNRDGR\RK
R Y C
YMLQ GK $M$ DS DP T LLLRG
KYLVLNNKVKS
K FL
GWA
GVAK LDP N P
E EMTGSNPNKSKLVLETMRG $\square R K$
A WL
${ }_{R}^{R} \mathrm{~F}_{\mathrm{L}}$
RY Y
T
A
RYAG $\quad L P P K K D K V L P Q F L K$
KFAHREGLTTADPARDV
TWRGH $\square$ N PAAG $\square R A P K A L R K \square P R$
K Y L
A F L

R WL
KYLNREGDCQH
K F MVY E D
R Y
NFL
RF A
A WL
R H L

RWQRQDDPTA
K F A
A W
RWLGRAHNVENAE $\square$ A Y $\square$ QGPRRKA
AFLGFADPT
$R Y$ G Q $\square D$ VN P A E D VR A
K F L
R WA
QFLEHPAMADN
R W A
K Y L
RYLNREGLCQH
RFL
$\mathrm{K} \mathrm{Y}_{\mathrm{L}}$
RFL
QWA LL GHPNPCRAAPVRELLAKTRRAYARRG
QY L

Q HQ

YFLE LDED
K F L
RYLLFEDPTA
KWLD
$\square S$ Q GF VDP T K A P M VRKV K K G $\square R$
K F L
QFLESENWIKNNPVK
R WAQQTRITADPSLRLAAPG

## UniRef90 UPIooo35E92BB

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UniRet90＿D7GEB9
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UniRef90－K1XR81
UniRet90－D4CX27
UniRef90 F5WT55 UniRet90＿UPIOOO3756D5E UniRef90－E3D732 UniRef90＿14VJ74
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UniRef90 R5GV66
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UniRef90＿UPI0004770F3E UniRef90＿B3EBW3 UniRef90 UPIO00362BBD7 UniRef90 D4H8FO
UniRef90 B6WSE8 UniRef90－W4Cl81 UniRet90＿R6RQ06 UniRef90＿19BZZ3 UniRef90＿UPIO0036E8CA8 UniRef90－UPI00037DC738 UniRef90－G8X5Q3 UniRef90－X5E3Z7 UniRet90 UPIO002260435 UniRef90 UPIO0034F7ADB UniRef90－D0KVM9 UniRef90＿UPI0003B3948A UniRef90 UPIO00289984C UniRef90＿UPIOO04129AD6
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NPD【LSQLL
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UniRef90- 4 CX27

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 A ATLES CGDEVMREWLWARQQRGLSKATLARGVATLKSF
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K

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$N \square D W N T \square R S D A V R N F I A G E H R A G \square A P K T L Q A R L S A C R S D F$ GTDLQHYSRMDVQQYI DF LASRGKSAATINK I WNACKK GVAVGDIDLALLRAWLAELTRRGAARTTVARQVSAAKTFC NI NNVEITILTVDNYLNSLTKE YSSNSINRVLASVRSFH
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R WL
S WL
K Y
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K F
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K WA
H F
K $\square$ M N A D D $\square$ T K $\square$ P VI A T F F K S $\square$
QQAGYDP

R WA
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KF L R E QK $\square$ RDDNPVAL
D Y A
K WA
K F L

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Q Y
GWQTAADPTEH
KYAAHQHPEHAET $\square$ QRVL
K WL
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D G A
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KYL
$R$ ANQLGQC RYT $\square D G \square R G E K V$
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$R Y$ L
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A WA
KFD S L K D P T
K LKRLANPCESPSVRTLLSRARRASVKRGE
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DLVVGYMNY| SNKKNLSSNTLDAYTRD:KKFHEFVMSK LQGYLDHLEADERGVAANTLSAYRRDLRRYAEHLKAR DRRELRPSTKNTYTRQLRQFQRWLTGK EEALDGFDAYLRANRGLSENTRKAYRSDVNECLSALEKH EADNRYLKQLADVRLASPHTVSNYGRDLRNFMA EAG LRRDWLETLDSERRLADHTINAYERDTRQFLQFLCRH

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 E ■ B K GLLSA A WKA H L V E R G Y A P A S I I N A K L L S A L

 I H D D D DA H DA DFRGW
 $V L T E W S S$ D DIIADVLIALTKHHGKSPRSIARCLSALLRQFF GS R LLDASPA LL RSWVDA A GRERSPRGVQRAASA L R GLF

 G K K

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 G F D P A R R V R R G D D
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LE QQKANALQSYLNHQRRKRIIAPIT LNRHRAALRTYF


 M P E K N K I E D Y I T E LIM K K Y K Q K T I K R K I A S I K A Y Y




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 A G G LM Q A D Q E A L E VWF A D L S R R GLL S A A TAAARRR S SAR QF Y

## G

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K
GHT WL D AEAA DL A D AVVYADE $G L N Q W Q Q V D A G W V R Q L A S K G M R G M K A S S L A T R L S S Q R S G F$






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RYL
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D WL
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A H
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QE R
$\square \mathrm{A} \square \mathrm{S} D \mathrm{D} \nabla \mathrm{RT} \operatorname{F} \square \mathrm{Q} G \nabla \mathrm{~A} R$

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 $F$ K N Y L K L E R S L A K H S V TERF LN A L WL E D GL S R L T V D A Y R R D L A QL MV Y L G E G F L D WL K A R R GMR D E T L R G Y K M DVVS QF Q R WM S E R

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 I A MA WQ D S L L R ER RMA A N TV EA Y A R D L R Q F L C H L Q S R

 VVT A YERHLGLERGLSAHTVRAYVGDAVSLLGFVVDG $\square$ V N A L R Y L RVV R RLS P LTLR S Y QH QLQVI AS T L E E S E L I D Q F L E Y L E I E K N C S K L T I R R D Y R H Y L E V V F S N W L S S T
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 $\square \mathrm{DRF} \square \mathrm{T}$ R L A Q R H

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$T$
$L$ $R R Y L E L E V A N G N A C P D T V V T Y Q R R I D R Y L D W C S D R$ Q WLH H L R VER GLS P H T L A A Y R R DVV T R Y L G Y L A A S LA A FVVEDLAA Q Q Y S A H S V A A NY YR D I V A Y Y Q A WS A D P VE E Y M G Y L R GA R GL S E H TVVA A Y R S D L L A CVVDVLA S F



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 $G \bigvee A S L A D V P L H V A A W D E A Q G G E D A P P S V K Q Q L A G V R S L D$ ETLLLQDATSEQLLSQFFAHSLDENEANPRSLARYGLCYKHFY







 K GDLLARITVS DMRAWMAATRGPDLGARSLARKLSAVKSFY

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 GRDARE
 $N$ N D $\quad$ K N S N Y K IVEE Y S K Y L Y K K K L S K R S $\square A R K Y S S I I R T F Y$
 E DE Y $\quad$ I



 H T TV L S A GPA L V H D F L V S L Q G R G Q K A K S $\quad$ IPA H R S T L K RLTPE GTTYNDLLQFVNHCKKAGRSTSNINLILIDSLRHYF $G V D P A Q V D E A V V S G F V V A L$


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 GRGELLEVGEADVQAFLAALRE
S L N P A N IT L VVV M D YL T HLLH K P P L A F S T $\square$ N G HR S ML GLTPGQFQLVDLRSWLADQAGSG







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A F
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D W
A Y A A Y E D LT

R F L
D HL
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D W
NY LG $\|$ VD T L A A K L I R T
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KY L
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RY L
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LLR N Q T D $\square$ VN DPF $\square \mathrm{T}$ K $\square \mathrm{MT}$ G $\square \mathrm{H}$ K
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R Y L
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 HKCMEDVTDSDI QQY L L Y K K K GLS A GT DN CYY SA VK FF H





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 G $\square R T D D A \square T \square D L R S W \square A H E R H M G M A P A S M A R K \square V S I R G F F$ NVEEILKWAETTA



 RITVDEIDVNALRSWLAARAETGASASTLARSAAAARTFT



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A F L
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AYAQNQD【EAASVFMHNLKK $\square \mathbf{P V K K Q K S G}$
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AVTLPDHPEHAGTIARVLA

RHNADHNPCD
RYHAHA
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KYASHYD $\square$ AS $\square$ AT T IERA $\square$ A
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RWA
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Y L R H L A A
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lupas_21
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UniRef90_WOFX10
UniRef90 X7XYF1
UniRef90-X5HLR1
UniRef90_14YVLO
UniRef90-UPIO00248D04B
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UniRef90-R8ALG1
UniRef90_F6DGQ0

$R Y \square G$
RWRGFDPTFATPAFKTALRLSVRASAR $N Y$ YQN $\square A E T K D P Y \square K R V L A K \square$ A WL
KFKG
D WL
RAL
A WL
Q RKAVE L G G T P DRD DR HVFTGFARTSKRA
AF
${ }_{T}^{A} W$ L
R

D WAMTEQLTAHPF LRTRVK
K LAGAADPADDDGGRAAMTEARRKAGVA $R Y$ Q Q F A L P
QYVS $\square$ SEPT $\square A \square H C Q R V L A \quad \square P S K R H E R G$
T Y H G VQCPHSDKK VA $\square \mathrm{M} \square \mathrm{K}$ A S $\square R$ A D A $\square \mathrm{A}$
NF L
DFA
K Y L G H
EYGVMTGVCTDNPVPSPRRG
RFI EYREPSVFEQIQR
DKMSQP
KY L
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E Y $\square D \square$ P S P $\square E S$
ILNDAP
NFL
R F I G
■T L G H D D
RFVGGEDARKGPRVKRGLPR
QWAK QRDPF GERRVRTT
RYVALHAPEHSAVAQRVLA
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E $\square H G L P W$
N G S ER L H L M V K G $\square \mathrm{KR} \mathrm{T} \mathrm{K} \mathrm{R} \mathrm{VA}$
$R Y$ L

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lupas_21
lupas_14
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conf
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[^0]:    lupas 21
    lupas_14
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