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 TGQKRLTNVAVVRLKKGGKRFEIACYPNKVVSWRNKVET


 TNQVRLTNVAIVRMKKCGKRFEI ACYKNKVMSWRNN TEK



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SNQ S D SV ARLKKGKHQFEVFVDPDTALAFRR
SNQ K K T NVVSVVRLKKAGKRFEVAACYKNKVGEWRN
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SGQI RLTNVSIVKMKRGGKRFEI ACYKNKVMEWRNK
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TNQKVLTNVAVVRMKKTGKRFE: ACYKNKVVNWRNK MVSLEKAVVARMKKTGKRFE:ACYKNKVVNWRNK SEK MVKVDDAVI ARWEHAGSVFEVLVDPTAVQDIK EGKDVI


M I P I DEAVTARLESHGERFEVLVDPDAALEDSRGEFEG
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## QUERY

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PIA R A KMKI QVTVPDA GAK QUK PALLKE GAEVLLE EK WS E P
PI KFEEVDI KVQIPPSYAAKSYGEI ANFGTLVKDKWENDG EI QRAHMKLRVVVPAKEGKRVRESI RKLALEVVEDNFNDE PITRAKMKVQVSVPAKDGKAMKKYLEQHNAVLEQKGTSDV PMKFEEVKVAI RIPAKYTGQAMGVVREFGDIEREEWQYDG P T ERARMRVSIVTSVKEGKA DRDRLKAMADEVEEENDDDE


 PI ERAQMRI RITTIPTPAANKVKERLLALDTQEVERQDWSHE PI RFEEVEI AVKIPSEYAGKSYGDI AKFGTMLRDNWENDG PI ARAQMRLRITAP $\quad$ KEKKVKEK L VPM $\quad$ S NIIEDESYNDE PI RFDEVTI AVNDP PNYAGSTQAQVRQF GELEREEWQADG PI RFDEITVAVQLPADYAGSGQAQI REFGELESEEWQQDG PI QRARMRVRITMPVKDGKRLKEQVVQGADKIEDEDWGEE P 1 RFEERRIAAKFPMDFAARAYAAI SGAA YVTKNEWQNDG
 K $\quad$ ERAKMKI RVAI PTKEAKSVVGKLKLFSDVEVVDWQDGS PLRFEEDEIAMIKIPPEHTGRAISALYSFGKILKEEWQSDG PI RFDVVRVRIKVPAQHYPRVIGEIKGMGKLSDEQWGSDG PI ERARMRLRLTVPVEAQQELEQLLQREAADVAGLDVAAG PI TRARMKLRFVVPINQDESLTTALSSWNAQIKEETTTNT PI VRARMRIRIVI DIKQGKPLREKI RS LIADEVEEENMDDE PI QRAKMRLKVSLGNKAAKKLKDKLLKMEDVEIENEDRDE PI RFDTMTVAAQLPPEHAGSGQAQVREFGTLEREEWQPNG
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$G Q K R L T N I A V V R T K K H G K R F E I A C Y K N K V L N W R N$ $M V S L D K A V I A R L R K H G E N F E A L V D P Y L A R D L K$ NQVRLTNVAMVRIHKGGKRFElACYRNKVLSWR MVNTDDAII AARYESHGHRFEILLIDPASVDK IRSGGVEK
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SGQ KL NVSLVRMRKAKKRFELACYKNKVLEWRN



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P|L|KDET KVI 170 PI R F E K VKI AI K K S GDMY GKIVYGELSKSGTI LQEEWQKD G K I G R A H R R R L R F V L P L E R A K M R L K VI SK G K V A K K M K D K I G K F V E V EKK E D R D D D Q PI SVDRVKVSVRIPSAHDGRAYGVARGFGTLEREDWQSDG


 S I S R A Q M R L Q I SVVP S S K G K A V R E K L R E H Q QWE QEE WDP DF P I K F E K R D I A V R I P P E Y A S S A Y H S L H E Y GT IM QE E WQ S D G


 PI QRAQMRLNITVPPKEAKSLRDKLMVLISKIEEEDEDEG
 P I D R A K MVL RVVECPAELAKA AKEKL NEWV D S ELLERWE EN G P I K F E K I K M A V R L P S TAA G N GY S A I R P F G T I L NE E WQ Q D G
 PIVRAR M KVVRITVDKD DVGKYKASIVKEVVEVEDEES GKNN PI RFEKSRIAI KLKGEDYGRCDEEMNKYGLVDREEWTADG $P \mathrm{~L}$ K 】A R A L L K V V V P P E FAP R V Y G E L Q R L G EVVK S T D WR T D G P I A RA K M RV KAVLPREGNAEAIA QAA SLDAATEAAAPESAT PI ERAQMKLRVLCSKKHQQRLRTLSKEIEHD\|VHEDGGQ P I ERAKMRIKV HFGGKEAKKLKQKILLKLEQVESEEQDEEH
 P I K RAEMRFAAVVPSAKEESLMAFVRENSGKVETNDLSAS PVQRVRMRVRVTMPAKDEKRLKEKIVEAAESVEDEDWGDE

 P I K ఏA K A Y I A V KVVP P QF S G K A Y K V L S S I G E I K K S N WLS D G P E E A K M K I Q I TV D D A P N E T Q S IV QL I A D S L L E H E Q A T
 PVQRARMRVRLTIPAADVEKLEARIREGAEVVEDTEERNE

 PI KI A K ALLLRIVVPPEYSPRVAGALQKLGEVKHMDWRTDG P L K V A V S I L E I RAP A E H A H KVVR S T L S RM GRVVVK ER FE G D G
 PI KVVATVRIAVVVSSQYAQKVKGFVGKSAKIVNERFRSDG PI Q R A RMRLRVVTCGTSVAGTVVEKILGGVEQVES QDVLGS PI ERARMRLR LTMP LA SRDEVQ GLL
P I R VE EVEI AI K DPP E Y A G K SIIS ALY S F GNI I Q E E WQ K D G PLERAKMRLKVVCPTEDLAQVIVGMASFGIDGNTEATGKK P I R F EK T R LAI K M S GEDYGKAYGDDA KVGSIIDKEEWSNS G
 PI RFEHVKMEI EVVPGTEYGKDYAEMAHLGQDLKEDWKNNG

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 PIARARMRIRVTGDVKKLGLGEKLKTDMGATVEEETHDE






 P I ERAHMRLRLLLP QAELGEARERLQALA
PLQF $\square T \square K L A F K V P G K D Y G G V S Q L L R B D S M Q K E Q W L S D G$ PI TRARMKVKVTMNAN KPETDEQLKNHVKGTEETSSDAAQ P I E R S R M K L RVVS
PI A R A P MRMKMILPE GDLDKVKTELKEDQK IEREDKNGER P I P R A R M R L R V T C S T NVL K QVK D K L L Y I E QVEA Q DVLG S PMKMMRADMAVHIPAA YVGKTYSTIGKMGKVLRENYLSDG P LQRARMRIRVVLSA
PI KIIA K ALLEI RVSQKYAGRVRQQLQSLGNVKKSNWLADG
 PI S $\square A R A R M R L R V V A P$ K R V K K K KV MEF DE QVEDEDVEGG PI KRAPMRFKFTVAAEREEEMLNFLKEHEANVETNSLSEE A L K S E E N L D L E E I T I P A Q Y A A Q S Y S V L K S V G S L K S E E WL Q N G P I $\quad$ R F E K A K L A V K L V G D A Y G K L Y G E L A K S G Y I T K K E E W GK D G Q I E R A H M R L R FILL PVMK E G K KL K E K L K P L I K V DE NEDF H D Q P I R L A A R A L L E V K I P P P H S GRA Y Q A L M R M GEVVKK A D WLDP D G



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WR
YRK
WRS

RKs $G |$| $G$ | $E$ |
| :---: | :---: |
| $V$ | $E$ | G $A E K$

GEK WR S GVE

TNQ ITRLTNVAIVRMKKTGKRFEIACYKNKVMSWRNK VEK TNQURLTNVAIVRMKKTGKRFE:ACYKNKVMSWRNK VEK
 $T G \square K K L T N$ AVVRLKKHGVRF T NQKRLTNVSVVRLKKGGSRYELACYPNKVQPWR S N Q $\square \mathrm{KL}$ TNVSLVRLKKGKKRF KAAVAKLDKGGEHF
G Q $\square \mathrm{K} \square \mathrm{T} \mathrm{N} V \mathrm{~S}$
IVRLEEKGHRFEVLVNPDLADKVRKQRDEK TNQKSKKEHVIARIMGKGKRFEILVDPEKAYRL TNQKRLTNVSVRLKKGGNRYELACYPNKVRAWR


## UniRef90 Q6BHH6

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UniRef90-TOLHV8 UniRef90-TOLHV8
UniRef90
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| niRef90_Q5CNO |



UniRef90_Q6BHH6
UniRef90 W1OA44 UniRef90_W1QA44
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UniRef90

D8SMN0 UniRef90-X1HIRO | Uniretgo_LOACBO |
| :--- |
| niRef90_Q5CN |

A527



90
100
110
120
ELLEKGEIONEKERSANLOQKNNEFLNIISTKCINPKSK EILKKGEI QLSEKERSAQNEKLHNEILTIISTKCINPKTK E:LKKGD:QVGEKEREAQLEQLHNEVVDIVAGKLVDPTSK EI LNKGELQVGEKERAAQLERVHNEVVGTVASKLVDPRTK E LTKGELQLSERERQVMLNKINNELLTVVSAKCI NPVSK ILKNGELQVSKERQTQLVTMRDAA VAEKCVNPETK
 K LLKGGELQLTTEQRRKMLESKRKMIDTYVSRNAVDPTYK QI LAKGELQVSDKERNQQLESMFRDI ATIVAEKCVNPETK HILKKGDVPITTEQKNRLMEEKRKQIIDIIARNSIDPRTN VI LDVGEMQVSDKERKLNFDTLFRDVVNVLVDKCVNPETN E: TKGEMQLTAEQRRKIGEQKKRQIVNYIAKNAIDPQTK EILKKGELQVGEKERAAQMDRVHNEVVSIVASKLVDPRTK EI EKGEI QLNEKERSANIQQKNNEFLNISTKCINPKSK E:VVRGE:QLTAEQRRKFVEEKKKQ|l| TLISKNAVDPKTK I EQGELQLTEKERSVEQQSLFRDVAKMVSERCVNPETN EL LTKGELQVGDKERAAQLDRVHNEVVGUVASKLVDPRTK ILKNGNVPITTEQRSKMVEEKRKQIIDLIATNSIDDPRTG EILDKGEDQLNEKERSANLRQKQNEFLNIISTKCINPKSK
E KKGLPITADQRKEMLENKRKQVVDFI HKNAVDPKTN
 EI LKKGEMQVGGKERAEQLERVHNEVIGIVASRLVDPRTK EI LRKGEMQVGEKERTAQLERVHNEVISIVASKLVDPRTK E1LKKGEMQVGEKERAAQTERVHNEVVSIVASKLVDPRTK KIVKEGEVQLTAGQRKKKLEEKTKAVINRISQ\|SINPKTN K LKKEGQVQLTEEERKKMIEAKRKQUI NYUVKNT:| DPKSG QL ARGELNLTTDQRRKMVEEKKKQIVQFINKSFVDPKTH $\begin{array}{r}\mathrm{K} \\ \mathrm{X} \\ \hline\end{array}$
QILLHGDLQVSDRERQYQSTRKLHETASVVAAKTПSRETK EVLSKGEIQLSEKERQLMDNKDNNEMLTIISAKCINPQSK VILRKGEVQVSEAERSYMMEKQYLDVGNLLSEMTVNPSNN

## E

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## E

 EI LLKGEIQLHEKERQDMLNKINNEMLTIISTKCINPKSK E:LKKGEMQVGDKERAAQLERVHHEVIDLVANKLVDPRTR DI LENGELQVGEKERNAELERTKNEVIDIVAGKLVDPKTK QUQRGEVQVTTEQRHRLQAAKQKQLVQTIARNAMNPQTG


EIL L R K G E M Q V G E K E R T A Q L E R I H N E V I

 I LEQGNLQVSDLERNQQIQNTLSQI ATWVANNCVHPDTC
 II LEKGDLQVSEKERQVASDQSLKEVSQLIASMVVNPDTK E LKKGEVQVNANERKELLERMEREVVEEVAQRVVDPQTK




## UniRef90 Q6BHH6

 UniRef90 W1QA44UniRet90 R7YKA3 UniRef90-TONBV8 UniRef90-J3NJC4 | UniRef90-G8ZVNO |
| :--- |
| UniRet90 KOKTS | UniRef90-KOKTS8 UniRef90-UPI0003AFF494 UniRef90-J3QCN9 UniRef90-ATFFLO UniRef90-W4Y4NO UniRef90-W4Y4NO

UniRef90-C7DHZ9 UniRef90-A8AAC7 UniRef90-O5DG22 UniRef90-M7TB39 UniRef90_A4WM65 | UniRef90-G8YCV3 |
| :--- |
| UniRef90 |
| $13 T D J 7$ | UniRef90-EOSQX4 UniRef90-G7Y6F4 UniRef90-T5A9E1 UniRef90-T1B604 UniRef90-G3BB6E0 UniR Refo-_JSSBG7 UniRef90-A8MAL1 UniRef90-A0A031LM95 UniRef90-12 H 203 UniRef90-GORF41 UniRef90-L2GHQ6 UniRef90-Q2H9G7 UniRef90-A0A016PAV8 UniRef90_WOTBN7 UniRef90_O5XQ94 UniRef90-LOA8K8

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UniRef90
S3C1C UniRef90_ROKAX3 UniRef90-OOV1R2 UniRef90-TOYSG8 UniRef90-C5DCJ1 UniRef90-17J9L4 UniRef90-UPIO003758542 UniRef90_S9WPEO UniRef90-GOS6J6 UniRef90-G3YF23 UniRef90-TOZNS7 UniRet90-B7GB66 UniRef90-Q3HWWO UniRet90_T1AAX9 UniRef90_K7HE84
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170
180
PIIARAQMKVKTVLENKAKKQ\|FEETSPTIDKVEEENQETK PISRAHMKLRISLNSKEYTKIETELKKIIATVQDEEKVDS P: PRARMRLRITCPTQAKGTVKDR1LSYVEQVETQDVLGE PI SRARMRLRITCSTNVLKQVKDKILSYDEQVENQDVIGS


STSRSQMKIRLTVPTKESKKLKPWIESTTKVELDETDEDQ P VRAKMK KIVLNQEAQGSLVEKITKFF IKPVIVEEP PIKMAKALLEVNIPSSYASKAYSNAKTLGIVHKTNWNQDG GAKRE
GAKRE

PIKRAAMRFR
PIK KAKAl TQVKПPPKYSGRAYSETKKПGEПKSMDWKSDG GLK APPMEVNITMLKDTSEPVDERLLQLCS ITRQGESSDG PIARARMRLRITCSSNVLKQVKDKILSYVEQVETQDMLGS PIKVATARIALSVSSTHAQKVKGIVAKMAKIVNERYKSDG PIARAQMKIKIILSNKAKKSIFDEIKPLDHKIDDESQDDS Pi K A AKAYLSVRIPPEYAGKIHKPITRGGEKKSTWMNDG PIKIAKALLQVSIPPEYASKVSNQIRRLGDVKKSSWLADG GFKIAPMEVVVSIDSSVLPLVKDVLQLCTDIRQGQNADG
 PI ARARMRLRITCPTSILKQVKDRILSYIEQVETQDVVGS PIVRAQMKVKVILVNRVKDQVYDRI KPMLDALEDEHQTDK P V VRA RMKVKVILVNRVKDQVYDR:KPMLDALEDEHQTDK PI KVAVATLEVTVGPEHGQRVKSALARMGRILKEQYDESG PIKVAKALIEIRVGQKYATRIKSQLQSLGSVKKSNWLADG
 PIPVQRARMRLRDGEQAAGTVKDRILGFVEQVESQDVLGS PI ARARMRLRITCSTNVLKQVKDKILSFIEQIENQDVIGS
 PIKIEEDQVAIKIPAAYTGRDYELKKNYGVTKEEWQADG PIKVAKALLEITIPSEYASRAYKEIQRDGEVKKANWGSDG PIKFEKRD AVKIPPEFAGKAYNVLHHFGSVKQEEWANDG PLKSETAKLTVTVPPQFAAQSYSVLKSTGDLRSEEWLSDG PIEKAHMRVKLTLSGKENDKKLRQLFKTANKEEEQVETET KLERAHMRLRFILRPVNEGKKLKDKLKPLIKVIESEDYGQQ PI TRAKMKVKLTINDKSTHEDIIQKMEKLFTDSEFTQTDS PISRAKMLLRFISDESDKNFIFEKLEEFNATDNDDESNDK P:ARARMRVRVTCPTNVLKQVKDK1LSRFEQVENQDVMGS PITRAMMKVHVTVASVDVRLLQSTLKALAAMLEQEDCANG
 PI ARARMRLRITCPTKATGTVKDRILSYVEQVENQDVMGD PIPVARARMRLRISCQQKGTVKDKILSYIEQVETQDVMGA
PI RMEKVKLAI KVKGDAYGRMYGDI SHEGQDLKEEWGKDG
 PI RFDEVTVAVQLPADYAGSGQAEVRQYGELEREE P $\backslash A R A R M K L R V T L P T K D L K Q V K R V L G Y V E Q V E S Q D W M S$ RARMRVRITMPSKDGKRLKDQVVQGADKVEDEDWGEE ARCKMRLQI NFRLDQYEEVMDFFQNKDIII EQNTINGS
 PLKLALKVFEVRVPGEFQPRVASYLRSVGKVTREEWKGDG

 P L K K MEME GTVLFI P HK HLGGSAMTVVHKWVQQKKGETYNGEG P L K T G L V K MVVVTV P S S A WA KA R SLLL L GQ GN II S E K WS D D G PVERARMS LRRIT CPMKELKNVKEKI LE LVVEQI ERQEVT GS PIVRATMKVHVSVASTDVRHMQSTLQSLGATVEQHSGANG



 P I V R A RMRI K V D L L Q K P G N D DLI E KLLLPLI K SP E L T E A E S P I S R A Q DR L R I L F S HE L T E QV R S F I DK CDV S IIEN ET K N D T
 $P \square K \square A K A N I Q L K I P V E Y A S K V Y Q V I L K M S T V V K S N W N N D G$
$P \square A R A R M R L R V T V P A K A P G T V K D K \| L G F \prod E Q V E S Q D V V G S$
 PI KRSEMS GTLSIPTKVIGQAMGTVVKYAQVSGENYSSGA PI KFTNDRIEVVIPADSVNRCYNTLKQFG LKSEEWMNNG P I E R A K MEL S L QYA R GEESMVE EGLK D $\square P H I K E S N D S A T Q$

 $K$ I E R A K M K I RVVA I P T K E A K T V H Q K L K LIF NEVEVVD D WAE E G
 P I M R A Q
 PI A R S Q M R L R T CLLS K Q R S T V IGE Y L K S N S A Y I E Q D

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 A WS GVVVEIPA A GVQ T DLLY E M L NA RTRGAA ETAALV K
 CVSFTFTCCPSYYRDLDNFVNK LSS
QLVMCLDD $L$ G S F R




UniRef90 X1MJU5 UniRef90_W9WPF7 UniRef90-B8BZ37 UniRef90 D8LYB5 UniRef90--j9.j9a0 UniRef90_UPI00035CA49E UniRef90 A7F4H6 UniRef90-B6QAN4 UniRef90-G2X6H5 UniRef90-A0A024TF47 UniRef90-E4WQY9 UniRef90-V4ZL59 UniRef90-G3S5NO UniRef90_X6ND83 UniRef90 Q3HWV6 UniRef90-A0A017SJK9 UniRef90_GOQBP7 UniRef90 G1PN53 UniRef90-S7ZQY4 UniRef90-E9DFT5 UniRef90-A2GC11 UniRef90 V5G485 UniRef90-G0QFQ3 UniRef90-F1MOV8 UniRef90-E1Z354 UniRef90-F2U2N4 UniRef90-D2VJI8 UniRef90-Q4Q394 UniRef90 G3JHE2 UniRef90-M1VF53 UniRefofo-FOXPL4 UniRef90_Q5B1Y7 UniRef90-A4HAM9 UniReffo- XOSMH1 UniRef90 G2QBH9 UniRef90-G2QBH9 UniRef90-Q3HWV8 UniRef90 C1LL17 UniRef90-C5GEU7 UniRef90-GoTUK1 UniRef90-COJ347
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UniRef90 F2Q5X9
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UniRef90 WGKYE8
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UniRef90-C9ZMW1
UniRef90-M1WI19
UniRef90_M1 WI19
UniRef90-U6MIP8
UniRef90-U7QOS6
UniRet90 U7Q0S6 6
UniRef90-M2W0Y8
UniRef90-FOVFG3
UniRef90_M2N0Q6
UniRef90-M2N0Q6
UniRef90-M3B7F9
UniRef90-M3в7F9
UniRet90 E2M585
UniRef90-D2EG61
UniRef90-A8B6U5
UniRef90-C6LUU2
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UniRef90-C4JNM1
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 NQIKLTNVSLVRYKKGKKRFELACYKNKLLEYR S GTET


 S N Q IT L T N V V T L V R Y K K KA K K R F E

 $T N Q K R H T N V A V V K L K T H G K R F E L A C Y K N K V Q S W R \quad D G T E K$
 $M S Q T Q Q V R Y R H G K N T \quad F E V M T N V G S V Q K Y R \quad D Q K D$


S N Q IT F T NVV V VR LK K G K K R F E LAACY K N K L L E F R S GA E K


 Q K R L L
$K D F S V K K F K K G E A T F E V L V K P N T V I A H R \quad E G K M$
QRRHTNDAVVRYSKNGVKLEI ACYKNKVISYR SGTEN
S N Q $\square \mathrm{K} L T \mathrm{~T} V \mathrm{~S} \mathrm{~L} V \mathrm{R} L \mathrm{~L}$ K G K K R F E I A C Y K N K V L E WR T
 QRRHTNVAVVRYTRKGDRLEI ACYKNKVISYRGSTED


K E E P L L CRRLKK G GMQFEVMMCLPGMVDKYR E GVA


$Q \square R F T N D A \backslash V R L K V K G E R F E \square A C Y K N K V F N W K \quad S G \square E N$
 N QKRLTN I SVVRMRKNGHRYELA

 $G T E L$
 QVRDTNVAVVRLRLGGERFEDACYKNKVVNWREGKET

L VRYRVGKTTFEVVTKEGTVQKYRKGE! K $Q \nabla R \square T N D A V V R \square R Q H G H R F E V A C Y K N K V L N W R A G G E D$

TRRET
MVDRVTAK LEKNGKRYE DEVDCEKAMD DKEGRSE
 QKWLTNVAAVVQY IVNDQRFEVACYSSKVASYRN GVGK
 SN Q IIK F T NVVIVRLKK



 MSATNVQLVKYSANGDTVELLGKPGMVTKYRED NQVK F T NVA IVVKYKHKGNKFE』ACYKNKI DDWKN

UniRef90 X1MJU5 UniRef90-W9WPF7 UniRef90- B8BZ37
UniRef90 S6BGM6 UniRef90-D8LYB5 UniRef90-J9.j9A0 UniRef90-UPIO0035CA49E UniRef90 A7F4H6 UniRef90-B6QAN4 UniRef90-G2X6H5 UniRef90-A0A024TF47 UniRef90-E4WQY9 UniRef90-V4ZL59 UniRef90-G3S5No UniRef90-X6ND83 UniRef90-Q3HWV6 UniRef90-A0A017SJK9 UniRef90-GOQBP7 UniRef90-G1PN53 UniRef90-STZQY4 UniRefefo-E9DFT5 UniRef90-A2GC11 UniRet90-V5G485 UniRef90-G0QFQ3

UniRef90 F1MOV8 UniRef90-E1Z354 UniRef90-F2U2N4 UniRef90-D2VJI8 UniRef90-Q4Q394 UniRef90-G3JHE2 UniRef90-M1VF53 UniRef90-FOXPL4 UniRef90-Q5B1Y7 UniRef90-A4HAM9 | UniRef90- XoSMH1 |
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UniRef90-UPIOOO3829AF7 UniRef90_L9UU82 UniRef90 Q9HIP5 UniRet90-WGKEIS UniRef90-A0CFW4 UniRef90-L1JIC2 UniRef90-F2Q5X9 UniRet90-FOXZCO UniRef90-W6KYE8 UniRef90-G2RA05 UniRef90-G2RA05 UniRef90_UPIO004409F66 UniRef90_Q4N8W7 UniRef90-XoYE47 UniRefofo U6IVH1 UniRef90-17ML66 UniRef90-GoQIY5 UniRef90_C9ZMW1 UniRef90-M1WI19 UniRef90_M1 UniRef90_U7Q0S6 UniRef90 U7Q0S6 UniRef90-M2W0Y8
UniRef90 ${ }^{\text {FOVFG3 }}$ UniRef90-M2NOQ6 UniRef90-M2NOQ6 UniRef90-M3B7F9 UniRet90-M3B7F9 UniRet90-E2M585 UniRef90-D2EG61
UniRet90
U8B6U5 UniRef90-UPIO0029DAE6D UniRef90-C6LUU2 UniRef90-COSGX6 UniRef90_C4JNM1 UniRef90-J5RCK2 UniRef90-K2GVQ3 UniRef90-B4K2C9 UniRef90-X0V1U7 UniRet90_R1E3M2 UniRef90-A0AO23BAW5 UniRef90-A2ES02 UniRef90-Q4Y4B7 UniRef90-w9xSco

DAE6D
 DLDNVLQVPTIFLNASKGETAPNAELIKAWPLPSQNEIIE DLSEVLQTTTVFTNVSKGQFAKSSELQECFGTSDEEEVCR
 NLSEVLQTDQIFTNVSKGEVAKQKDLQAVFGKMTQDEVVI

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GVDDVIYTDETESNYAKGDKVKDESLKAVFGTTNVKEVIT RLDEVLQVERIFANVARGYLASEKEIQTVFGGETEAEAI R

 D L D N V L Q V P T I F L


ESALYYVD DALF VGHSKGEKAKAADLKAAFGSDDLRACLK $N L N E V L Q A H C V F T N V S K G Q F A N K K E M F A H F R T E D E R E \operatorname{IV}$ I K DLDNVLQDPTVVFLVVSKAQTAPAAELTKAFGTKSNDEII Q



$D \square E N D L A F P E V Y K D V R K G E K A S D D S L K E A F K T Y V I A Q V A I$ RLDEVLQVDRIFSNVSRGHDAPEKDI QAVFGNMSTEDAIIK





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 D I G E V L Q F E E V Y T N A S H G T I A K K Q D L Q T Y F G D M K K L D Dill I

$D L N E V L Q \square D A V F Q N V A K G E \square A R K A E L L R Y F G T D D K R A C \square L$

S LEDVLLLS DTVFTSYAKREKAGTNE LKAAFQTDSLQSCVE DLREVLQQTNAVFHNVSKGEFAKRDALLDAVFNTVDQERGCK
$N L D D V L Q J S S V F$ VNVSKGEMAKHNDLQKAFGTTDVHEVVK
 DI N E V I Q A H A I F S D A V VK G E L Q S A E N L Q K A F G T Q N T L S I C N

 DLSEV I QI E QI FTNVVPK GQVAK K D DWT K A F G S D N M D K





UniRef90 X1MJU5 UniRef90＿W9WPF7 UniRef90－B8BZ37 UniRef90＿－S6BGM6
UniRef90 D8LYB5 UniRef90－－J9．J9A0 UniRef90＿UPI00035CA49E UniRef90＿A7F4H6 UniRef90－B6QAN4 UniRef90－G2X6H5 UniRef90－A0A024TF47 UniRef90－E4WQY9 UniRef90－V4ZL59
UniRet90 G3S5NO UniRef90－G3S5NO
UniRef90－X6ND83 UniRef90－Q3HWV6 UniRef90－A0A017SJK9 UniRef90－GOQBP7 UniRef90－G1PN53 UniRef90－S7ZQY4 UniRef90－E9DFT5 UniRef90－A2GC11 UniRef90－V5G485 UniRef90－G0QFQ3 UniRef90－F1MOV8 UniRef90－E1Z354 UniRef90－F2U2N4 UniRefolo D2VJII UniRef90－Q4Q394 UniRef90－G3JHE2
UniRef90 M1VF53 UniRef90－M1VF53
UniRef90 FOXPL4 UniRef90－Q5B1Y7 UniRef90－A4HAM9 UniRef90－XOSMH1 UniRef90－Q74M40
UniRef90－G2QBH9 UniRef90－G2QBH9 UniRef90＿Q3HWV8 UniRef90－C1LL17 UniRef90－C5GEU7 UniRef90－GOTUK1 UniRef90－COU347 UniRef90＿UPIooo3829AF7
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El L DNGQ\｜QWTQKQREEESQKKMKQI DNLIAKNAIINPQNK EILKKGEI QVNANERKELLDRMEREIVEEVAQRLVDPQTK FILEKGDVQISDQERAVQLESTDREVASMVSEKCI HPDSR QILDKGEMQVSKEERNQMLQAMFKDVVTTLSELAINPKTG IILEKGTEQISGKEREHQLQSVTNEIATLISEMCYNPDTG ELLNKGELQVSELERDEHLDSLKKE：ANLIAQKCVNTSDG

 EILKKGELQVGEKERAAQLERVQNEVLGIVGSRLVDPRTK Ki LAKGDLQVSDKERGVANEALLSEI AEKVAEMSVNPQTE VILDKGELQVSEKERQAALAAALQDVITMVIDMTVNVRTG QVAKPPEIRFSTKLPHFSDESKFHEIANYPIYKSAWKQVG VILAKGELQLTAAERREQTDQKRREIVYYVHKYYTDPRAK ELLRKGEVQVGERERKEDQERVEKEMLDVVSGRVVDPGTK QVFASGDMQLTTEQKAEMRDEKYRKLVDMISRRAQNPRTG QI LTKGEVQVSDKERHTQLEQMFRDIATTVADKCVNPETK E：LAKGEVQVGERERKEALERVEKEVLDVVSGRLVDPNTK
I EILRKGEVQVGERERKDLLERVEKEVDDVVGRDVDPATK EVFEKGEMQLTTDQKAEMREEKYRQVVNMIARRVQNPQTG HILTKGEVYVSDK KNTQLEQMFRDIATTVAYKCVKLETK PRPCPALPQVSDKERRVELDTLFRDVASVLSEKCINPESN QILAKGELQVSKEERDNELADKFKEVASIVSDKCINPDTK KIIADGEYHMSTQERKEKVDQKRKQMIYFIHQNYIDPKTN YMLDHGELQVAQQERAAEVDEMFKDIAVIISQKCINTKTQ ETLKKGEQQVGEKERAAQLERDNNEVISIVASKLVDPRTK KILRKGDFQLSAAERRQKLEQKRNEIIEYVHKNFVDPKTH EI LRKGEMQVGDKERAAQLERVHHEVI DLVAGKLVDPRTR EILRKGEVQVGERERKEIAERIEKEVLDIVSGRLIDPTTK
 Q IIKKGQLQ\｜PTEYKRKDKEELKRK】IELIRKNY DDPRTG
TVLDKGDAALSADERKDKVEQMRREVVNYTHKYYTDPRAK SILEHGELQLTEKERLVGQQALFRDVAKTVSERCVNPENN EI LRKGEVQVGERERRDVLERIEKEVIEIVSARLVDPVSK FILLHGELQVARQEREAEVDQMFTDISVIISQKCISEVTR YiLDHGELQVAQQERAAEIDQMFDDiAVIISQKCVNEVTQ EILDKGELQVAGKERESQLSSQFRDI ATIVMQKTINPETQ IILKHGEIQLTAEYRGKLREEKRKKILELIHRNAIDSQTG DSVKEGEQ TAEQRREMQEQKRKQLINTARNAVNPQDN EIVKKGQI QLTTEQRREMYDERRKQIVNLI AREGINPQTN YMLDHGELQVAQHERTAEVDEDFKDIALIISQKCI NSNTQ TVLEKGDLQVGDKEREAQLEHYYRDVKF QDKCUHATSG EVLSKGEFQLSAAERKKKVDDKTKQIVTYICGNFMEGGTN EILRSGQLQVSARERGAASEALIRDVAGIVAERVVDAATG



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TTLQKGEVQTSSAERKEKLEKRKKETVNF円HKYY円DPAKK II LDKGELQVSEKERQAALAAALQDVISLVDEMTVNVRTG

ETLKKGEVQVGEKEREHDDASTRKETATLVAEKCVDPSTQ K1IKEGEVQLSTAYKQKKSEMLKKRIVDKIAGMAIDDNTN QI LNGRVHLSELERTVEQERKFTEIASIVALRLTNPATG Q LTKGXXXLG RRFGEEMEEKDGV
QULDGRVQFSELERTTEQDRKFTEEASVVADRLTNSVTG EILRKGEVQVGEKERKELLERVEREVLEIVSARLVDPVSK VLEEGELQVNNLERGHQLASLSREI ATLVAEMTVDPATK
 EI LSKGELQVSEKERQSVLDSQDNS：VNGVAADCVNPETH Q LLENSEOPLPTEYKRELIGEEKKQLIEYURKIAYDSKNN



UniRef90 X1MJU5 UniRef90-W9WPF7
UniRef90-B8BZ37 UniRef90-S6BGM6 UniRef90_D8LYB5 UniRef90-J9J9A0 UniRef90_UPI00035CA49E UniRef90_A7F4H6 UniRef90-B6QAN4 UniRef90-G2X6H5 UniRef90-A0A024TF47 UniRef90-E4WQY9 UniRef90_V4ZL59 UniRef90-G3S5N0 UniRef90- X6ND83 UniRef90-Q3HWV6 UniRef90-A0A017SJK9 UniRef90-G0QBP7 UniRef90-G1PN53 UniRef90-S7ZQY4 UniRef90-EEDFT5 UniRef90-V5G485 UniRef90_G0QFQ3 UniRef90-F1M0V8 UniRef90-E1Z354 UniRef90-F2U2N4 UniRef90-D2VJI8 UniRef90-G3JHE2 UniRef90-M1VF53 UniRef90-FOXPL4 4 UniRef90-Q5B1Y7 UniRef90-A4HAM9 UniRef90 ${ }^{-}$XOSMH1
UniRef90 074 M 40 UniRef90-G2QBH9 UniRef90-G2QBH9 UniRef90-Q3HWV8 UniRef90_C1LL17 UniRef90-C5GEU7
UniRef90-G0TUK1 UniRef90-C0J347 UniRef90-A5BZ27 UniRef90_UPI0003829AF7 UniRef90_L9UU82 UniRef90_Q9HIP5 UniRef90-W6KEI5 UniRef90-AOCFW4 UniRef90-L1JIC2 UniRef90_F2Q5X9
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UniRef90 U7Q0S6 UniRef90-U7Q0S6 UniRef90_M2W0Y8 UniRef90-FOVFG3 UniRef90-M2N0Q6 UniRef90-M2N0Q6
UniRef90- M3B7F9 UniRef90-M3B7F9 UniRef90_E2M585 UniRef90-D2EG61 UniRef90-A8B6U5 UniRef90_UPI00029DAE6D UniRef90_C6LUU2 UniRef90_COSGX6 UniRef90_C4JNM1 UniRef90_J5RCK2 UniRef90_K2GVQ3
UniRef90_B4K2C9 UniRef90-X0V1U7 UniRef90-R1E3M2 UniRef90-AOA023BAW5 UniRef90-A2ES02 UniRef90-Q4Y4B7 UniRef90_W9XSC0
 PI PRARMRLRITCPTNDAKQAKDRILDSVEQVESQEVLGE N P E RAKMQLALVL
PI ARSQMRLKI TCAMNQRDDVLQFLSEQNAYDEHVDHSQ RI ERNKMQI KLAFPVHDSFLEMQQIRATNQTI DSESSETR

 PVMRARMRLRVTCPKEDGKNVKEKILSSGDESVESQEVVGE PI QRARMRLRVTCATSVLKQVKDRILGYFEQVESQDVVGS PI TRAMMKV HVTV
PI DRCKSQVKANDPSEFSGVAEK DRKDASKDIDEKEADDH GI ARRMMRLQAECAEAHREQVRSFIHQCGGVI EHE K ERAHMRLR RDKDENSDSSHTKIKSPPRMKETKQCEDL
 PLKRSE\|VGTLSVP IKALGAVQG\|LSKGVEVSGETYTGDS P I PRAARMRLR I TMPVNLLKQAIK
$P$ S KI ERAHMRLRFILPVNEGKKLKEKLKPLIKV $\quad$ ESSEDYNQQ PI PRARMRLRVTCPVSLLKQ
P I PRARMRLRITCPASVLKQVKDRDLGYDEQVESQEGKDE
PI ARAK $\square R L V F Y \square T P D H A E K M I S M L P Y V E K V D K S D \quad P N Q$ PI PRARMRLRVTCPVS LLKQSVKASSGAAKQDQE
PVSLEEKAMAVKIPNDKTGKAYDLLQQKTDLEEEKW GNE KI EQAHMHLHFILPVNEGKNLKDNLKPGKKVVESEDYNRQ P E EARMRLK LAVVPLSSKDELLELVRQQGGVVEEQDLIGS

 P I A RARMRLRDSCGTSVLK QVKDKILSYDEQVETQDVVGS PMKKHQVEGTLRVPHGVLGASNAVIRSYCTVAREHYTSEG PlPRARMRLRVSCTTSVLKQ
PI PRARMRLRVTCPVSLLKQSVKSAAPAGSNNKEKESQ PI A RANMK R CTTT SEAA G L E K L RVWCDVEKVTVTSNA P I K L E TKKI K TT PPADYTGKVYGDISQY KEKEKWLENG PLKGEKDRIVIKIPNEYIYKAYSYIKSFRRPKEEFSDN


$P \square P R A R M R \square R \square T C P T S ~ D L K Q A$
PI TRSPMKLRFITS S DAA
PI ARARMKLRCVVPDE PSLEKLVEWCEKVVEAGGSDA PI KRCPMRLRLTVPQQNFSSLLEKLNVWNASIVSKDESGG

 P RANAK AVSTRTAA GKLYGELAKGYM
 PI PRARMRLRITCPTSULKQ
GLRRAPMELRV
P I SRANMKLRCSCDAHNAQUVEEVVKPAPAEMEDENASGE PFTRQAMTVRLFDKHSYVGQCNNII HAAGNVLEQDWKS PDARARMRLRITCATAAAGTVKDKILSAVEQVESQDVIGS


PI RFE DWEIA AV KIPAQYAAQSYR ILKTYGT
K 1 KPAMMME I I S SLDP KIVVEEVSPKILLLHHHDTRQGLNSEG


 PI ARARMRLRVSCPTAAAGTVKDKVVGYDEQVETQDVVGS PIARARMRLRVSCPTAAAGTVKDK』VGY】EQVETQDVVGS PI RRRDMKLNMQDP
PI PRARMRLRVTCTTSVLKQVKDKILSYVEQVESQDVVGS PI PRARMRLRVTCTTSVLKQVKDKILSYVEQVESQDVVGS PLKKTTLEGQLKVPHSSUGAASSVI AKYVTVERESYSSHG GI ARRMMRLKAECAAEHRERVCKFVTEQCGGVVE
PI ARARMRLRDTCPTSVAKQVKDTI LGYVEQVESQDTAGD

 PI QRARMRVRVT
PI K LGEFNYSIDVPDQYANDAMLYLKRLTND KDSTRNDN GVHLQKVNDSVELPLSHAKACIAV
KI ERAHMRLR PR GQ
$G V Q L Q K V S U S V E \square P L D H A K K C \square A D C A T Q Y A L V I E S L I L D E$
 PVERVRMRVRITMP
PSKRLEVEAIVTVPNDFCKLADGAMKKYGRDTSSSANGNS
 PEDLGGVATKM SLMTPHAKQTTTEL

 $P I P R A R M R L R I T C P T S G A K Q A K D R I L S F V E Q V E S Q D V L G E$

UniRef90 X1MJU5 UniRef90-W9WPF7 UniRef90-B8BZ37 UniRef90_S6BGM6 UniRef90 D8LYB5 UniRef90-J9J9A0 UniRef90_UPI00035CA49E UniRef90 A7F4H6 UniRef90 B6QAN4 UniRef90_G2X6H5 UniRef90-A0A024TF47 UniRef90 E4WQY9 UniRef90_-V4ZL59 UniRef90-G3S5N0 UniRef90_X6ND83 UniRef90 ${ }^{-}$Q3HWV6 UniRef90-A0A017SJK9 UniRef90_G0QBP7 UniRef90 G1PN53 UniRef90-S7ZQY4 UniRef90_E9DFT5 UniRef90-A2GC11 UniRef90 V5G485 UniRef90-G0QFQ3 UniRef90-F1M0V8 UniRef90 E1Z354 UniRef90-F2U2N4 UniRef90-D2VJI8 UniRef90_Q4Q394 UniRef90 G3JHE2 UniRef90-M1VF53 UniRef90_FOXPL4 UniRef90 Q5B1Y7 UniRef90-A4HAM9 UniRef90-XOSMH1 UniRef90_Q74M40 UniRef90 G2QBH9 UniRef90_G2QBH9 UniRef90-Q3HWV8 UniRef90 C1LL17 UniRef90 C5GEU7 UniRef90_G0TUK1 UniRef90-C0J347 UniRef90 A5BZ27 UniRef90_UPI0003829AF7 UniRef90-L9UU82 UniRef90 Q9HIP5 UniRef90 ${ }^{-}$W6KEI5 UniRef90-A0CFW4 UniRef90_L1JIC2 UniRef90 F2Q5X9 UniRef90-FOXZC0 UniRef90-W6KYE8 UniRef90 X6NJAO UniRef90-G2RA05 UniRef90_UPI0004409F66 UniRef90 Q4N8W7 UniRef90-XOYE47 UniRef90-U6IVH1 UniRef90-17ML66 UniRef90_G0QIY5 UniRef90_C9ZMW1 UniRef90 M1 WI19 UniRef90-M1WI19 UniRef90_U6MIP8 UniRef90-U7Q0S6 UniRef90 U7Q0S6 UniRef90-M2W0Y8 UniRef90-FOVFG3 UniRef90 ${ }^{-}$M2N0Q6 UniRef90-M2N0Q6 UniRef90-M3B7F9 UniRef90-M3B7F9 UniRef90 E2M585 UniRef90_D2EG61 UniRef90-A8B6U5 UniRef90-UPI00029DAE6D UniRef90 C6LUU2 UniRef90_C0SGX6 UniRef90_C4JNM1 UniRef90 J5RCK2 UniRef90-K2GVQ3 UniRef90-B4K2C9 UniRef90- X0V1U7 UniRef90 R1E3M2 UniRef90-A0A023BAW5 UniRef90_A2ES02 UniRef90 Q4Y4B7 UniRef90-w9XSC0

210
220
A WVVTTIDDLPAGLQAEFLDK LVNKDTHGRVQlKTLK EWEVVGFVEPGAFKALGEF $L A A E M K G K G R L E V L$

## E FLIDPADYKAV <br>  <br> E WETVGFAEPGAFKGLSEFVTSETRGRGRVEVL EWEVSGFVEPGAFKGLGDFIGNETRGQGRVEVL <br> $\square L L N \square M \square M P H Q L K \quad E \square Q Q \square F \nabla K E T A G K A S V E \square \square$ <br> $C V Y V C D D P G C F R \quad E D D E D I K K E T K G K G S V E V L$ HVMTVLMDPGHFR ELLDLVAKNTKGKGSVEVVE C EMTISVVP <br> YFTARTTLPAGVLEELRQELQEMTGGQTEMKEVK LE IVCLIDPGCFR E IIDDLIQKETKGKGSLEVL

WEVVGFAEPGAFKA LGEFVGGETKGRGRVEVL TAVIA QVEPGS $\square R$ QVAGELAKEFGTE $\square K \amalg D \| L E$
YFYAKMTDPAG LDEELMRDDQEATDGEA
LE IICLIDPGYFR EIDEMVKKETKSKGILVVL


DWEVVGFVEPGAFKPLSDFDGNETKGQGRVEVL AVLEIMDSPGDY DAF $\square$ KALNNASKGNFHLDI

SHS LVLMQPNLFRDLDHFDKEE
$D L G V V V A V P S G T Q F S F Y D K L N S L T H G S V V T E E D K$ YYAI LSLPA G $\square$ Y QEF $\quad$ E KI E KLTEGNAEIKELE E WEVVGFVEPGAFKGLSDFVGGETKGQGRVEVL


ALLLILLQPHLFRD $\square E R F V K T E M P P G G S V H V I E$
Q L S A C
 SWIGVVTFPAGMQNEFYDVVNEHSSGKAETELVK

IVEVVKTDPAG
$K F I V I$ DDPQ LDFRA $\square$ STK VTEK QFKSTLEVVE SMILCDVGFLSGDHERFVAEMTKATKGQFELK
$\square$ YSA LVLIQPNFYGA $\square E G F \square K R E$
EWEVVGFVEPGAFKGLSDFDSTETKGQGRVEVL EWEVVGFVEPGAFKGLSDFISTETKGQGRVEVL LEMVCLIDPGCFREGDELIRCETKGKGSVEVL
$\square$ FEMKAVIEQKDYHFLTGTLSEVAKNRYCVE LL
VELVVSIEPSKFRST
IV I SVII ESNKLRDIL
QDETV
E WEVVGFVEPGAFKALSDFDGNETRGQGRVEVL EWEVVGFVEPGAFKALSDFLGNETRGQGRVEVL
SWEVTGFVEPGAFKALSDFVDNETRGQGRVEVL


E WEVVGFVEPGSFKPLSEFVSTQTKGRARAEVL
E WEVVGFVEPGSFKPLSEFVSTQTKGRARAEVL


TFNVCLIDPGCFR E DDELIKKETKGKGSLEVL QSCFFTAVVEVYQYKFVCKLKE $\square S R G L A H V$
EWEVIGFAEPGAFKGLSEFVGGETKGRGRVEVL


YEA $\square$ LE $\square \mathrm{P} \square \mathrm{GLLSEFYSD} \mathrm{\square GK} \mathrm{\square CGEDC} \mathrm{\square VEE} \mathrm{\square K}$
A YF QVT $\square$ T PGKF DDFNNQ $\square$ SKASGGQA
E WEVVGFVEPGAFKALGEFCSAETKGRGRDEVL


MVS LDKAVIARYKHGKKNFEVLVDPEKVDS $\square R$ SGAEE MSKANYQVVRFKHE NPVGKL $N \square K K L T N V S T I S$ VKKNGVNFEDADYPNKDRDYR LDKLV$\frac{T}{T}$ NQKK LVNVSIVTLKKFGRRYELAVYPNKLYEYRNGMRT NVKKLTNVSIVTLKKFGKKYELAI YPNKLYEYQK G DTT

MTTANHQIVSLK $\operatorname{C}$ SKNVLEVI CHQDAVIK WREN KSM KKDDFALCKLKKAGMHFEVICHPGMILKFR EGLVS NQKKLVNVSVVALKKFGRRYELGVYPNKLYEYRNGGMT IVRFKSKNKSFEI MVNPGTVATFRQDRS NQKKLVNVSVIALRKFGRKYELGVYPNKLYEYRNGMAT

MS T DNS $\square T \square I Y S K G G H K F E D Y V D R E K Y P E F D K G H K T$
MSKAKQPQII SFKGDKQTFQVLADPDKVFEFRKN QDM NQKKLTNVS VALKKGDRKYEIVAYPNKLYEYRHNCK ■

SNQKK LTNVS IVTLKKFNKDYS円PVYPNKLYEYYNNDTPL SNVKKFTNISVITTKKDSSKTFSIPVYPNKLYEYQNNUSP NVKKYTNVSVVSLRKYGNRYEVALQPNKGNDYRNKKDEL NIKK K Q DVVVVVYKGKHGNYEVAAHPKKLYEYRRQTA

N $\square K K L Q D V V V V Y K G K H G N Y E V A A H P K K L Y E Y R R Q T A$




KKLINVS VVTLKKYNKRYEDAV DPNK LLLYRENK DE DKVSKVYLQKNNEDFVVLVEDKESLNKWKGDTSV

[^0]

$D \square S N V L Q T E D V F T N D A Q G E \square A T N A T \square Q A S F Q T \square N K T T \square C N$
G I E D A LaAVDEDFEDASKGEKT TEDDLMAVFSTTDVEEDAR

 PLSEILQTDTIYRSVSKGEDARQGDLGDLFCRTMHEEIVR


 PLSEILLTDTI YRSVSKGEIAKQADL DLDFNKTHEE VL VLQVDVVFQNVAKGELARKAELQRYFGTDDQKTCI FEEIVSLGNVIF NETKGQL SEETYTTDFGTADEMT DLK


$$
N \text { E EATK }
$$




S LDEVLWTESDF S D 1 SK GKLA GKK SVQDEFG RDHGKALE


FLIELLQSENDYKNDSKGEDCSANEDKKDANDDNDEEKDQ $P L S S V V H T H C I V K S V S K G L L H N R E A G K A A P G D N M D Q K I Q$ $N V A K G E L A R K A E L Q R Y F G T D D Q H A C I L$
LSEVLHTWTDFKDVSEGTICSKEDLKSDKNTKDNDNII K



| UniRef90_C5LQQ3 |
| :---: |
| UniRef90_V9DME7 |
| UniRef90_V9DME7 |
| UniRef90-H6C0S1 |
| UniRef90-H6COS1 |
| UniRef90-W2SDS1 |
| UniRef90-W2SDS1 |
| UniRef90-U1HQA0 |
| UniRef90-U1HQA0 |
| UniRef90-T1C548 |
| UniRef90_G5BA57 |
| UniRef90-V6LFR7 |
| UniRef90-UPI000359E142 |
| UniRef90-X1ELY3 |
| UniRef90-L7FPN3 |
| UniRef90_J9DS68 |
| UniRef90-Q3HWW1 |
| UniRef90-Q8SUL0 |
| UniRef90-R0ML31 |
| UniRef90-E1F962 |
| UniRef90-L1JCT5 |
| UniRef90-16UN87 |
| UniRef90-Q3HWW2 |
| UniRef90-EOS8N4 |
| UniRef90-U6MBL0 |
| UniRef90-D8LYD2 |
| UniRef90-V6LEL7 |
| UniRef90-L2GNQ5 |
| UniRef90-K2GYL2 |
| UniRef90-E7KFC8 |
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| UniRef90-C4VBP4 |
| UniRef90-TOKXR9 |
| UniRef90-A0A059EXQ6 |
| UniRef90-I3EDC8 |
| UniRef90-W5AXK7 |
| UniRef90-H8ZE35 |
| UniRef90-M0SUQ3 |
| UniRef90-L7JU22 |
| UniRef90_I2JUP6 |
| UniRef90-B7XHG0 |
| UniRef90 L2GSU1 |
| UniRef90_U6JSB0 |
| UniRef90 S7XQ27 |
| UniRef90-G1XR63 |
| UniRef90_D8PJT6 |



[^1]



YRGRR】SLDEAMEDVK KYDDSKDVKVVGNNDVKDLTAKD KRYPPTMIEKALKELKKNMTNARNAKTKALEAI RLLKQII


 R

[^2]

[^3]

$R \square Y R V T \square V P G D F D T \square N K E L A K V T R S N Y Q \square D$

WS $V$ KFSVSPKG $\square$ D Q $\square$ MS LLEG $\square C K G E Y E$ YVV $\square$ RSECFPKFKEMCKEE
YVI $\square R$ SECFPKFKE $\square$ CEEE

D VLIQFE $\square$ GPTRFNELVTGLESTCQGEYD LKM $\frac{R D Y E F D I D P S A F H E}{L D W T C T}$ G LIDD VNYRDLMTLCDKKGTVQVL TSTFLVNMQPNWFKELDTFIRE
QSS 1 VCE $\square$ EPSVLHSCEEK【KDV QGRVEVL




[^0]:    lupas_21
    lupas_14
    lupas_28
    jnet
    conf sol25
    sol5
    sol0
    jhmm
    jpssm

[^1]:    lupas_21
    lupas_14
    lupas_28
    jnet
    conf
    sol25
    sol5
    sol0
    jhmm
    jpssm

[^2]:    lupas_21
    lupas_14
    lupas_28
    jnet
    conf
    sol25
    sol0
    jhmm
    jpssm

[^3]:    lupas 21
    lupas_14
    lupas_28
    jnet
    conf
    sol25
    sol5
    sol0
    jhmm
    jpssm

