UniRef90_S8C9E7 UniRef90-N6TPQ0 UniRef90-Q4SN92 UniRef90-E9FUV7 UniRef90-10Z91 UniRet90_MTXU66 UniRef90_Q4T285 UniRef90 UPIOOO3F4A5E6 UniRef90-R11490 UniRef90-M2XY 3 UniRefto J3MM34 UniRet90-Q01AF8 UniRef90_CKKDT5 UniRef90-T1G2F2 UniRef90-D8QTL1 UniRef90- 88 CXI 2 UniRef90-U7Q2E2
UniRef90
W4KE53 UniRef90-E3KS20 UniRef90-E3QSI3 UniRef90-QoCIX2 Uniref90-G2XDD4
UniRet90_G7EA7 UniRef90-M5E7B8 UniRef90-S3CX44 UniRef90 ${ }^{-}$A0A024JA82 UniRef90-12FVHO UniRef90-T1ELT5 UniRef90_UPIO00440904F UniRef90 M3B705 UniRef90-H2TON6 UniRef90-UPIO003ACA01F UniRef90-TOQID2 UniRef90-Q7SAX4 UniRef90-UPIOOO455DB3E UniRef90-S2JUl3 UniRef90-Q4RGG5 UniRef90-UPIO003DED803 UniRef90-A8NXEO UniRef90-U6P761 UniRef90_UPIOOO4418362 UniRef90-E5S7R3 UniRe99_UPI0004411D6D UniRef90-C1E9X0 UniRef90-V7D195 UniRef90-D8PRN3 UniRef90_ROF3H1 UniRef90-UPIOOO3594986 UniRef90-H9J557 UniRef90 W4YVZ3 UniRef90-C4Y713
UniRef90 E5SR03 UniRef90-EOVGS6 UniRef90-F2UF98 UniRef90-S4RFX5
UniRef90-T1IKC1 UniRef90-S8CDN2 UniRef90-L1J2N4
UniRef90 H2YA49 UniRef90-H2YA49 UniRef90_UPIOOO2659589 UniRef90-A0A022XMU5 UniRef90_A9VOS6 UniRef90_B6K1P9 UniRef90_B6UXA1
UniRef90-IOY110 UniRef90-T1J4F0 UniRef90-A8XWCO
UniRef90 ${ }^{\text {B3SOOX5 }}$ UniRef90-UPI0003D7059C UniRef90-H2MWLO UniRef90-A0A023EXI1 UniRef90-F4P8A3 UniRef90_UPIO001FE26EC UniRef90_A7S350 UniRef90-F6UE33 UniRet90 F2QP83 UniRef90-T2M2M8 UniRef90_W2S6U8 UniRef90-F2UID5 UniRef90-G8YGV4
UniRef90- $9 W 558$ UniRef90-B3RPU5 UniRef90-S9PNE7
UniRef90_M5BJG5

NRKMAMGRKKFNMDPKKGTQFLVENELLQNTPEETARFDY ELLQEGDSLINRKPKKGI EFLI NANKVGNSPEEIAAFLK
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R RHVVAMMGRK K F N M D P P K K G $\quad$ M KQLSLGRKKFNMDPKKG| EFLLQQGLLQNTPQDIAAFLY KGFQQGDALFNAKPKKGIAFLQEQGMLGRTPEEVAKFLA NQQMTIGRKKFNMDPKKGVGFLMDTSLLRRSSQEVAKFLY
 REVDEADRFFNFDADQGIDYLCKVGYLRRDPKEIAKFLL QEFQAGIVSEFNRKPARG| EYY LSNKLIENNAASVAHFLK QEFQHGVSLFNKKAKKGLEYLQSDGRLGKSHEEVAAF

## K H

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Q RMNN GFNMKPKRGVEQRK LLDAQRYLS $\quad$ GRKKFNMDPKKGI QQRKGDGIRRENKPKKGVEFL
T K Q



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$R L A M Y R F N K N P S K G I H D L M M C G L V V D D P Q E I M M F L C$
$\qquad$




K A F
AFNEKAAEGVDLAIQHG
QL H E A KKFNFNSK H GLKMLLSHEFI KDSPEDI A YF L L

$R$ Q Y R V G L N L F N K K P E K G l K Y L D Q R G F L E N S P Q A V A R F L I

| $L$ | $M$ | $E$ | $Q$ | $G$ | $Q$ | $L$ | $F$ | $S$ | $E$ | $K$ | $P$ | $K$ | $K$ | $G$ | $L$ | $K$ | $F$ | $L$ | $Q$ | $D$ | $H$ | $G$ | $F$ | $V$ | $G$ | $T$ | $D$ | $A$ | $I$ | $E$ | $V$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $A$ | $E$ | $F$ | $M$ | $M$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $K$ | $M$ | $E$ | $H$ | $G$ | $R$ | $L$ | $F$ | $N$ | $K$ | $S$ | $S$ | $K$ | $K$ | $G$ | $V$ | $A$ | $Y$ | $L$ | $Q$ | $E$ | $K$ | $N$ | $L$ | $L$ | $G$ | $S$ | $E$ | $P$ | $S$ | $D$ | $V$ |
| $A$ | $S$ | $F$ | $F$ | $H$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $N K Q \square A M G R K K F N M D P K K G I Q Q F L I E N D L K Q S S P E D V A A Q F L Y$










K L L R H C I N K K F N Y K P P S L G G V K L L S S E N G F V N


## QUERY

UniRef90_S8C9E7 UniRef90-N6TPQ0 UniRef90_D1LWZ6 UniRef90_ Q4SN92 UniRef90-E9FUV
UniRef90- $10 Z 911$ UniRef90-M7XU66 UniRef90 Q4T285 UniRef90_UPIO003F4A5E6 UniRef90-R1E490 UniRef90_G7PY22 UniRef90_M2XYX3
UniRef90 J3MM34 UniRef90-Q01AF8 UniRef90-C5KDT5 UniRef90-K7U7E1 UniRef90-T1G2F2 UniRef90_D8QTL1 UniRef90- 88 CXI2 UniRef90-UTQ2E22 UniRef90-E3KS20 UniRef90-E3QSI3 UniRef90-Q0CIX2 UniRet90_G2XDD4 UniRef90-G7EA71 UniRef90-M5E7B8 UniRef90-A0A024JA82 UniRef90-I2FVHO UniRef90-T1ELT5 UniRef90 UPIO00440904F UniRef90_M3B705 UniRef90-H2TON6 UniRef90-UPIOOO3ACA01F UniRe990-TOQID2 UniRef90-Q7SAX4 UniRef90_UPI000455DB3E UniRef90_S2JUl3 UniRef90_Q4RGG5
UniRet90 UPIooo3D UniRef90-A8NXEO UniRef90 U6P761 UniRef90-UPIOOO4418362 UniRef90-E5S7R3 UniRet90_UPIO004411D6D UniRef90-C1E9X0 UniRef90-V7D195
UniRef90-F117K8 UniRef90-D8PRN3 UniRef90-ROF3H1 UniRef90-UPIOOO3594986 UniRef90_H9J557 UniRef90 W4YVZ3 UniRef90-C4Y713
UniRef90-E5SRO3 UniRef90-EoVGS6 UniRef90_F2UF988 UniRef90-S4RFX5 UniRef90-S8CDN2 UniRef90-LLJ2N4
UniRef90 H2YA9
UniRef90-H2YA49
UniRef90
UOLOD UniRef90-UPIOOO2659589 UniRef90-A0A022XMU5 UniRef90_A9VOS6 UniRet90_B6K1P9 UniRef90 B6UXA
UniRef90- 10 Y 110 UniRef90-T1J4F0 UniRef90-A8XWCO
UniRef90
B3SOOX5 UniRef90-UP10003D7059C UniRef90_H2MWLO UniRef90-A0A023EXI1 UniRef90-F4P8A3 UniRef90-UPIOO01FE26EC UniRef90-A7S350 UniRef90_F6UE33 UniRet90-F2QP83 UniRef90-T2M2M8 UniRef90_W2S6U8 UniRef90_F2UID5 UniRef90-G8YGV4 UniRef90-S9W5F8 8 UniRef90_S9PNE7
UniRef90_M5BJG5

QALRQFLWSFRLPGKAQKTDRMMEAFAQRYCLCNPGVFQS EA RVFLQGFRLPGEAQKIDRDMEKFAERYCKCNPKAFTS EALRQFLWSFRLPGEAQKIDRMMECFAKRYCDCQNNDFEN QALRQFLWSFRLPGEAQKI DRMMEAFAKRYCESNPGVFTN QALRQFLWSFRLPGEAQKIDRMMEAFAQRYCHCNPGVFQS QALRQFLWSFRLPGEAQKI DRMMETFAQRYCQLDPNIFSN
 QALRQFLWSFRLPGEAQKI DRMMEAFAQRYCCCNPGVFQS DAVRMYLQAFRLPGEAQKIDRFMLKFAERFMHNNPETFAN QALRQFLWSFRLPGEAQKI DRMMEAFAQRYCLCNPGVFQS EAIRLFLSNFRLPGEAQKI DRTMEKFASRYCACNPELFAN AAVREFLKGFRLPGEAQKIDRIMEKFAERYCADNPGLFKN DA:RKFLEGFRLPGESQK DRLMEKFAERYHKLNPTIYKS EALRYYLRGFRLPGEAQKI DRMMEKFAERYCKCNPNSFTS QALRQFLWSFRLPGEAQKI DMMECFAQRYCELNPQVFSC DAIRFFLKGFRLPGEAQKIDRIMEKFAERYCKCNPNSFTS SALRQFLQSFRLPGEAQKI DRFMLKFAERYNDGNPNAFAN EAMRTFLQAFRLPGEAQKIDRFMLKFAERYYQGNPETLAN DALRTFLQSFRLPGEAQKI DRYMLKFAERYVMGNPNAFAN DALRQFLQHFRLPGEAQKI DRFMLKFAERYVTQNPNAFAN DALRF DALRMFLQSFRLPGEAQKIDRFMLKFAARYLAGNPSSFAN DALRQFLQSFRLPGEAQKIDRFMLKFANRYVTGNPNAFAN DAMRVFLQAFRLPGEAQKIDRYMLKFAERYVSDNPSVFAN
QALRQFLWSFRLPGEAQKI DRMMEMFAQRYFDQNPADFKY DALRTFLQTFRLPGEAQKI DRFMLKFSERYDAGNPQSFAN
 QALRQFLWSFRLPGEAQKI DRMMETFATRYCLCNPGVFQS VAI RHFLAGFRLPGESQKI DRMMEKFAERFCYHNPGVFTS DALRQFLQAFREPGEAQK DRFMLKFANRYMLGNPKAFAN EALRFFLQAFRLPGEGQKI DRFMLKFAERYVHGNPGAFAN QALRQFLWSFRLPGEAQKI DRMMEAFATRYCDCNANVFQS
 SALRLFLEKFRLP DALRLFLQSRLPGEAQKI

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## A

SALRRKF L E GF R L L
A A L R H F L E GFRRLP

SALRRCFLER F RLL
SAL R QFLE GFRLLP GEAQK I

SALLRVF L E GFRRLPGEAQKI DRLMEKFASRYCECNQGIFAS



A A VR H F L E GFRRIPGES QK I DR LMQK FASRYFFENNP GVVFAS

SAL R Q F L Q C F RLLPGEA QKI D RFMLK FAEKYVVDNLGVFRN
DAMRDFLQAFRLPGEGQKI DRFMLKFSERYMEENEESFAT


D A LR K F QA Q $\square K V Q G E A Q R V E R L V E A F S$ QRYCLCNPRQFQN
S A L R Q F LQ G FR L P GE A Q K I D RL M EK FA S RYCECNPNNFAS


| E A | $L$ | $R$ | $K$ | $F$ | $L$ | $E$ | $G$ | $F$ | $R$ | $L$ | $P$ | $G$ | $E$ | $A$ | $Q$ | $K$ | $I$ | $D$ | $R$ | $L$ | $M$ | $E$ | $K$ | $F$ | $A$ | $Q$ | $R$ | $Y$ | $C$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

TAA I R R F L E G F R

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## QUERY

## UniRef90_S8C9E7

 UniRef90-N6TPQ0 UniRef90_Q4SN92 UniRef90-E9FUV7 UniRef90-IOZ911 UniRef90-M7XU66 UniRef90_Q4T285 UniRef90_UPI0003F4A5E6 UniRef90_R1E490 UniRef90-G7PY22 UniRet90_M2XYX3 UniRef90_Q01AF8 UniRef90-C5KDT5 UniRef90-K7U7E1 UniRef90-T1G2F2 UniRef90-D8QTL1 UniRef90-S8CXI2 UniRef90-U7Q2E2 UniRef90-E3KS20 UniRef90_E3QSI3 UniRef90-Q0CIX2 UniRef90-G2XDD4 UniRef90-G7EA71 UniRef90-M5E7B8 UniRef90_S3CX44 UniRef90_A0A024JA82 UniRef90_I2FVHOUniRef90-T1ELT5 UniRef90-UPI000440904F UniRef90-M3B7Q5 UniRef90-H2TON6 UniRef90-UPI0003ACA01F UniRef90_T0QID2 UniRef90_Q7SAX4 UniRef90_UPI000455DB3E UniRef90_S2JUl3 UniRef90_Q4RGG5
UniRef90- UPI0003D UniRef90-A8NXE0 UniRef90-U6P761 UniRef90_UPIO004418362 UniRef90_E5S7R3 UniRef90_UPI0004411D6D UniRef90_C1E9X0 UniRef90-V7D195
UniRef90 F117K8 UniRef90-F1L7K8
UniRef90 UniRef90-R0F3H1 UniRef90_UPIO003594986 UniRef90-H9J557 UniRef90-W4YVZ3 UniRef90_C4Y713
UniRef90-E5SR03 UniRef90-E5SR03
UniRef90-EOVGS6 UniRef90-F2UF98 UniRef90-S4RFX5 UniRef90-T1KC1 UniRef90_S8CDN2
UniRef90_L1J2N4 UniRef90-H2YA49 UniRef90-KOLOD1 UniRef90-UPIO002659589 UniRef90-A0A022XMU5 UniRef90-A9VOS6 UniRef90_B6K1P9 UniRef90-B6JXA1
UniRef90-IOYI10
UniRef90_T1J4F0 UniRef90-A8XWC0 UniRef90-B3S0X5 UniRef90_UPI0003D7059C UniRef90_H2MWLO UniRef90-A0A023EXI1 UniRef90-F4P8A3 UniRef90-A5DZV6 UniRef90_UPIO001FE26EC UniRef90_A7S350
UniRef90 F6UE33 UniRef90_F6UE33 UniRef90-G1XV76 UniRef90-T2M2M8 UniRef90-W2S6U8 UniRef90_F2UID5 UniRef90-G8YGV4 UniRef90-S9W5F8 UniRef90-S9PNE7
UniRef90_M5BJG5

## DED803



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DTCYVLS YSVIMLNTDLHNPNVRDKMGLERFVAMNRGTN DTAYILLASVI MLNTDAHNPMVREKMSAEDFISNNRGI <br> <br> \section*{\section*{\section*{| T |
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D D T C Y V L A D V A A $Y$ V $V$ L
T D T C Y V L ADTAYVLAYSI I M

 ADSAYVLSYSI I ML NTDQHNPQVKRKMTLEQFIVNNRGTN




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 A D T A F I L L S F S I I I M L L A D A A Y I LAA Y SVV M

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 $K$ D A Y V L A Y S I I M ADAAFVLSA

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$\begin{array}{llll}A & D & A & A \\ A & D & A & A \\ Y & L \\ A\end{array}$
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A DVP $V$ V $V$ G $Y$ SVI A D A A Y $V$ V L A A Y S
A D T A Y VLA Y S SVi
A D A A Y V L A Y S
A D T A Y V L A Y S
$\begin{array}{llllllllll}A & D & T & A & Y & V & L & A & Y & S \\ S & D & I & I \\ C & Y & V & V & S & F & S & L & I\end{array}$
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$\xrightarrow[M]{M}$

A D P A YVLA Y S
 UniRef90 J3PLW0 UniRef90-M5VSE7 UniRef90 A7SXN1 UniRef90_S4RQT9 UniRef90-T1PGD4
UniRef90 O6C820 UniRef90-Q6C820 UniRef90-D3BAQ3 UniRef90-H2L7D5 UniRef90-D8R6C8 UniRet90_A0A024UJ15 UniRef90-TOQ142 UniRef90-G5BS49 UniRef90-LOPEU6 UniRef90_B8P605 UniRef90-A9V3G5 UniRef90_UPIo0044138EC UniRef90-L8H7Q5 UniRef90 UPIOOO4621CAF UniRef90-K3х1M9 UniRef90-A0A059CVJ2 UniRef90 D8PVZ0 UniRef90-E4XWY3 UniRef90-G4TAR3 UniRef90-H3CF70 UniRef90-J5K0G8 UniRef90-V5IIA9 UniRef90-G4VQ77 UniRef90-T1H719 UniRef90_O54X30
UniRef90_MOXAZO UniRef90-E1FN96 UniRef90 W6UK96 UniRef90-G7X8H1
UniRef90 M2UA46 UniRef90-F2UAX7 UniRef90-UPIOOO455D1B3 UniRef90_G9NS21 UniRef90-I1G952 UniRef90_W4XG73 UniRef90-U9TJC9
UniRef90 F8P4T8 UniRef90-A0A016S7W0 UniRet90-K5VVQ9 UniRef90-E9GLH44 UniRef90-UPI0003F4928C UniRef90-U4KUF3 UniRef90-UP100015C3DC4 UniRef90_L8G957 UniRef90_UPIOOO4407298 UniRef90-UPIO003596B82 UniRef90-K71PP9 UniRet90_W4JV47 UniRef90-O86KG9 UniRef90-E3QQJ99 UniRef90-R1DC90 UniRef90-UPI0003C4BF1E UniRef90 G1 X0G8 UniRef90 D8LQ17 UniRef90_UPI000333F2AF UniRet90_E4X3Y0 UniRet90_G2XJU3 UniRef90-G1QXY8
UniRef90
F4PP68 UniRef90-W2SB70 UniRef90_H3E9J4
UniRef90_W7TR99
 a

METGUELARKPOKGVQFLQEKQLLGATCNDAAFLL QEEL
 RQYRVGLNDFNKKPERGDAYLISRGFLENSPRGVARFLI RELLQEVAETFNRDAVEGVRLAASKGLV KKLMDGVDHFNRDPQEGLEFLQELHLLPEDPGSVARFFR $K 11$ QGAKKFNEKPKAGGAK KKGQAKKFNEKPKAGLAFLVSQGLVDDNPHSIASFVK KELCIGRKKFNMDPVKG
KLLASGTEHNSRPSKG
KRYFLAAEKFHTEPKNWI AY SQQQQLL
KOYAVGKKFNDSVEKGEYDFQNNL NDAESVATFFH QRKFLDSTRLFNYNPKKGLKSLGDNGFISDSPRDIARFLL
 KLLQAGSEHFNNKPKKGTEFLQEHGLLHTDPEEMARLLR RLYRDGLNLENKKAEKGLQFLMERGFIPDTPYGVAQFLL ELEAGVKFNLKPKDGLAYLHSKGHLDSDPASVAAFLR NKKFFRGKKKFNMDPKGG KAVSGLCEKTPKDIAHFLL
 RVDAADRSFNVKPKSGI STAADLGVIDDDPSATAAFLR LFECDKKFNSKPQKGUEALYEHKFIKSSPNDIAAFLY KLLLTGTARFNAKPKTGI AFLEENKLIYTDPNELAKFLK RLLNRGUVIFNEKPNKG|AYYTEENYFEGTAHEVAEFLS RLILGVAAFNANPQKAIKAMIEAGQVEGSPESVAVFGY
 KLLLAGAAQFNRKPKAG:AFLEEHKLIVDKNKSLAMFRK
 KLLIAGTEQFNQKPKKG\|QFLQEKGLLPTDNNQI AQWLR KIIIKGTSMFNEKPKNGLGYLEAQGILNSDPKEVAAFLK RQYRVGLNLFNKRPEKGVRYLVDRGFLDACPRAVARFLV RQYRVGLNLFNKKPEKG| TYMMKKGFLDNTPQAVAKFLIV

VA AMRHYNRDEKKGVEFLGECCHLVPTPPESMAYFLR RQYRปALNFFNKKPTRGVQYL DEWGFVEDNSGA DANLLL KLIIHAAQKFNEDPKAGIAYLASHGLIEDDPALVARFLK
 KLVEDGAAKFNSKPKLGLAFFEENKLIMSDAQSLAKLLK KTIIIGTSKFNEKPKVGLSYMEANNVITDDPVSVAKFLK KLITAGTEQFNQKPSRGISFLMEQGVLQTDPVEVATFLH KLLNGGTEDFNQKPSKGI AFLQENGLLPNDPQAIAAFIK Q LNEGAAKFNENPKLGLRFLEEHGLIYNDNTSLASFLK HKVLTGAARFNSKPKVGLAFLEENKLIYADAHSLAVFLK KLVLTGVSRFNAKPKTG||EYFFEDNGLLSRQPSAVAQWLK KLLLAGAEQFNSKPAKGIQFLQENGLLADDPTQVAALLR KWLPTGTDHFNHKPKKGIQFLQEHGVLKSDPHEIALLFLK

LLTGAAMFNAKPKNGLAYLEKNG:IVPEPRAIAQFLR KVIIKGTNKFNENPKGGLAYLKEKGIIDTDPVCVATFLK KIIIKGTTKFNESPKAGIAYLTSQGII DDDPDSVATFLM RLVLTGASRFNTKPKVGLSFLEENGLIYADQKSLAKFLK KIYQUGTEQFNDKPSKGLQYLQEQGLLSKSPTEVVTFLKK RWLEGVKKFNLKPKRVRVFFGRRGLLSKAPQDVARFLL IILSGIQLDNEKPKKGIEYFFQHKLLEKTPPSVSEFLH K1I KGTSKFNENPKGGLAYLEAQGII ADDPAAVARFLK DQLEGANKFNENPKGGLAYLQEKGIEDDPTCVARFLQ QELLVAVRKFNLKKRDGVQYLQLRGFILSAEPGDVAAFLH QLVIAGTSKFNDSPKKGIAFLVQNGIGSDDHLSVAKFLK

 KIIVKGTTKFNETPKGGLAYYQAQGIDDDNVTSVARFLH RHYRIGLLNLIFNKKPEKGVQYLIIERGFJVPTPPAKAHELL



 SRR GL S R QMI GE Y L GNCQDFNRDVLDCVVDEMDFADLDE D

 STPGLSKAAI GEYLGEGDPEAIMIMHAFVDRMDFMGLGFV STM D L N L A T V G D F L G E G E D K N I E T M M H A F V
 GTTRLDKKVLGEFI SKKE
 RNERLDKAAVGEFLGEGDAENIAI MHAFVDLMDFGDRGFV K GE GL NKTAI GTYLGERDP【NLQVLQAFVDCHEFANLLLV
 HTPGLNKTSI GDYLGEDKPFHEAVRNAYVSMFDFRHAPLD K N D GLLNKVKI GEYLGEHKQNNDNVLKEYVALHDFENKTLD E T D M L D K A A L G E F L G D G D E K N V Y N S K L D K TEI GEFL GREPA TCPRLDKKLLGEYISR Y T P GLL D K T M I G D Y L G D P D E F H l K V L E E FT G T F G F A G M N L D ENPRLD K K TII GEYIGK K D N S KVVLDAFVRSFEFHDDRVD QRKGLSRQMIGDFLGNRQQFNRDVLDCVVEEMDFAGMDI D



 H T K G L D K D K I G E Y L G G D D A F S I S V

 SSARMDKRLLGBFLSRQENN EVVKAFMGLLDFGNKSVA
  NSARID KRLLGDFI SR PDNDDVLKE
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 SRKGLSRQMI GEYLGNQSQFNMAVLEFFAAELDLSGTAVD

 HRRGLSKQMI GEYI GHHSPFQSSVLSHFVDQDDLHGMEVD NESRLCRTAI GDFLGENEAF

 DNPSINKQMLGBYL GDRRNTEILVAAAFIKSFKFHSVSLV
 NCTRLLDKRLLGBYLSK PDNLELLKEFI GLFNFHDRPVA K GEGLSKTAI GE LL G S H D



GTSRI SKKVLGEFLSKK G
SCARLDKKL L GDYLSR PE

H $\square$ N GLSKSMI GEYL GEGDEENDA TMYTFVNMDDLQNMPFV

GTSRVSKKVLGEYLSKKG SEDVLEAYMSQFDFSEKRVD
GTSRINKKILGEFLSKKGNEPILDDAFMNRFDFTGKRVD
 GTSRVSKKQLGEYLTK K D NGPVLNAFLDLFDYKGKRLD ENDKLDKTQI GEYL GKE IHFCVVQVLHEYVDMMDFKGMRFD QRKGLSRQMIGEFLGNRQQFNRDVLDCVVDEMDFTAMELD



903C4BF1E
 $0333 F 2 A F$ 4X3Y0 Ref90_G2XJU3 UniRef90_G1QXY8 UniRef90-F4PP68 UniRef90_W2SB70 UniRef90_H3E9J4
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A

110
120
 A ALRLF LE TFRLPGESQKI QRVLEAFSDRYYEESPELFVN

 D A I R N F L Q K F R L P G E G Q K I D R FMLLK F A E R Y V D Q N P GVVF S K
TALRTFLETFRLP D A L R MF L E T F R L P EAL R QLL NT F RLLPGESQLI
$\qquad$


## E

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| UniRef90_G4T5R1 |  | T NEI RMKDE |
| :---: | :---: | :---: |
| UniRef90-Q29K69 | DSKDLPEEYLSSIYDE | SEHEIKMK |
| UniRef90-K3W665 | NGEDLPEEYMSGIFDR | K Q P I S LK ED |
| UniRef90-UPI00046B973F | D NKDLPEEYLSKI Y D D | A GHEIK |
| UniRef90-C3XTA2 | A G G DIPREILVGI Y ERI | SKTELKTGPD |
| UniRef90-M0VW36 | GGNDLPREFLSELYYS | C R |
| UniRef90-G6DEF0 | DCGDI DRDMLAGI Y D RV | KASEFRPGSD |
| UniRef90-M1V624 | D GADLPRELLT DI Y R S | Q A |
| UniRef90-U9TI81 | N N N L P D F L GEI F D E | A N E I VMEEE |
| UniRef90-C5DYN4 | NGNDLPKEFMVNLYNE | ANNEI KLLSE |
| UniRef90-S8EGF2 | GGNDLPRDYLSEIYHS | R R NEI STL P D |
| UniRef90-U6P6E9 | GGADFDPEMLMAMFNA | KSEEI V M P A |
| UniRef90-R1GQF7 |  | KTREI I LPEE |
| UniRef90-F4K2K3 | AGNDLPKEYLSELFQS | ATNAFALL |
| UniRef90-19XLK3 | D L Q DVPQEYLGGIY | ANNE IVLYSE |
| UniRef90-S7NNS1 | A GSDLPEDQL |  |
| UniRef90_L7M009 | GGNDFDKDMLEETY NA | K NEE\VMPAE |
| UniRef90_R0LE77 | NGADLPEELLKNLFES | K N EPFS ${ }^{\text {P P E D }}$ |
| UniRef90-W4FL37 | GGQDLPREYLELLYHN | QS NQDKMQT D |
| UniRef90-T2M6C3 | D G G Di PRENLEVLFNN | D |
| UniRef90-W1QBD5 | D GKDLDHSVLEQI Y T D | Q NDEIMLK S E |
| UniRef90-A0A024GKN5 | N G Q DLPEEYLGGI Y D R | K A LP I SLK E D |
| UniRef90-J3PLW0 | DGEDFSPEYLKAIFDS | RKREI VMPEE |
| UniRef90-M5VSE7 | GGKDLPREYLSELFQS | S N N |
| UniRef90-A7SXN1 | GGNDFPATMLEEIFTC | KNEEIVMPAE |
| UniRef90-S4RQT9 | D GKD $\mathrm{C}^{\text {P R E M L L S I Y D R }}$ | SKKELKTNED |
| UniRef90-T1PGD4 | G G $\square$ D Y D Q L L ATI Y N A | K N D 1 IMPAE |
| UniRef90-Q6C820 | E G G DLPPELL LEI FEE | QKNEIKLDSE |
| UniRef90-D8LFA1 | Q GKSLPDEFLGGVFD | D |
| UniRef90-D3BAQ3 | NGDDLP LEFMENLYDR | VTNE】KMERD |
| UniRef90-H2L7D5 | NGEDLPTELLQKLYNS |  |
| UniRef90-D8R6C8 | A E EHPPVDLLQELYGS | V |
| UniRef90-A0A024UJ15 | K NKDIPPAILESIYD | KKTPVETVRD |
| UniRef90-T0Q142 | NGEDLPAEYLGGIYDR | K S LP I S 1 K E D |
| UniRef90-G5BS49 | E G G D P E ELLRNLYE |  |
| UniRef90_LOPEU6 | DEESLSEKYLTEIYE | E |
| UniRef90_B8P605 | A GDDFSPEFLRNI Y D S | RKREII MPEE |
| UniRef90-A9V3G5 | EGKDDDRPLLEEIYA | AKTPFK1PPD |
| UniRef90-UPIOO04413 | D GVDFPVEFLRAI Y D S | RKREII MPE E |
| UniRef90-L8H7Q5 |  | VTNEI KMEHE |
| UniRef90-UPI0004621CAF | DGSDFAMDYLQNI Y D S | RKQEI VMPEE |
| UniRef90-K3X1M9 | G G NDLPREYLTELYQN | GNHQI QMQHD |
| UniRef90-A0A059CVJ2 | EGSDLPREYLSELFYS | S N N A |
| UniRef90-D8PVZ0 | D GQDFTEEYLRRIYEN | RKQEIVMSEE |
| UniRef90_E4XWY3 | G G NDLP S S QL G S YF K S | NKNPFKLPEE |
| UniRef90-G4TAR3 | D NSDFSPEFLKATYDS | K K R ${ }^{\text {I V V MPEE }}$ |
| UniRef90-H3CF70 | GNKDFDQDMLEDIYTA | K S E I V MPDE |
| UniRef90-J5K0G8 | DGKNFSPEYLSDIYDS | NSNEI I LPDE |
| UniRef90-V5IIA9 | EGHDLDRDMLAGI Y ER | K A HPFRPGSD |
| UniRef90-G4VQ77 | D S Q L P E S Y A Q ${ }^{\text {P }}$ | A N A G $\square \mathrm{K}$ LK A D |
| UniRef90-T1H719 | DCHDI DKE ILVGI Y DRV | KTNEFKPGSD |
| UniRef90-Q54X30 | GKKDLP ${ }^{\text {DE Y Y E S }}$ L Y D R | NCELKMDSD |
| UniRef90-M0XAZ0 | S GKDLPREYLSELFH | AVN A I T M |
| UniRef90-E1FN96 | A GY Di drat L VRI YRR | R D S PFSTGSD |
| UniRef90-W6UK96 | DSHDLPREYLGKI Y D E | A Q C G P M R S D |
| UniRef90-G7X8H1 | SGQDFAPEFLQEI Y D S |  |
| UniRef90-M2UA46 | DGKDFDADFLEKI Y ES | K R EI I LPEE |
| UniRef90-F2UAX7 | DKENFPRPFLERIFKNV | S S NEIVLPEE |
| UniRef90-UPI000455D1B3 | D N S F S PEFLQSIYD | RKREIVMPEE |
| UniRef90-G9NS21 | NGQDFSPEYLKDI Y E T | K SNEI I LPDE |
| UniRef90-11G952 | N NKDFPRELLTEI Y H S | RTTEI I LPP S |
| UniRef90-W4XG73 | GGNDFDQDMLGEIYNA | K NEEIVMPAE |
| UniRef90-U9TJC9 | NDKDFSPEYLNAIYDA | KKREI I MPEE |
| UniRef90_F8P4T8 | DGSDFSPEFLQNI YDS | RKREII MPEE |
| UniRef90-A0A016S7W0 | DAGSVNTA LIAQI F D S | R A E FQ ${ }^{\text {P P C E }}$ |
| UniRef90-K5VVQ9 | DGSDFSQE YL LDI Y E | RKREI IMPEE |
| UniRef90-E9GLH4 | GGQDFESTMLEEIYQA | RSEEIVMPAE |
| UniRef90-D6WW16 | GGNDFDEDMLDEIYNA | RTDEIVMPAE |
| UniRef90-UPI0003F4928C | DGKDFDPEYLAAIHES | KKREI I L P E E |
| UniRef90-U4KUF3 | GGKDFDPEYLRAI Y E | KHNEI I L PEE |
| UniRef90-UPI00015C3DC4 | GGKDFAPEYLQDI Y DA | K S E I I L PEE |
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| UniRef90-K7IPP9 | GGADFDQDMLDEI Y VAA | KSEEI I MPAE |
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| UniRef90-Q86KG9 | S GKDLPSEFLEDMFDR | LVDEIK |
| UniRef90-E3QQJ9 | DGKDFAPEYLQE\FDN | RTNEI I L P D E |
| UniRef90-G2Q306 | DGKDFPTDYLQDIFDT | RTNEI ILPDE |
| UniRef90-R1DC90 | SGADLPAELLSAVYDDI | Q T D |
| UniRef90-UPI0003C4BF1E | DGADIPRDLVVGI Y ERI | QQKELKSNED |
| UniRef90-G1X0G8 | GGKDFAPEFLESI FETI | RTNEI ILPEE |
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| UniRef90-UPI000333F2AF | EGGDLPEELLRNLYESI | KNEPFK】PED |
| UniRef90-E4X3Y0 | GDKDFDQDMLEAI FNNI | R D E l V A E E |
| UniRef90-G2XJU3 | DGGNFAPEYLQEIFDS | RNNEI I LPEE |
| UniRef90-G1QXY8 |  | RKRELKTNED |
| UniRef90-F4PP68 | DKKNFDESMLLGI Y DR | NAEPLKLMDD |
| UniRef90-W2SB70 | S GMDFAPEYLQEI Y D GI | NEI ILPPDE |
| UniRef90-H3E9J4 | NGRSMDKEMLCGIFDRI | D |
| UniRef90 W7TR99 |  |  |

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 KLLSHGDDEFNKKPKSGDDYDQEHGLLSANPQDLVVYLK KLIVQGATKFNEDPKAGVAYLASQGLYEDDPEDVARFLK RIITEATEFFNQDPKKGUEFLKEKKILKSDPVDVVSWLR G【KKSNHEPHC EMRSTEFLEKEPSEAAKRY LKTGVVKFNTKPSQGTKYLMENGFLNDDPTSIAEFLL $K \bigsqcup Y Y T G T E Q F N T K P D K G I T F L Q E Q G L L S D D P G E V V T F L K$ RTYRDGLNLFNKKPEKGI CYLDERHFLDNRPSAVARFLI
 K L $\qquad$
पYQTGTEQFNQKPSKGVSFLQEHELLS
AEEV

KLLMSGSDRFNLKQKDGIVFLQKNGLLSDDPVQiAAFLA RLYRDGLNLFNVNPDKGLQFLDSRGFIPDTPLGVAHFLL $K W V R Q G T E L F N Q K P E R G I Q F L Q E H G V L A T D P H E V A M F L R$ KELLCDGRKKFNMEPKKGUQYLQEQGMLGTTPEDIAQFLH
 QRK【IQGATKFNEDPKAG】AFFASKG\｜IEDNPKLIARFLK
$\square E A G \square A \square F N R N P G G \square A S \square M G S G T V E G T P A A V A A F R R$ AKRLAKRLY $K \prod V K G T G L F N E K P K D G G G L L E A Q G \prod T A D N P V E V A K F L K$ KEFIECTKLGNENPKKGLAMLNEKGFIKDDLDEVAHFLH
 R EEGKRKFKปSPKRGIEFFLK GGTERDAAKCAKFLR RRLLALAAQAFNSSPSKCVPTLQSLGLLSDTAKAFAHFCR LIMASEQFNAKPSKGINFLQEHKLVSDEGEVVNFIR促 RMYRIGLNKLNKDPEQGLSYYYERGLEERTPQSVASFLY
 SAERL RRYSTAAESFNRDCAKGMEVLRSYELLETAARDVAQFFK IIQGSVKFNEKPREGIKYLQNNGLLDKDPESVASFLK KSFIKCTEDFNESPKKGVAALAEKKFI SDDVHELAEFFF LEQGTYKFNQSSKRGVEFLTKQNIIKESPEDIAQFFK QRKFQHGLQEFNRKPKAGUKYLQQNTFLPTDSKSLAAFMR K\IIDGGSSKFNENPKAGLAFGKDHRICGQ

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UniRef90-U61302 UniRef90-U6I3Q2
UniRef90 W5KDX4 UniRef90-UPI00034F9027 UniRef90-UPIo0029DB7F2 UniRef90-UPIOOO3290959 UniRef90-S9PUK2 UniRef90_G3AXP4
UniRef90-J3K212
UniRef90_W5KCQ5
UniRef90-IOYKY3
UniRef90-UPIO0034F2D13
UniRef90-T4ZY 17
UniRef90 ${ }^{-}$W6MGX8
UniRef90-UPIO003EC4BFE
UniRef90-Q4SBR3
UniRef90-Q556T7
UniRef90_C5K824
UniRef90-Q6CM60
UniRef90-T1JZW9
UniRef90-AзM001
UniRef90_N1JDKO
UniRef90-F7CF33
UniRef90-H3F6U4
UniRef90-E4YIB4
UniRef90_B9WDB0
UniRef90-BOW2G3
UniRef90-UPIO0035AOFA1
UniRef90-LIIRL8
UniRef90-LOP9588
UniRef90-F0ZHI8
UniRef90-K3WAR7
UniRef90-A2F824
UniRef90_C1GUW0
UniRef90-K1R3P6
UniRef90_F6TUY9
UniRef90-C5FR43
UniRef90-H2AZD9
UniRef90-G8JND4
UniRef90-U6DRS6
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UniRef90-H2MBW6
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UniRef90-11BP97
UniRef90-F1A579
UniRef90-UPI0003C48D93
UniRef90-T1EMI5
UniRef90-UPIIOOO26599C9
UniRef90-GOVHI1
UniRef90-QOUQA3



VMAETAQALMEHISD
DGGD $\square \mathrm{DHKYQES} \| \mathrm{Y}$ GS $\square \mathrm{KNNEDK} \mathrm{\square KGD}$
DGGNFPKELLKALYWSIRSEKLEWAVD NGQDFPKDLLKALYNSI KNQKLQWTLD NGKDFPRWYLQKi Y $\square$ Sil KVKEI VMPE E

 DSRDLDPEEYLSAI YDEI ADN QTKMK


UniRef90 D3BIH4 UniRef90 ${ }^{-}$K1WXX3 UniRef90-UPIOO044224F5 UniRef90 K4E095 UniRef90 UPI0001A64070 UniRef90-IIFTP0 UniRef90-C5KK92 UniRef90_D8TLF1 UniRef90 Q6FQV9 UniRef90-L1IEB4 UniRef90-UPIO003596DE3 niRe990 UPI00034FFBFA UniRef90 ${ }^{-}$W4XJ3
UniRef90-A4VE41 UniRef90 G8BPY7 UniRef90- UPIO0034FFA92 UniRef90-ToS7V4 UniRef90-T1KGE2 UniRef90 UPIO00350E84E UniRef90-U6HVD9 UniRef90-V4A281 UniRef90-EOVI67 UniRet90-C4QYF9 UniRef90-FOW2F2 UniRef90 ${ }^{-}$FOXZH6 UniRef90-G5B9N3 UniRef90-B4H849 UniRef90-GoWDG UniRef90 M4BIF UniRef90-L8WTF8 UniRef90-F4QE23 UPI00034FFCEF UniRef90 Q5CLE2 UniRef90-B7GEP6 UniRef90_M3ЈСН0 UniRe90-E9H3M1
UniRef90-UP10003AE6F87 UniRef90-S9YEE1 UniRef90- 91309 UniRef90-FoW8P4 UniRef90-Tos803 UniRef90_Q15795 UniRef90 J7S250 UniRef90- UPI0002A482B3 UniRef90-W7U6C9 UniRef90_UPI0000221F8A UniRef90 ${ }^{-}$FOVB25 UniRef90-UPIO00185D71F UniRef90 E1FP95 UniRef90 B7FTA4 UniRef90 ${ }^{-}$W5BAZ3 UniRef90-D3B5W1 UniRef90 Q9NJQ4 UniRef90 U1M7X4 UniRef90-E7EXV5 UniRef90_U6GEN6 UniRet90 s9YCW8 UniRef90-s9VYF6 UniRef90-H3CUFC UniRef90 A41A28 UniRef90 R7VD12 UniRef90-B6DTH6 UniRef90-Q4S2P2 UniRet90-W2SWQ UniRef90 R7QLD3 UniRef90-J7SB16 UniRef90 B9FIU1 UniRef90 13 JJ 35 UniRef90 ${ }^{-}$Q24126 UniRef90-W5Q127 UniRef90 R70FS6 UniRef90 GOV7F3 UniRef90-B6AD16 UniRef90-T1EJ17 UniRef90 A2DUZ UniRef90 ${ }^{-L 5 L B X s}$ UniRef90_UPI0001D5E8A5 UniRef90-12HOS2 UniRef90 FoYNK5 UniRef90-K1WJ33 UniRef90_Q22E49 UniRef90 E9E988 UniRef90-F2UHJ8 UniRef90-FFWII2 UniRef90 A0D6X2 UniRef90-E3RJB5 UniRef90-B6Q971 UniRef90 K3WHI UniRef90_UPI0004625CAB UniRef90-B4DYN7 20 30 Ki EEAKLKFKSSPKKGVIDQFVINLGVVERNDVQLAKFFR K VITGAGKFNESPKAGLAYLHAQGIIDDDAQQUATFGK KAFDAVVDKFNSDHAAATAMA号NDHLLSSAAPEAVARFL RRLAFGCKEFNRNQKQGLEYLFDNNII GRSPEDVAKFFI RKKNDGTNDFNRKPVKGI QYLVYHGVLKDDPSDVANYMK K ITDAGVLRFNNSAKDGl KYLVSAGVLDDDPAEVAEFLA
 EFLSQFKDNPKKAVKRLIDDGRLE

E A AKRLAKRLY


 RGMEDATKSF KKALEY L $\square$ AMGLIKE REYRVGLNLFNKNPERG』QYLFD Ki DKALRVA CQGVSE RLYRVCLINYFNKSPVKGMDMLIRF

CTKTFDKSFKEGLKTLQEKGFVDD
CTKTFDKSFKEGLKTLQEKGFVDDDLDELAKKRLY




G I Q E F NRKPLAGIKYLQQNGFLPDDSKSFAMFLR




 VERA ILLFNEKPKKGПDFLVKQKFПDYDAQ\|IAEFLL


NRKF $\square$ DC $\square$ EKFNENSKEG $\square E L L I E N K F D P H N N E E D A K F L F$
$K K A V Q Y$ FV
RKLTSRKPERGVQLLTAWGFVKSSPDSLASLLF
UVEHGTLLFNRSPMTGVRFLQQQNDLDDDSAVAAFLL
 R LIMRKAARDFNHKASRGIEFLLDAGLVADTPMSVATFLR
$N \square L L E Q G K Q K F S S H P K K G \square E F D T Q C G L L K E T P T D D A E F L R$ EMNKAVQKFNFKPEHCVKHLDAVQYMENDPKLFAQFLW LA K R L Y DAAKRLAKRLF
VDKAVLLFNKEGHAALQLLGERKLIEADPAAVARFLY $R R Y R \square G L N L F N M N P D K G L Q F L I D R G F I P D T P \square G V A H F L L$

AKRTAEFLK CEVDGEKVRGLA QRL | R |
| ---: | :--- |

S A A R LA KRLF A QRVAVLWY A R R L A K RLLY
$S R \square E K \bigvee G \square R K$
$K P E R G V Q L L T A W R F V D D S$
EF TKCCEKFNKKPKEG $\square$ SMLISKGF DS DAED DA DF LIF VA $\square$ A ANHYNRDEKKGMEYLRLSQLVPTPPESMAFFLR AKRLAKRLY
 KLQHAAKVFNSSEKRLLAMLKEHGLLEADVQSIVRFLR LFIDKCAKAFNKKAKVGLEMFVENQFI KDNDLDISQFLF RLEKGSQFFNNNSSRCUEDLQGLDLLPMTAKDMALFCR SAKRLAKRLY MEGCAA $\square$ FNKS $\square$ KQG $\square$ QS $L I Q S E L V E D D \backslash Y K I G V F L R$



 ESPAKYLIA ARETAHSMY

NRKLYHAAKLFNDKPKKGLQYLLDNEMLPSPPQSVAAFLR QEIQK GVDLFKKNPEKGVSFLIDKANILQDDPASIARBLI

E EDDTSATYLTK
RHYR $\square \mathrm{G} \square \mathrm{N} \square \mathrm{F}$ N NEGAK S
M N F
H K K D S S P R

|  |  |
| :---: | :---: |
| UniRef90_K1WXX3 |  |
| UniRef90-UPI00044224F5 | DGFGKSQVAAFLQKNNAFSQRVAEAYLS |
| UniRef90-K41 | KELDPVGVGEYLGKD |
| UniRef90-UPI0001A64070 | QNHNLSKHAVGTY |
| UniRef90-11FT | DQYGLSKERIGEFVGERYDFNMLVLECLLVQLIDLSSGKSIDD |
| C5 | T ${ }^{\text {c }}$ |
| UniRet90_O6FQV9 | NNSRLNKKTLGLYLCD |
| UniRef90-L1IEB4 | YTDGLDDTAVGDYIGDGDELCGKVLHHYVGTFNFTGLGFD |
| UniRe | HDDRFKRSDVAKHLGKNNEFSRLVA |
| UniRef90-UPIOOO34FFBFA | KLDGFERSQVAPYLQKNNEFSAKVAEEYLSFFDFTG |
| UniRef90-W4メJ31 |  |
| UniRef90 G8BPY7 | NNTRMNKKTGLLLSD PDKKSLLNYFIGL |
| UniRef90-UPIOOO34F | HDDGFKKSDVSRHLSKNNEFSRAVAEEYVKH |
| UniRef90-ToS7V4 | FFDESDI GDYLGEDEEFKLHVRLTYARA |
|  | KQMIGEYLGDQSPF |
|  | HLEGFQRCDVARQLGKNNEFSRLVAGEYLSFFDFSGLTL D |
| UniRef90-U6H |  |
|  | S |
|  | GFKKSDVS |
|  |  |
| UniRef90 G8C1L8 UniRef90-FOW2F2 | RVNKKQ\|GLLLCCD PKRTGGLNEFIKLFNFEN |
| UniRef90-FoX | AADKTVVGDYLGKEEAFCVKVLHEYVDAMDFTGLEFD |
| UniRef90-G5B |  |
| 促 |  |
| UniRef90-GowD | SRMNKRT G ${ }^{\text {a }}$ CN |
| UniRe990 L8WTF8 | (RLSKKVLGEYISHLDNP ELLKKF |
| UniRef90-F4QE23 | TCPLLNKRStGDYLGESDPFSDS |
| UniRef90-UPIO | D |
| UniRef90 ${ }^{\text {B7GE }}$ | TAPGLDKSQVGIVFLSKEYPFHAEVRASFASLYDFADLPFA |
| UniRet90-M3JCH0 | SKSGLNKKVLGEFLAK PTNSELFGYFTDLFDFTDLRVD |
|  |  |
|  |  |
|  | RLDGFRKADVARHLGKNNDFSKLVAGEYLKFFVFTGMTLD |
| UniRet90-J913 | PGIDKKMVGDYLGDTVSFHQDVLKQYVASFDF |
|  | K N G G Y G M |
| UniF |  |
| UniRef90-J7S250 | ANNGMNKKQLGLLICK PTNVSLLDKFMSNFDFRGLKID |
| P10002 |  |
|  | DPEAI GDYLGEG |
| UniRef90-UP10000221F8A |  |
| UniRef90-UPIO001851 | ETPGLDKRKVGLLLGDASPFNTSMLRAFSSGFDVRGVSMD |
| UniF | FGISVAEEYCALFNFSGIRLD |
| UniRef90-B7FTA4 | DVL |
| UniRef90-W5BAZ3 UniRef90 D3B5W1 |  |
|  |  |
| UniRef90-U1M7 |  |
| UniRef90-E7EXV5 | NLDGFRKCDVARHLSKNNDFSRMVAEEYCLHYFNFTAMTLD |
|  | GLDKKKVGEVLGDCSSFSLLVQSFASLICDYRGLS D |
| UniRe |  |
|  | R |
|  | M |
| UniRef90-R7VD12 | SDVTKHLSKKNEFAQLVGEEYLSFFDYSTRPLD |
|  |  |
| UniRef90-Q4S2P2 |  |
| $\begin{aligned} & \text { Uni } \\ & \text { Uni } \end{aligned}$ | GLEVD |
|  | D |
|  | DKNKIGELLGDPEEQSLRVLKEFTETFDFTGVILD |
| UniRef90-13JJ35 | NLEGFRKSDVARQLSKNNEFSQMVAEEYLTNFDFTGLT |
| Q24126 |  |
| UniR | GLNKQRIGVVIGEPDALSRSVLADYTATFQFMGRPFT |
| UniRef90-GOV7F3 | GLNKKVIGLLLCD PSRSSLLKSFMNL |
|  | DPQILGEYISKNKD |
|  | NKTDVAKHLGKKDSFSNLVGQEYLKNFDFRSQKLD |
| UniRef90-A2DUZ2 | YI VK PENQKALEGFUSTFNFQKVTLD |
|  |  |
| P1000 | FQRCDVARQL GKNNEFSRLVAGEYLSFFDFSGLTLD |
| $2 \mathrm{Hos2}$ | LLKKMIGLLVLCD PNNTEJLLEKFNDLIFDFRSLRVD |
| UniRef90 FOYNK5 |  |
|  | N |
| UniRef90-E9E988 | SRGVI ASALSKGDPFSVAVLRSYMRSFSFFGDPMD |
|  | EGRGUNKDEARVGAESKYR ${ }^{\text {a }}$ |
| OQZA8 | QTVL |
| AOD |  |
|  |  |
|  | LQESVPKGSI GTILSKYDDFYKVALRKFMRTFAFFGEPI D |
| UniRef90-K3WH11 | DSFDEAEIGDYLGEGDEFKVQVRLSYVRALSFKGMTLV |
|  |  |




| UniRef90 D3BIH4 | DKKNFDEQY\|L $\mathrm{L} G\\|\|Y D R \\| S G Q R\| L\|L\| K D D$ |
| :---: | :---: |
| UniRef90-K1WXX3 | GGDNFEPTYI QSI Y D Sil Kan lill P D E |
| UniRef90_UPI00044224F5 | DGKDFSKELLK A L Y N Si R HEKLEWA T D |
| UniRef90_K4E095 | D GK DLP R S L L E GVY YRI TAREI V |
| UniRef90-UPI0001A64070 | EETNLSEDLVRK\\|YRAlK T E P L R PV D |
| UniRef90_I1FTP0 |  |
| UniRef90-C5KK92 | S P GCTAEE LGQMYDRIVAKEF |
| UniRef90-D8TLF1 | A GT DFDGVFLEE\FTSIVKTPLRDSE |
| UniRef90_Q6FQV9 | NSKDFPFWYLDRI Y C S I R D K E I VMPEE |
| UniRef90_L1IEB4 | DGHDLP Q E F L EI H D R |
| UniRef90_UPI000359 | T GLEYKQDFLK AL Y N S I K NEKLE WAVD |
| UniRef90_UPI00034FFBFA | D GVSFSR DILKALYNSI R NVKLEWA |
| UniRef90_W4XJ31 | D SKDLP T D Y L S DVY C ( I A G N E |
| UniRef90-A4VE41 | RNA V S K EFLEQLY D NiVKEKFETKVD |
| UniRef90-G8BPY7 | N S K D P H WY L D K I Y C Si R D K I DMPEE |
| UniRef90_UPI00034FFA92 | D G D NFPRDTLK HLYHAI R S Q P Q WA LD |
| UniRef90-T0S7V4 | NGNDVPK A LL L EDI Y D DI Q S T P I Q L K |
| UniRef90_T1KGE2 | K S NLTEDFLDGI Y ERI K Q A EMK T G HD |
| UniRef90-UPI000350E84E |  |
| UniRef90-U6HVD9 | DGEDLD R NLLLA I F D R M A A GEMLVAPD |
| UniRef90_V4A281 | DGENFPKDILKTVFNSIKGEQLEWA |
| UniRef90-E0VI67 | EGENFPRDILKKALYQAI K N Y P L EWALDD |
| UniRef90_C4QYF9 | NGKDFPA WYıI E K I Y Y Al K E R EFVMMPEE |
| UniRef90_G8C1L8 | N S Q F P H WY L D K I Y C Si R |
| UniRef90-F0W2F2 | NGRDFPRRFL E EII Y D El L L Q P I K I |
| UniRef90-F0XZH6 | NGADLD GAFLDEIIFDRI KLAAPI TLLA E D |
| UniRef90_G5B9N3 |  |
| UniRef90_B4H849 |  |
| UniRef90_G0WDG1 | NEKDFP H WY LD K I Y C S $\$ R D K E V VMPEE  \hline UniRef90-M4BIF1 & HGLDLPEDFLAELYNAI A T E EI R R F E D  \hline UniRef90_L8WTF8 & D NTDFDPEYLQAI Y D S L R R R I VMPEE  \hline UniRef90-F4QE23 & NGKDFPTEFI E D L Y D R I F A DEI K M  \hline UniRef90-UPI00034FFCEF &   \hline UniRef90_Q5CLE2 &   \hline UniRef90-B7GEP6 &   \hline UniRef90-M3JCH0 & NGKDFPEWYLA KI Y S Sil K D REI IMMPEE  \hline UniRef90-E9H3M8 & DGGNFPVDLLRRRLYTAI K D Q P L EWA S D  \hline UniRef90_UPI0003AE6F87 &   \hline UniRef90_S9YEE1 & E G G F P R E L L K  \hline UniRef90_J91309 & P NFPDSKLEEMFDRIMQN  \hline UniRef90-F0W8P4 & EEQDLP SEFLTY L Y LAI A T NETQ T M D  \hline UniRef90-T0S803 & GASPLPEEYLTSI Y HAI R T R P L R T CDD  \hline UniRef90_Q15795 &   \hline UniRef90_J7S250 &   \hline UniRef90_UPI0002A482B3 & EGGNFNKDLLK S FYNSI K N E P L EWA  \hline UniRef90-W7U6C9 & ESPDLT REYLSEDYESI SHHPI EMN  \hline UniRef90-UPI0000221F8A & K GEDI D R K T L E Gl Y D R I K K D ELK A G D D  \hline UniRef90-FOVB25 & A G $\square$ AL P ENEL GEMYARI L L K E |
| UniRef90-UPI000185D | GATNLDMKTLDA |
| UniRef90_E1FP95 | TEHVFDCSLLLK TLYVAI K E Q P I K WVG D |
| UniRef90-B7FTA4 | K GKEFPSEFLEGI Y HS I NDEEI R |
| UniRef90_W5BAZ3 | EEECAPKELLEELYDSI DNEEI K M K D D |
| UniRef90-D3B5W1 |  |
| UniRef90-Q9NJQ4 | DGENLP QEMLQGFY LRI QKTPLA |
| UniRef90_U1M7X4 | TEHNFDRTLLK T L Y G S IKE Q P I K WA E E |
| UniRef90-E7EXV5 | S G Y D FP K D L K K |
| UniRef90-U6GEN6 | G G A QLP D NVVDCMY D R V V V H EFRL |
| UniRef90-S9YCW8 | D GA DI PRELVVG\YERI QQKELRSNED |
| UniRef90_S9VYF6 | EGNDLDMNLLKGI Y D R I T K R El V |
| UniRef90-H3CUF0 |  |
| UniRef90-A4IA28 | EGND DD P S I L G Gl Y D RI S GEEIVL |
| UniRef90-R7VD12 | DGSDFPKEVLQQVYQAI K D A P L E |
| UniRef90_B6DTH6 | D GKDLD SELLLSSUYDRIT S K E IL L |
| UniRef90-Q4S2P2 | D G H D FPKDLL K |
| UniRef90-W2SWQ7 | EGVNID R A CLQ G I Y ERVRAEE\RPGDD |
| UniRef90-R7QLD3 | D G G DLD P K F L S GLYNRIT T TEI K L V D |
| UniRef90_J7SB16 | K SHDFPREYLWKI Y CSI R D K El VMPEE |
| UniRef90-B9FIU1 | A G K DLPREYL SELFHSIS GNA |
| UniRef90-13JJ35 | A G S R I P L Y S L Q T L Y S Silk |
| UniRef90-Q24I26 | EGEHFETDYLTELYRSI QKEPLALDHE |
| UniRef90-W5Q127 | DGGNFPKELLKKALYWSI R S EKLEWAVD |
| UniRef90_R7QFS6 | D GEDLP K WFL A DI Y R S I A AVEI R M S DE |
| UniRef90_G0V7F3 | ETHDFPRHYI QKI Y T S I R D KEl VMPEE |
| UniRef90-B6AD16 |  |
| UniRef90-T1EJ17 | D GMDFPRELLLKQVYTSVCKNPFE |
| UniRef90-A2DUZ2 | F A R EVP L S DL N D I Y E R V K N K P L K M K |
| UniRef90_L5LBX5 |  |
| UniRef90_UPI0001D5E8A5 | GADTWAEDRDETLY N S I K NEKLEWAld |
| UniRef90-I2H0S2 | NGSDFPVWY LQ RI Y S Sile |
| UniRef90-F0YNK5 | DGDDLPHDFLWSLYQAI K D A P |
| UniRef90-K1WJ33 | E GI F D E IL ECFY D NI S Y T P FIDHVED |
| UniRef90-Q22E49 | D GNDLPEQ MVVNMYNDVKKNP |
| UniRef90-E9E988 | EGIF D DIL ECFYDNI S Y T P Fill Ve d |
| UniRef90-F2UHJ8 | DGADFPRQLLQQD\Y NSIK K E Q L V |
| UniRef90-F6WI12 | DGED\PREML DGI Y ERI R K RELKTNED |
| UniRef90-K0QZA8 | K ED DLPPEYLEEGI Y S AI KENQI R |
| UniRef90-A0D6X2 | DGEDLPSEYLTVTYHSIQKNPLAVRE |
| UniRef90_E3RJB5 | CEGVSPDVLGCFYDNIVYTPFIHIED |
| UniRef90-B6Q971 | D GV S E ElL ECFYENI SY T P Fil HVE D |
| UniRef90_K3WHI1 |  |
| UniRef90_UPI0004625CAB | D GEDIPREMLDGI Y E R I R K RELKK T E D |
|  |  |

UniRef90 W4X5Q7 UniRef90 ${ }^{-}$X6MTS5 UniRef90-UPIOOO21A4304 UniRef90-W5NV23 UniRef90 G3JDB5 UniRef90_UPIO0029DA5F6 UniRef90-C5FPR5 UniRef90 ${ }^{-}$A0A024TFG5 UniRef90 06 CCN 3 UniRef90-W6PTH9 UniRef90-F9X5P7 UniRef90 C3Y059 UniRef90-G30881 UniRef90-K4E3C2 UniRef90 ЕЗКМАЗ UniRef90- G2X311 UniRef90-M9LV11 UniRef90-UPI0004412C20 UniRef90 G4T821 UniRef90-A41A03 UniRef90-H8NJ92 UniRef90 W6K161 UniRef90 W4GAL9 UniRef90-Q5CQZ7 UniRef90-A2EX17 UniRef90 X8JQ67 UniRef90-K8EXJ9 UniRef90-K2S2M1 UniRef90 S8EJ45 UniRef90 UPI000440FC4B UniRef90-C5G6V0 UniRef90-A2EDW6 UniRef90 D3BTUO UniRef90 G3 ${ }^{\circ}$ UniRef90-K7FL71 UniRef90-A0A015MAF4 UniRef90 UPIOOO440A805 UniRef90-F4QDK1 UniRef90-V8PB43 UniRef90 X6NZJ8 UniRef90 W2RSTO UniRef90-W4YKP7 UniRef90 BoCQL6 UniRef90 T1FSV2 UniRef90-G2QTUO UniRef90-A8Y3J5 UniRef90 UPIo003C1017D UniRef90-K0RXB3 UniRef90-L8GFG5 UniRef90-UPI0002C3D925 UniRef90 V4WHLO UniRef90-UPIO002C3E701 UniRef90-A0A015LDQ4 UniRef90 G3N8V5 UniRef90_K7H678 UniRef90-G5EET6 UniRef90-W2SQW8 UniRef90 V2Z316 UniRef90 ${ }^{-}$GOTUA UniRef90-A0A024UF20 UniRef90 K5X783 UniRef90 A0A058Z456 UniRef90-K4E3Z2 UniRef90-17MD08 UniRef90 T1GMJ1 UniRef90-UPI0004413CE1 UniRef90-W6UD84 UniRef90 D8LRA5 UniRef90 B6JZG5 UniRef90-K2GS54 UniRef90-W5KTC9 UniRef90 S9Q006 UniRef90 S9Q005 UniRef90-S9VEC7 UniRef90-D8TK76 UniRef90 W9YSA7 UniRef90_U6PY88 UniRef90-Q22BX7 UniRef90 W6KWH4


40 Q Q H L H N A A A K F N $\square \mathrm{D}$ P K E GLLK NK Q $\square$ AMGRKKFNMDPKKG $\square$ QF LIENDLLQSSPEDVAQFLY

PF TP K P R TDEE T PES YMERL
 $\square K L F N D K Q K S G L T R I D K K W C A D N N K D E E T A A K F F Y$

 KGKGKG GDPE DFLRR K S VE $\square$ A VK K F N K T P T M A VLR E H A P S N S VVS A S DAA K F L R R

 EAAKRLAKRLY SETPKQYLERMQ
 $R R L K L A A N H F N S K G H H A F E Y Q Q Q \square G T \| Q Q S A Q N D S E F F H$ PREEVPELVYPKRDEDTPASY LEK

K DE $\square E M M A E K M F$ QK IVVNGRKKFNQDPWKALDWLASRNVVADTPAKYLERVLD KAGI QFLIENELLKNTCEDIA QF LY KKGLDYLVACKTLTPTPKHVSTFLR HHRRGCELFNQN LGGUDLVEHRVLRAEPQAIADFLS AKADQLFNERPNDGI AFMVSHKLCEEDPKSVALYLS MEAAI SEFNRKPVKGVEYLISNKLVDNDPTSVAQFLR $K \square V T D G L A E F E K S P K K G U A F F I E K E M C T N T A S S U V T F L H$

> EREAA Q

HK L I F T GKKKFNQDPMRGDEY TTDRGLLSREAAAQVARWLY PKPSID I PKPQIDEESPEGYLNRLR QLMEFVS LFRSDAKHGI PFLLQNALLEDPAREVGACLQ LLRRGlAKFNMHAVDGlQFCMDHGVLDGSPDSVASFLG $R R L L A A V G V L N R S Q S R G L A A L T R P S Y V S E D P R G A E R S$ KLLMEFASLVRRNAKEGAIPFLDFGSGVADTPAFVACEYY K QMQLGRKKFNMDPKKGIE YLVINNLLKMNAKDIALFLY

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

DDTA ESYASKKLR


E A A K RLLAKRLY
 NSYPTRGSEGS 1 DKPLDDETAESY

## UniRef90 W4X5Q7

UniRef90-X6MTS5 UniRef90-UPlooo21A4304 UniRet90_W5NV23 UniRef90-G3JDB5 UniRef90 UPIOOO29DA5F6 UniRef90-C5FPR5 UniRef90-A0A024TFG5 UniRef90-Q6CCN3 UniRef90-W6PTH9 UniRef90-F9X5P7 UniRef90-C3Y059
UniRef90-G30881 UniRef90-K4E3C2 UniRef90-ЕЗКМАЗ UniRef90-G2X311 UniRef90-M9LV11 UniRef90_UPI0004412C20 UniRef90-G4T821 UniRef90-A4IA03
UniRef90-H8NJ92 UniRef90-W6K161 UniRef90 W4GAL9 UniRef90-Q5CQZ7
UniRet90 A2EX17 UniRef90 ${ }^{-}$X8JQ67 UniRef90-K8EXJ9 UniRef90-K2S2M1 UniRef90-S8EJ45 UniRef90-UPIO00440FC4B UniRef90-C5G6VO UniRef90-A2EDW6 UniRef90-D3BTUO UniRef90_G3H7U4 UniRef90-K7FL71 UniRef90-A0A015MAF4 UniRef90 UPIOOO440A805 UniRef90-F4QDK1 UniRet90-V8PB43 UniRef90- $\times 6$ NZJ8 UniRef90-W2RSTO UniRef90-W4YKP7 UniRef90-BOCQL6 UniRef90-T1FSV2 UniRef90-G2QTUO UniRef90-A8Y3J5 UniRef90-UPI0003C1017D UniRet90-KORXB3 UniRef90-L8GFG5 UniRef90-UPI0002C3D925 UniRef90-V4WHLO UniRef90-UPI0002C3E701 UniRef90-A0A015LDQ4
UniRef90-G3N8V5 UniRef90-K7H678 UniRef90-G5EET6
UniRef90 W2SOW8 UniRef90-V2Z316 UniRef90-GOTUA1 UniRef90-A0A024UF20 UniRef90 K5X783 UniRef90 A0A058Z456 UniRef90-K4E3Z2 UniRef90-17MDO8 UniRef90-T1GMJ1 UniRef90-UPIIOOO4413CE1 UniRef90-W6UD84 UniRef90-D8LRA5 UniRef90_BGJZG5 UniRef90_K2GS54 UniRef90-S90006 UniRef90-S9Q00Q5 UniRef90-S9VEC7 UniRef90-W9YSA7 UniRet90_U6PY88 UniRef90-O22BX7 UniRet90_UPIOOO3597958 UniRef90-O13817 UniRef90-G5CAH2 UniRef90_S2K7D8 UniRef90-K3X252 UniRef90-A0A023GKM0 UniRef90_UPIOOO329816C UniRet90-G3IEUO UniRef90-R7V3T3 UniRef90-B6K3Q5 UniRef90_3LAZ5
UniRef90_A8N1X

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LESNVHRGATATILSQSDEFYSVALRKYMRGFSFFGDPMD SLPGMDKTVVGQVLGDTVEFHAQLRVAYVETFNFDGMPLV QLNMHGQTAALGLCSRDSDFYRECMADYSSEFDFTTDP1 D LEETLPRGMIAGVLAQDEEFYKVCLRKHMRTFSYFGDPLD NLDGFKKSDVARHLSKKNEFNRLVAQEYLAHFDFSGHQLD QRKGLSRQMIGEFLGNKKPFNRDVLDCVVDEMDFSGMELD KEDYUDKLVLGEYFAKSFPQRRMIFVKWIDEHSFAGMTLD SEALLSRGVASALSRTDPFFATVLRSYMRRFSFFGDPMD
LEAVSKAEVASVLSKGDEFHVKALKAY DQRFTFTHDP DD CTKLLNKRVLGDYGGEQVRFFEEQLDGFIHQFEFHNKPLL EEKNLNLEFVGDYLGTDGVDNQKVLESFTKKFDFKDKDYL ALPGMDKNTVGQVLGDSLEFRAQLRQAYVETFELHQMPLV YSQKVNVTTLGEYLSKNKEWNSQVRVAYLSTFSFNKKSII
VCDGVTPNNIGEFFALKNDFAIDETKKYYDLIKKFETMDFD VCDGVTPNNIGEFFALKNDFADETLKYYLDCFKFETMDFD SAPGVDPSALGHLLGSSDADGVAVIRAYDENFDFTNEYVD LTEAVSKGEUATVLSSADPFHAKALRAYDEQFNFRGDPLD DEGAVRRSTVASGLSQSEEFYATABRKYMRGFSFFGDPDD NTEKLDKVSUGAYGSESPKNTQALERYTDVFDFSGYEVD MIGEFLGNRQQFNRDVLDCVVDEMDFSSMDLD NDDGEKKADVARHLGKNNEFSKMVAGEYLKFFVFTGMSLD LTKAVTKADIADVATNGDFHAQCLRDY DGRFDFANDPLD QEDGLDKKKIGELLGG

HPYEYSCFLPSPNLLPQS LVCVVDEMDFSGMELD SNPYLDKTQQGLFLGSEKKFHQEVLQYYTQKFDFRNMSID LEAAVQRGSMATILCKSDEFSRTCLRKYMRGFSYFGESID D VSKAEMAAWLASSADFHVQTDRAY贝KQFEFHNDPLD GVDGISKEEVALLKI NKPTQLSKRLARAYLQHFDFSSKNID GV VSRSMVAAALSKTEPFAQSVLRSYMRGFRFFGDPMD A GEGLSKSAI
KGEGLNKTAGGDYLGERDDFNTQVLHAFVELHEFTDLNLV VNQSI DQAVLGDYLGEDKDYWNLLRFHYVRATSFVGLNLE KTPGLYKKSI GWTLGRRMDFYSSVAQDYMSGDDFHDLTVD NNEALDKTSLGKYLTGNKEFQKNVFKEFVGAUTFTGLSVD NAANLDKAMIGDYLGQHEEFPVAVMHAYVDSMKFSGMKFD QLSGLDRKAFGDYLGGTDPGNQECLKELLKKLDFSKLSID LRDTLSKSELATLLTKSKDFHETVLRTYMETFDFTSDP QGEGLSKSADGETLGDNRPFALETLDGFTREHRLHNVPVV ELKNCTSTQVADRLNEQNEFSFLILVKYGELFQFSTTMID L

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 YLEGFKRCDVARHLGKNNDFSQMVASEYMSLFDFTGLSLD LRATVPYSCMIPVLAERNEVLSEALHLCLCGMDFSCRPLD LQAFVPARF PGLLSQSNSSMK MALRRYLSDLP LKEDALD RLTWVDKRVLGNY GELGKFFTEQLIGYMEEFDFKGKSLI
 RLEGCTKADVAERLNDRSEFSAMVTTKYLELFVFTSDRID VYSDTNQKHMDEGLGGTEKFHNKCLIEYLKLFNFSQUSUL TTKRGWPNKKLEFLQRRQDTGNGLERLVQLQNFQNQFLP
 NEDEVVKERMAEWL GQGKPFENAVLHQYMQFFVFTEMRLD HTPHMDPKMVGRVLGEPDDVSLSVLQEYANGFVFKDYSFD

## NTKRLNSRQTRपY

NLEGFRKSDVARQLSKNNEFSQMVAEEYLTNFDFTGLTV D
RYHVRLT SAEGNDFSRAVAEAYLSFFHFEGQSLD

UniRef90 W4X5Q7 UniRef90-X6MTS5 UniRef90-UPIOOO21A4304 UniRef90-W5NV23 UniRef90-G3JDB5 UniRef90-UPIIOOO29DA5F6 UniRef90-C5FPR5 UniRef90-A0A024TFG5 UniRef90-Q6CCN3 UniReffo-WGPTH9 UniRef90-F9X5P7 UniRef90_C3Y059
UniRef90_G30881 UniRef90-K4E3C2 UniRef90-E3KMA3 UniRef90-G2X311 UniRef90-M9LV11 UniRef90_UPIO004412C20 UniRef90-G4T821 UniRef90-A41AO3
UniRef90-H8NJ92 UniRef90-H8NJ92
UniRef90 W6Kl61 UniRef90 W4GAL9 UniRef90-Q5CQZ7
UniRet90 A2EX17 UniRef90-A2EX17
UniRef90-X8JQ67 UniRef90-K8EXJ9 UniRef90-K2S2M1 UniRef90-S8EJ45 UniRef90-UPIO00440FC4B UniRef90-C5G6V0
UniRef90 A2EDW6 UniRef90-A2EDW6
UniRef90-D3BTUO UniRef90-G33H7U4 UniRef90-K7FL71 UniRef90-A0A015MAF4 UniRef90 UPIOOO440A805 UniRef90-F4QDK1
UniRef90 V8PB43 UniRef90- V 8PB43
UniRefon
KNZ UniRef90-W2RSTO UniRef90-W4YKP7 UniRef90-BOCQL6 UniRef90_T1FSV2 UniRef90-G2QTU0
UniRef90 A8Y3J5 UniRef90-UPIO003C1017D UniRef90-KORXB3 UniRef90_L8GFG5 UniRef90-UPI0002C3D925 UniRef90-V4WHLO UniRef90-UPIOOO2C3E701 UniRef90-A0A015LDQ4 UniRef90-G3N8V5 UniRet90-K7H678 UniRef90-G5EET6 6 UniRef90-W2SQW8 UniRef90-V2Z316 UniRef90_GOTUA1 UniRef90-A0A024UF20 UniRef90_K5X783 UniRef90 A0AO58Z456 UniRef90-K4E3Z2 UniRef90_-17MD08 UniRef90-T1GMJ1 UniRef90-UPIO004413CE1 UniRef90-W6UD84 UniRef90-D8LRA5 UniRef90-B6JZGG UniRef90-K2GS54 UniRef90-S9Q006 UniRef90-S9Q0Q5 UniReffo-S9VEC7 UniRef90-D8TK76 UniRef90-U6PY88 UniRef90-O22BX7 UniRef90-W6KWH4 UniRef90-UP10003597958 UniRef90-O13817 UniRef90-G5CAH2 UniRet90-S2K7D8 UniRef90-K3X252
MALIRKFLLAQFCLLTGETQERERVVVHFSKRYLLDCNPGSFNS DAVRKLCTHFKLPGEGQKDDRIMQKFAERYCLQNEEAFRQ俍 QALRWGGPLLPPRGPGSGSAPCCFAFSFAWSSAVVGDPDP MATRYFKAFSLVGETQERERVLIHFSNRYFYCNPDTMAS
 MALRKFLMYVVLPKEAQQUDRLLDAFATRYDECNPGUYAD MSLRKFLLEAELPKETQQVDRVVQAFADRYHECNPGIFAN DALRTFLKAFSLTGETQERERVLMHFSHRYHECNPAMCGS EALRKFQAHDRVQGEAQKVERLIEAFSQRYCMCNPDQFHN VALRLFLGGFKLLGEAEVVDKTMETFAAQYCKENPTAFRS MALRKLLMEAELPKETQQLDRCLEAFANRYHECNPGYYSS

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ESLRRFLQSFKLPGESQKKVDRLVESFAKHWYQQNVNPFBS
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E A L
 TAA I R H F L L N H F R R L S S G E S Q R R V




 E A L R M L L E A F R L P G E A P VI Q H L L E C F A D K WH T C N G H P F A N VA L R K L L M E V G L P R E T Q Q I D R V I E A FAA A R Y L E C N P S L F V S
 A L R Q Y L F S F R L P G E S Q K I N R ILLAE K F A E I Y Y ALLQN P S Y G N QALRQFLWSFRLP GEAQKIDRMMEAFAQRYCQCNS GVFQC QA L R L F L CGFR L P GEA QK V D RIVVSTFS QCFWEDNNCPF Q N
 TAI RELLLKGRLDGEA QKI DRIMMEKFAER
ESMR DMFAA FVMGGES QVVGRVLTAFSERYSECNPGVF $\square S$
 P A L R Q Y L F S F R L P G E S Q K DD R I L I K F A E DY V E Q N P D Y G S

DAL R A FL WS FRLLPGES QKDDRI MERFAQQYVATNEG

## V

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UniRef90-W2SQW8
UniRef90_V2Z316 UniRef90_GOTUA1 UniRef90-A0A024UF20 UniRef90_K5X783 UniRef90_A0A058Z456 UniRef90_K4E3Z2 UniRef90-17MD08 UniRef90-T1GMJ1 UniRef90_UPIO004413CE1 UniRef90-W6UD84 UniRef90_D8LRA5 UniRef90_B6JZG5 UniRef90-K2GS54
UniRef90 W5KTC9 UniRef90-S9Q006 UniRef90-S9Q0Q5 UniRef90-S9VEC7 UniRef90_D8TK76 UniRef90-U6PY88 UniRef90-Q22BX7 UniRef90_W6KWH4 UniRef90_UPIO003597958 UniRef90_O13817
UniRef90 G5CAH2 UniRef90-S2K7D8 UniRef90_K3X252 UniRef90-C9ZMK7

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| :---: | :---: |
| UniRef90_W4×5Q7 | d |
| UniRef90 UPIOOO21A4304 | D |
| UniRef90-W5NV23 | D |
| UniRef90-G3JDB5 |  |
| UniRef90-UPI00029DA5F6 | EGVDFSKDLLKALYNSIKNEKLEWAVD |
| UniRef90-C5 | EGVMDEILECFYDNICYTPFDHVED |
| UniRef9 | PLPEAY |
| UniRef90-O6C | EGVSPDILECFYDNITYTPFVHTEE |
| UniRef90 W6P | N |
| UniRef90 F9X5P7 UniRef90-C3Y059 |  |
| iRef90-G30881 |  |
| UniRef90-K4E3C2 | EGDDVDFPLLKGTYERTVLNETKL |
| UniRef90-E3KMA3 | DGIPNELLEYUYDNITYTPFVYVD |
| UniRef90-M9LV | GSSGVPTELLEYLYDNLTFTQFIYVED |
| UniRef90 UPIIO0004412C20 | VDFPVEFLRAIYDSIRKREIMPEE |
|  |  |
| UniRef90 A4IA03 UniRef90 H8N 192 | DGKDIPAAYLGSIYYDDVRQHEVVMAE |
| UniRee90-W6 | GGRDLD |
| UniRef90-W4C | QGTPLPEPFLISIYHNIATNQFRTSD |
| UniRef90-Q5C | NGKDLPREFAN |
| UniRef90-X8JQ67 |  |
| UniRef90-K8EXJ9 | ETRGLDEEMIRGVYDRVTKEEII LSAD |
| UniRef90-K2S2M1 |  |
| UniRef90-S8E | CPGVPPEVLNCFYDN |
| UniRet90-UP1000440 | DGAD PREMVAGDYER QQRELRSNED |
| UniRet90-A2ED | EGLLSDTQLKALY N DVKSNPLTFSSE |
| UniRef90-D3BT |  |
| niRef90-G3H |  |
| UniRetero-KıLT1 | SGVPP |
| iRef90-UP100 | GVSPEVLDCFYDNTVFAPFIFPED |
| UniRef90-FQQDK1 | KDKKFESGYLSSMYDRUVNNEKMDKE |
| UniRef90- $\times 6 \mathrm{NZ}$ | SAQI HEK |
| UniRet90-W2RS | GSVTVSSDILDCFYDNICYTPF!HFDD |
|  | GGNDFDQDMLGEDYNAIKNEEDVMPAE |
| UniRef90-Bocc | ECFYDN VFAPFITUED |
| UniR | GTYDEVLEVFFDNI TYYPF!RVED |
| UniRef90-A8Y3J5 |  |
| UniRef90 UPI0003C | K NEPFK P P |
| UniRef90-L8GFG5 | Lpreyitegvydri ravelaviade |
| UniF | TLPDDYLHPLYDCVIQNAFLFPEE |
| Unir | IK M |
| - | S |
| UniRef90-G31 | DGRDFPKDLLKTLYSSIKNE |
| UniRef90-G5E |  |
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| UniRef90-V2Z316 | L C |
| UniRef90-GOTUA1 | N |
| X783 | $\Pi$ PT ${ }^{\text {a }}$ |
| UniRet90 A0A058Z456 | TGGDLPSWFLEEVYQD |
| UniRef90-K4E3 | NKLPDEFLDRL |
|  | KTVTFKVLSEIYDRIQAKQFECEQD |
| UniRef90_T1GMJ1 | NGGDLSRGLLESLYESI RTEPFKIPQD |
| Re90-W6UD84 |  |
| UniRef90 D8LRA5 | GGHDLPADYLESVYTSI |
| UniRef90-B6JZG5 | N LPPDLPELECFYDNIVFTPFVHLED |
| UniRef90-K2C | TLPDEYLQPL |
| UniRef90_W5K | KDFPKELLKVLYNSIKNEKLEWAIDE |
| UniRefot-s99 | YNITYTPFVHVEE |
| UniRef90-S9VEC7 | NDQDLPEEYLLSUFADVVEHEVIMSE |
| Ref90 |  |
| UniRef90 U6F |  |
| UniRef90-U6PY88 | Y |
| UniRef90_Qá UniRef90-W | GGVDLPKEFMV |
| UniRee90-UP10003597958 | AVSELSGDLAGHMYDNI |
| UniRef90-O138 | D DELAPE MEYYYDNUTFTPFVNDDD |
| UniRet90 |  |
| UniRef90-S21 | SALSEYYLKEMY |
| UniRef90-K3X UniRef90 C92 |  |
| UniRet90_A0 | DELYGHLYDDI |
| UniRef90_UP10 |  |
| UniRef90-R7V3T3 |  |
| UniRet90-B6K3Q5 | GLMNEVMEYFYDNITYTPFVNLED |
| UniRef90-13LAZ5 | GQDFAKDL |
|  | GTFPEVLGCFYDNIVFSPFIFIED |

LDNRGKEL AARCW
LQRFSLNWKEGLEYLDNQGDLEENNHAQIAQFL

DDTRGKELAARCQ

SAKR $\square$ AK R $\square Y$
 QLDEGTLTFNSDFQKGMDYFFTHGLLKDNTEAIAQFFN MRLGAQKFANDGFQAVASLQEKAKGQTEPATVA QLLF

E D D Q QKA LK $\square \mathrm{Y}$

## EMGD $\square$ NETAKELAA AKCW

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

EDDRQKAQKワY
$R \backslash Y R \square G L N L F N V N P E R G \prod H F L D T R G F V P D T A D G V A H F L L$ QKIVEEALKRAQEKLKSAVKFLMNQGGKFADLKFIAQFLY

EPTAEDRQHAQR

NPT\KNFVSQFAMDPEGAVKTLVMKYRILEDPRRDGRFDF $L L Q A G S E H F N N K P K K G U E F L Q E H G L L H T D P E E M A R L L R$
 KLDEARLTFNA DAFEGMAY IVKHRLVDNNTDDLVRFFF

LLE EMGKERAARCY
NK Q $\square$ AMGRKKFNMDPKKG $\square$ QF L $\square E N D L L Q S S P E D V A Q F L Y$ GMPTEDDRQKA LNI Y
HP TR SFVHNFSRDPDHA TS LFEKTSTRTDPVVVGQLL F $K L L D T G T E Q F N Q K P K K G I Q F L Q E K G L L P M D N T E V A Q W L R$

MQAKSGLDELFVVGEPTESPTVKARK!F QAKSGLDELTVVGPTEDRVKAKKI Y DYSESEGLDDAQPTERAQKI Y


MRTFVHQFARDPDMA TSTLLTKAGTTGDAVAVGQLLF KTDVDSLLQGFNTDMTPQVAAHHLL $\square S$ S F VHYFAKDPDSAlAFLSTKTSAREDP DALGQLL F


FVSHFSRDPDSAVRALVAKTGLESTPASIAQLLY RSGSMASSQFQRKSSQGES VETADMDQRGKELALRCW

PHAYALDMW KKVQUR
LLSFDERFAEDPKEISEHLI RAGKI EDDVTAVARFLL NRHIDTFAVQFTKEPDHAISTVFEKTGTRDDAVVLGRVLIF

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A A A $\square$ F NANPKHF $\square$ PH $\square E E \square E L L P S T P R A V A A F L R$
E ESPE VYLLHRL
NRH $\square$ RSFVVQFQKEPDHA $\square$ SS S $\square$ FEKTGMRSEPMLLGQLLM


RERARRIF LDQRGEADASRIW
Q $\square$ KECVVLFNQKGFSGDDKLDQDGCDSSNAKSUARF L


## UniRef90 M4FWJ3 UniRef90-U3JAV6 UniRef90-G4LWS3 UniRef90_UPI0004412FC1 UniRef90-AODRX7 UniRef90_AODAU4 UniRef90_GOSB64 UniRef90-D6RLK7 UniRef90-UPIOOO3341399 UniRef90-G3T563 UniRef90-V51827 UniRef90-W4XTH5 UniRef90-UPIOOO454701D UniRef90-W6MJCO UniRef90-BOD877 UniRef90-C1BNK8 UniRef90 $\times 8 \mathrm{JLLQ9}$ UniRef90_UPIO00456028B UniRet90 E6QY78 UniRef90-F7VVG6 UniRef90-UP1000455FCEA UniRef90-L7N6C9

 UniRef90-GOOIP8 \begin{tabular}{l} UniRef90-F2TFD7 <br>
UniRef90 A8N5 <br>
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\end{tabular} UniRef90-G7DSX3 UniRef90-TOJYZ3

UniRef90-EEEX86 UniRef90-K1S2U3 UniRef90-B2VLII UniRef90-UPIo003AFBOF3 UniRet90-X6N2A4 UniRef90-F2TSH6 UniRef90-UPIOOO4621641 UniRef90-D2VV06 UniRef90-DON7N8 UniRef90-K1RB92
UniRef90_K5WZ1 UniRef90-A7T9G5 UniRef90-F6TYR7 UniRef90-E9BWS9 UniRef90-O86DW5 UniRef90-FOYKB7 UniRef90-UPIO0029D5F8A UniRef90-U7PXE2 UniRet90-W3WP64 UniRef90 M2RFG5
UniRef90 ${ }^{\text {Q3UPP2 }}$ UniRef90-K1XH73 UniRef90-W2S9X5 UniRef90-G3JCU7 UniRef90_G2YEL3 UniRef90 ${ }^{-E 2 L Q U O}$
UniRef90 UniRefe90-M7WI87 UniRef90_C6H921 UniRef90-D80C71 UniRef90-A2DCZO
UniRef90 B8PI98 UniRef90-Q0U181 UniRef90-UPIO002C3F133 UniRef90-12FSA9 UniRef90_D8QCMO UniRef90-A0A058ZG01 UniRef90_V5ATC7 UniRet90_D8LKD8 UniRef90-A0A023BB56 UniRef90-G7DUH5 UniRef90_W4K3S5 UniRef90-A0AO59LB34 UniRef90-X6NTV5 UniRef90-UPIO00444A3A8 UniRef90 UPIO00455D4DF UniRef90 W1 Q9Q9 UniRef90-GOTOV8 UniRef90-U4LPB9 UniRef90_B6KJR6
UniRef9O_D8PK UniRef90_J3PU57


ELDGFKREDVS $\square$ HLSKRNEFCKLVARYDSYFDTGDRDD LEKNNEFSRLVAGEYLSFFDFSGLTLD EEYPFRKVVATLSLHDDEFKLKSLSSFLLTYFDFSEEPLD KTDDGDRARLGDYLSR RTSK V GTHLELDRVQLGLVLAHKNDSKSVIDRLLVSLQNFSRQSLD NEDFLKKEKLAEWLGGDGDANKAARRAYFERFEFEGLRTD NEDFTPKEKAAA WMGEEGPVRQRTLRAYMENYDFENMSVC DEDFLAKDKLSEWLGGHKQLSKLTLRAYMGNYDFTDMRLD NQENUKRTTLGEFFGNESSYNQSVFSNYGEFIDFKNUSUD
KTQELNRK LGEYLCK RTSKSULKAFDDNFGFTGDRपD VVSLVVPSRVLCVLSEKHDADRQALRVYLSGFDFYQDAFD
 FTNKIKPDKKREYLGEDRRRDVLDHLLQLQNFQNQFLP DEEFTQKDRAAAYMGEEGPVRQRVLRAYMDLFDFENQSIV QRKGLSRQMIGEFLGNSKQFNRDVLDCVVDEMDFSGMELD SNDTLDKAEVGDFI SNNQTQHRDLLLVYVGLLNFTGMLFD DFDDLDKEPAAAWLGN PDRSAVRKAYMELFDWSNMNIL
 EKPHSDPQMVGQVLGEPDAKSMSVLHEYSNGFQFEDVAFD HTVELDRARVGEYLSK KTHKQELDAYLNNFGF DGLR D ENPRLDKKTIGEYIGKKKDNSKVLDAFVRSFEFHDLRVD


KGEGLNKTVIGDYLGERDEFNTKVLQAFVELHEFADLNLV

 NEDFILKERAAAWLGEDNPDHMRTLVAYMELYNFTNLNIL DNSDLGQDVAAAWLGEAGPEREKVRSAFMELFDFTHINIL DEDF:RKDKAAAWMGEEGPDRKRTLQAYMELYSFTDQTIL

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UniRef90_A4HT57

| UniRef90 M4FWJ3 |  |
| :---: | :---: |
| UniRef90-U3J |  |
| UniRef90-G4L | ALRQFLLS |
| UniRef90-UPIOOO4412FC1 | arabak |
| UniRef90 AODR | E |
| UniRef90 AODAU4 4 | EGLRFLTSNFLLFGESQM1 |
| UniRef90_GOSB64 | $\begin{aligned} & A S L R \\ & A F A R \end{aligned}$ |
| UniRet90_D6RLK7 | K |
| UniRef90_UPIO003341399 | NALREFARHLHAPEEGEYLETML |
| UniRef90-V5 |  |
|  |  |
| UniRef90-UPI000454701D | RV |
| UniRef90 W6MJ | LALRKFLAFNELPTETQQIDRVVQVFSERYWRCNEQACPS |
|  |  |
| Ref90-C1BNK8 |  |
| UniRef90-X8JLQ9 |  |
| UniRef90 UP10004560 | VAFRRLCDKLFLRAETQQI DRILRAFSERYFDCNKGVFGS |
| UniRet90_E6QY | D R V |
| UniRef90-FVVG6 |  |
| - |  |
| L7N6C9 | R |
| iRet90_G0Q1P8 | MF GEKY |
| Ref90-G2TFD7 | RKLLMEVELPKETQQIDRVVQSFADRY |
| A8N5 | RVFLHSIHIPQUHGVLEYLLDSFAGRW |
| G7 |  |
| UniRef90-ToJYZ | DRILVAFSKRWCDCNTN |
| UniRef90-E9EX86 | VSLRQICGRLVLRAETQQVDRLVAFSKRWCNCNPMHFKA |
| K1S2U3 | Y |
| UniRef90-W6UAM |  |
| UniRet90_B2VL1 | CNRLLLRAETQQVDRILVAFTKRWCDCNPNHFK■ |
| UniRef90_UPIO003AFB |  |
|  |  |
| UniRet90_-2TS | AALRGLCGRLALKGETQQVDRILDAFSSRWCEC |
| UniRe990_UPIO00462 |  |
| UniRet90-D2VV06 |  |
| UniRet90_DON7N8 | V |
| UniRet90-K1RB92 | M A |
| UniRef90_K5WZR1 |  |
| UniRef90_A7T9 | E G |
| UniRef90-F6TYR | DGLRLLLKRLALLGETQERERVLSSFSKQFVQRNPTFLRD |
| UniRet90-E9BW: | R |
| Q86DW | S HSLVSMFSERF |
| UniRet90_-8NU63 |  |
| UniRet90_FoYkB7 | S |
| UniRee900-UPIo0029D5F8A |  |
| UniRet90-U7PXE2 | $A \text { L }$ |
| UniRet90_W3WP64 | TGLREICDRLILRAETQQI DRILVAFSERWCAC |
| UniRef90_M2RFG5 | ALEYLIEAFASRWYEANAGNM |
| UniRet90-23UPP2 |  |
| UniRet90 K1XH73 | A ALRLMCGKLVLKAES |
| W2S | VSLRRLCDTILKGETQQMDRLLLAFAQRW |
| G3JCU7 | ALRSICARLILRAETQQVDRILVAFSKRWC |
| UniRet90-S3D1U3 | AALRLLCSKLVLKAESQQVDRILDAFAQRWCQCNPKHFKV |
| UniRef90 G2YEL3 | ASMRVMCGRLVLKGESQQVDRILDAFSKRWCQSNPNHFKT |
| UniRet90-E2LQU0 |  |
| UniRet90-M7487 | DA QRMFWMFCAPREVQLV |
| UniRet90-L8G8H5 | GALRALCNRLVLKAESQQVDRILDTFATRWCQCNPHHFKD |
| UniRef90_C6H921 | A ALRGLCGRLALKGETQQVDRILDAFSSRWCECNLEHFKA |
| UniRet90_D8QC71 | KALRAFLMSI HAPTRS ALDTLLDAFASRWYVANAGIVYD |
| UniRef90_A2D | MA ${ }^{\text {R }}$ |
| UniRef90-B8PI | ALRV |
| UniRef90-Q01 | MRDMCGKLVLKAETQQVDRI |
| UniRef90 UPI0002C3F133 | DALQRMFRIFCTPGEVHIVDNI |
| UniRet90_12FSA9 |  |
| Ret90_D8QCM0 |  |
| UniRet90-A0A | QALRLFLSKFRLAGESQEI DRVMAAFSYQYFKQKAQGWQS |
|  | GLRKLFSVVQLPKEGQRIERLIEFFCSAYFKANTFPFAS |
| UniRef90-D8LKD8 | EALRHLLTGFRLPGESQKVDRLVSSFAECYVADNRCPFAN |
| UniRef90_A0A023BB56 | SALRMFLGSFKLPGEGQMIDRILDRFGKEYFLQQRTVFVT |
| UniRef90 G7DUH5 | DALRLIMSTLRLPNDVNAAEQLLHVFA AR |
| iRet90_W4K3S5 | RALRVFLQSLHIPSHSNPMDYMVDAFASRWYEA |
| UniRef90_A0A059 | EALRRLLAGFVLPGEAQKIDRIVEAFAARYCAC |
| X6NT | AAFRHFLCGFRLPLEAQKIDRLLEGFAHAFTRD |
| UPIOOO | RIL LEFARR |
| UniRef90-UPI000455D4DF | KNVYD |
| UniRef90_W109Q9 | LSLRKFLMINELPKETQQIDRVIYEFSRHYCAQHQDA |
| UniRet90_Gotov | IALRVFLCSASLPSETQQIDRVMEAFARRYVECNPGLFQE |
| UniRef90_U4LPB9 | QAMRMLCERLVLRGETQQVDRIMVAFSHRWCEDNPNHFKT |
| UniRef90_B6KJR6 | EALRTLLASFRLPGESQQI ERIMEAFAGEYFHQQPF |
| UniRef90-D8PK97 | ETQQIDRVIEAFAQRYV |
|  | R |
| UniRef90-UPI000444A486 | PLDHMVDSFASRW |
| Bod | AKLYLKGETQQVDRILEQFSRRYWDCNPGGYGS |
| UniRee90 UPIO00328EF5C | RALRVVAVMFPQTGLSLSLVRQEGGGGQSWVLTAGATVSG |
| UniRet90_R9AGD9 | NALRKLTSKLFLRAESQQIDRILESFSFKFFSDNPSVYRN |
| UniRef90 M2NLFO | P |
| UniRef90-G4 | E S QV |
|  |  |
| UniRef90-S8AUI9 | GL |
| Ref90_M7P4Q3 | LCSKLIMKAETQQMDRILESFSKRWHECNISS |
| UniRef90 A4HT57 |  |

UniRef90 M4FWJ3 UniRef90_U3JAV6 UniRef90-G4LWS3 UniRef90_UPIO004412FC1 UniRef90_A0DRX7 UniRef90_AODAU4
UniRef90-G0SB64 UniRef90-G0SB64
UniRef90_D6RLK7 UniRef90-UPIO003341399 UniRef90_G3T563 UniRef90-V5I827 UniRef90-W4XTH5 UniRef90-UPIO00454701D UniRef90-W6MJC0 UniRef90-B0D877 UniRef90-C1BNK8
UniRef90- X8JLQ9 UniRef90_X8JLQ9
UniRef90_UPI000456028B UniRef90-E6QY78 UniRef90-F7VVG6 UniRef90-UPI000455FCEA UniRef90_L7N6C9 UniRef90-G0QIP8 UniRef90_F2TFD7
UniRef90 A8N5V3 UniRef90-A8N5V3
UniRef90 G7DSX3 UniRef90-TOJYZ3
UniRef90-E9EX86 UniRef90-K1S2U3 UniRef90-B2VLI1
UniRef90_UPIOO03AFB0F3 UniRef90-X6N2A4 UniRef90-F2TSH6 UniRef90_UPIO004621641 UniRef90_D2VV06 UniRef90_DON7N8 UniRef90-K1RB92
UniRef90-K5WZR1 UniRef90-K5WZR1
UniRef90_A7T9G5 UniRef90-F6TYR7 UniRef90-E9BWS9 UniRef90-Q86DW5 UniRef90-FOYKB7 UniRef90-UPIO0029D5F8A UniRef90-U7PXE2 UniRef90-W3WP64 UniRef90-M2RFG5
UniRef90- Q3UPP2 UniRef90-K1 XH73 UniRef90-W2S9X5 UniRef90-G3JCU7 UniRef90-G2YEL3 UniRef90-E2LQU0 UniRef90-M7WI87 UniRef90-C6H921 UniRef90-D8QC71 UniRef90-A2DCZ0 UniRef90_B8P198
UniRef90 Q0U181 UniRef90_UPIO002C3F133 UniRef90-I2FSA9 UniRef90-D8QCM0 UniRef90-A0A058ZG01 UniRef90_V5ATC7
UniRef90_D8LKD8
UniRef90_A0A023BB56
UniRef90_G7DUH5
UniRef90-W4K3S5
UniRef90-A0A059LB34
UniRef90-X6NTV5
UniRef90-UPIO00444A3A8
UniRef90_UPI000455D4DF
UniRef90-W1Q9Q9
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UniRef90_M2NLFO
UniRef90-G4TJV8
UniRef90_K2H430
UniRef90_S8AUI9
UniRef90_M7P4Q3
UniRef90_A4HT57

160

QDQCLILA YAVLMLNTELHNPNVNGPMTQLQFANLVR N
T DVVHTI CYSLLLLNTDLHMADIEQKMTRSQF EKNT
A SVVHAVVYSILLLNTDLHVAELASRMSRSQFVRNT
PSACFVFTDSVVMLNTELHNMKALCNSTVESFVERNS DT
EDAVYTLAFSVLLLNTDAHNPKLARKMSRADEFIRNYHRLG


## $\square D A T H T L V C A \square A L L N T D \square N G V K A R R R M T C K Q F \square N N \square A G M G$

RDEDYLLCFSMDMLSVDLWSPS TKNKMSKREFDRNTRQVV A SVVHAVSYSLLLLNTDLHVADLVTRMSRSQFVRNT EDAAYVLSFSLVMLNTDLHSQNIKDRMTRDGFVSNNRGDD
LDVVHTTCYS TMLLNTDLHLADDESKMTRSQFTKNT
MDVI HTMCYSIMLLNTDLHVADUEHKMTRSQFIKNT
KDVAVRLVRAGVQLNEAMHTGYPKRN】IARDFMDAFRRYD


NDHPY LLAFS LIMLHTDAFNKSNKRKMTKPDY TRNTR ADMVHAMSYSILLLNTDLHVVDTTSRMSRSQFI RNT KDLAVRLVRALVQLNEALHPSRDKRNVLNRDFI DAFRRDD


 A S NV HQVVYSLLLLNTDLHVAELAHHMTKQQFITNT LTEEKVEQFSLLILATESHNSNV K LKVVDTFEKFNN』IC VDVVYTMLYSILLVNTDLHVADLQSRMTKPQFVKNT
PDIVHATAYSLLLLNTDLHVADLTHKMTKNQFVENT

UniRef90 M4FWJ3
UniRef90-U3JAV6 UniRef90-G4LWS3 UniRef90_UPI0004412FC1 UniRef90- AODRX7 UniRef90-AODAU4 UniRef90-GOSB64 UniRef90-D6RLK7 UniRef90-UPIOOO3341399
UniRef90-G3T563
UniRef90 V51827 UniRef90 W4XTH5 UniRef90-UPIo00454701D UniRef90-W6MJC0 UniRef90-B0D877 UniRef90 C1BNK8 UniRef90-X8JLQ9 UniRef90-UPLO00456028B UniRef90-E6QY78 UniRef90-F7VVG6 UniRef90-UPI000455FCEA UniRef90 LTN6C9 UniRef90-G00IP8 UniRef90-F2TFD7
UniRef90-A8N5V3 UniRef90 G7DSX3 UniRef90-ToJYZ3
UniRef90-E9EX86
UniRef90-K1S2U3 UniRef90 W6UAM7 UniRef90-B2VLI1
UniRef90_UPIO003AFBOF3 UniRef90-X6N2A4 UniRef90- F2TSH6 UniRef90-UPIOOO4621641
UniRef90_D2VV06 UniRef90 DoN7N8 UniRef90-K1RB92 UniRef90-K5WZR1 UniRef90 A7T9G5 UniRef90-F6TYR7 UniRef90-E9BWS9 UniRef90-Q86DW5 UniRef90 F8NU63 UniRef90-F0YKB7
UniRef90_UPI00029D5F8A UniRet90 U7PXE2 UniRef90-W3WP64 UniRef90-M2RFG5 UniRef90-Q3UPP2 UniRef90 K1XH73 UniRef90-W2S9X5 UniRef90-G3JCU7 UniRef90 S3D1U3 UniRef90 G2YEL3
UniRef90-E2LQUO
UniRef90-M7WI87 UniRef90 L8G8H5
UniRef90-C6H921
UniRef90-D8QC71
UniRef90 A2DCZO
UniRef90 B8PI98
UniRef90-Q0U181
UniRef90_UPI0002C3F133
UniRef90 I2FSA9
UniRef90-D8QCMO
UniRef90-A0A058ZG01
UniRef90_V5ATC7
UniRef90 D8LKD8
UniRef90-A0A023BB56
UniRef90-G7DUH5
UniRef90_W4K3S5
UniRef90-A0A059LB34
UniRef90-X6NTV5
UniRef90-UPI000444A3A8
UniRef90 UPIo00455D4DF
UniRef90-W109Q9
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UniRef90_D8PK97
UniRef90-J3PU57
UniRef90 UPI000444A486
UniRef90-BODOF2
UniRef90-UPIO00328EF50 UniRef90_R9AGD9 UniRef90-M2NLFO UniRef90-G4TJV8 UniRef90-K2H430 UniRef90 S8AUI9 UniRef90-M7P4Q3
UniRef90_A4HT57

AARSVDDDLAGDLYDNT
KETNLSEEMDRSVYHGUKSKP $\square$ QLAEE
DEGPFPPDLIRE $\square$ YQS $\square K \mathrm{DNP} \square \mathrm{E} \square \mathrm{K}$
DASCTSREYQERVYKNLQDNETKLSED GEAGVPDAYLGQCYDLFVADALKRDE DGQDVDRDMLIGYNR QTQEFR RRQLLP DDLLEDLYDSURQEKL
DGGNFPTDT $\square$ KE $\square$ YRS $\square K K K P \square P W C E E$
TTA SNEFLGNपYDNV
AGGD पPRALLEA $\square$ YDGVKREE $\square \mathrm{KMDE}$

PRGLVSDELLDK $\square$ YSS $\square$ RKEK
RRSD $\square$ PPD

SKYTVPDELLED $\square$ YQS $\square$ REER LS HARD

PRYLVADDLLDDVYRDTCSERLAMARD EDEDFEEDFLLNYLYEDIQKHPL
PRGLVLDDLLDKIYASURRERLSQARD
GDVDT EGTYKR
PTEVLSDRTLSRUYLS $\square$ KAEPLIQADD
EGKDFPERFAKNTFNED
DMTTLSALYMRSVYQTTKEDGLATNN
AQFRASNDMLDRVYSSIKAERMISASD PRCLVSDALLDKMYTSIMREPMI
DGGEFPADQL DDMHAR|LARQFEVP
PRGLISDE LVGDMYDSTRQERL
KNGELSKAVLEYYYDNVTY'P F

PRSLVPDELLDT $\square$ YMS $\square R R T P \square$
DGQDFAKD LLKT $\square$ YNS $\square K N E K \square E W A D$

KDFQ $\square$ TKELLQ MYRRVQNTPFV

UniRef90 M5GD96 UniRef90_U5H0M3 UniRef90_Q5KHV3 UniRef90_J9AJR4 UniRef90 N1PFB3 UniRef90-B6QTL8 UniRef90-M2QZZ1 UniRef90 X8JV48 UniRef90- UPI00045603A0 UniRef90-UPI00044142E2 UniRef90-G1X6W3 UniRef90 D5GGS8 UniRef90-G8BND1 UniRef90_U6KVS8 UniRef90-A0A058ZAR1 UniRef90-I1CCY3 UniRef90-J7RFS8 UniRef90 UPI0003C19840 UniRef90 H8ZCK9 UniRef90-F5HB19 UniRef90-E1EWL1 UniRef90_X6NZ48 UniRef90- Q876I6 UniRef90-D8M2L2 UniRef90_Q8SR27 UniRef90 S9PW55 UniRef90_Q6CT40 UniRef90-W4K5I1 UniRef90-H3CGB2 UniRef90 G0URE6 UniRef90-E1F747
UniRef90_U6KGC6 UniRef90_S2KC18 UniRef90-UPI0004408EA6 UniRef90_l2JSI3 UniRef90_S9XDZ6 UniRef90 R9XDH3 UniRef90_A7TKB6 UniRef90_UPI000328BA02 UniRef90 J8LGT9 UniRef90 U6JRY1 UniRef90_D3BJV8 UniRef90_Q4U8H7 UniRef90 I6UP49 UniRef90-Q6CAN6 UniRef90_V6LNX2 UniRef90-L0B1K7 UniRef90-A7APN4 UniRef90_G8ZSE1 UniRef90_I2JSA2 UniRef90 W9WMK UniRef90_Q6C0R9 UniRef90-J3KKX5 UniRef90_G7XFL5 UniRef90 G0V897 UniRef90-H2AYS2 UniRef90-B6JV16 UniRef90 17MJ33 UniRef90-UPI0002C3EA90 UniRef90-G0W4B0 UniRef90-I3EGC8 UniRef90 Q4WWF9 UniRef90_U6GTF4 UniRef90_A5DP11 UniRef90 D4ASH3 UniRef90-LOPG50 UniRef90_UPIO00440CB85 UniRef90_O13690 UniRef90 W6MHT8 UniRef90_A0A023AYG9 UniRef90_C8VHD2 UniRef90 E4YW85 UniRef90 G5DZL9 UniRef90-A0A024JCH9 UniRef90_A0DVC2 UniRef90 K4DZ04 UniRef90_UPI0002B46F96 UniRef90-W7F4U2 UniRef90-K0TP60 UniRef90- ROMNJ7 UniRef90_UPI00029D75BF UniRef90_L1K3B5 UniRef90 H2B1J6 UniRef90-C4Y371 UniRef90-C5MJI2 UniRef90_I1ZIB8 UniRef90-H8XAC0 UniRef90-A1CJ43 UniRef90-D0AAG9 UniRef90 I1BQ29 UniRef90-UPI000440DB03 UniRef90_Q6BU67

1
$10 \quad 30$
40
MRAFADEFAENPTVA|VTKLLAQRAGLLQDDPGA $\square$ ADVLF AQSFAQMIW EDKGKR L A R E FY $R \square I T E A T E F F N Q D P K K G \square E F \square K E K K \square L K S D P V D V V A W L R$ KERARKI Y VTRFNANPGRG EETAGLENTPREKARQLF



$\square L S Y G A A \square F N S N T K E A \square P Q L E G L G L L P T T P R S T A D F L K$
 PPAKLEDLPAPPPPFDADESPESYLR RKPEKGVQYLDERGFVPDTPVGVAHFLL QRQLELDLEEFNKNAEDLVATMQKQGY ENPAQAVCMFLR VDQFVDKFKQDPVEACRYVVEKCSPAVDLATLAGLIL
QK VVEEA LK RAQEK LEHAVKF LVSQGGKFSDDKFDAQF DY EFIECTNAFNEKPKNGIPMLIEKGFDSGSDKDIAEFFK

MGD $\square E$ AKGKERAARCW
 $\square Y$ A A $\square E S F N R K P S E G L Q Q L L Q L K G \square P D S P E A A A L L L L$ SI EDLVALK DDDDKQVSLWI Q $\square R K F V Q E F A E D P D P A V S K L V D L G \quad R D P K T L G R L L V$

## Q LDEGS $\square$ T F N A S P D R G VR T S

VS DEPE
Q LDEGS LT F NANPDEGVSYFMSKG LLDDSPKE $\square$ AKF $\square F$ VDKAVLLFNKEGHAALQLLGERKLIEADPAAVARFLY $\square M S D A A T H F N R K P A D A F N Y L L E N K I$ FTENAKSISKFFL MMKCSLEFNSKADEWDESAKNLGVLSKTENEVALFLK R V RED DRKFN

ETGCLLDHMESYGKQMR
 ELSNAANDFNRSYSEWISSIKELNLINNNSNDIADFIK LRRAAEVFNTTGDDWIPLVKDLGLLPHEPKDVANFEKK K K K

TDDSDLAEKFF
CGSPSAADRDQAQKLY

QNLLE DG $\square$ S $\square F N S S P \square C G \square S F$ LITAPHTKTSAKEAALD TW

QRDEVELEEFNKTGEVDVELMRVIGYRESPALSACRLLR Q LR A A A A $\square$ F DENP QKG $\square$ QQ QLS $\square L R M Q V T P E A A A L L L L$
 RS SDGGIK S Q TLK Y S A S DI GK S


FMR
QFEKRPTWCLNKLDEARLLKNDVISDCNFFK NADPPADVP SELPSSKEEQLARRLF NLLLDESCVQFNVEPEWGLKF LDEKKLLKS DSNGUAQFIN

A Q T DA LEFY
 NKRDAEAMQYINRHWRDGMKLLEQRGYISHEDEDFARFLK LLDETTLLFAFKPHEGDRLLDMNNVLEDTSED


[^0]UniRef90 M5GD96 UniRef90-U5HOM3 UniRefefo-O5KHV3 UniRef90_-99AJR4
UniRef90_N1PFB3 UniRef90-B6QTL8 UniRef90-M2OZZ1 UniRef90 X8JV48 UniRef90 UPIOOO45603A0 UniRef90_UPIOO044142E2 UniRef90-G1X6W3 UniRef90-D5GGS8 UniRet90-G8BND1 UniRef90-U6KVS8 UniRef90-A0A058ZAR1 UniRef90-11CCY3
UniRef90 J7RFS UniRef90-J7RFS8 UniRef90-UPIOOO3C19840 UniRef90-H8ZCK9
UniRef90-F5HB19 UniRef90-E1EWL1 UniRef90-X6NZ48 UniRef90-Q87616 UniRef90-D8M2L2 2 UniRef90-S9PW55 UniRef90-Q6CT40 Uniinefol WCK511 UniRef90 H3CGB2 UniRef90-GOURE UniRef90 U6KGC6 UniRef90-S2KC18 UniRee90-UPIO004408EA6 UniRef90-2JS13 UniRet90-S9XDZ6 UniRet90_R9XDH3 UniRef90-ATTKB6 UniRef90-UPIO00328BA02 UniRef90-J8LGT9 UniRef90-U6JRY1 UniRef90-D3BJV8 UniRef90_Q4U8H7 UniRet90_16UP49 UniRef90-O6CAN6
UniRef90 V6LNX2 UniRef90-LOB1K7 UniRef90-A7APN4 UniRef90-G8ZSE1 UniRef90-12JSA2 UniRef90 W9WMK9 UniRet90_O6COR9 UniRef90-J3KKK5 UniRef90_G7XFL5 UniRef90 GoV897 UniRef90- H2AYS2
UniRet90 - B6JV16 UniRef90-17MJ33 UniRef90-UPIOOO2C3EA90 UniRef90-GOW4B0 UniRef90 I3EGC8 UniRef90_Q4WWF9 UniRef90-U6GTF4 UniRef90-A5DP11 UniRef90-D4ASH3 UniRef90-LOPG50 UniRef90-UPIO00440CB85 UniRef90_O13690 UniRet90_W6MHT8 UniRef90-AOAO23AYG9 UniRef90 C8VHD2 UniRef90-E4YW85 UniRef90-G5DZL9 UniRef90-A0AO24JCH9 UniRef90-AODVC2 UniRef90_K4DZ04 UniRef90-UPIO002B46F96 UniRef90-W7F4U2 UniRef90-K0TP60 UniRef90-ROMNJ7 UniRef90-UPIo0029D75BF UniRef90-L1K3B5 UniRef90-H2B1J6 UniRef90-C4Y371 UniRef9-C5MJI2 UniRef90-।1ZIB8 UniRef90-H8XACO UniRef90-A1CJ43
UniRef90 DOAAG9 UniRef90-11BQ29 UniRef90_UPIO00440DB03 UniRef90_Q6BU67


YFEETDLKK GGGLCKLKN EDYLRDFTGTFDFDDMDLL NNTGVSNEDALSLLTKEDDYNKEVLENYVSDFDFGNTDIL DEDFLAKEKIDEWLGGVCVMSLCVLHHYDDYFDFSGLRLD
ETPSLSSEAVSDF $\square S$ YPAVIP $\square Q V R$ RFMDS $\square P \square A G K S L L$ QQRGLSKAAVGELLGGDSEASRALLSAFLQRLSFAGRPID DEECMPKKEIAAYIGKDDPFCHRVLKLYMDQFDFTGMALD QLPEDDRAKLGEYLSR RTSKVVLKAYDDAFGFTGDNi E
 ESNEFHQRCLERYISTFDFQGEPLD CTRTGNWKK $\square R \square Y \square D$ DTPGLDKKKVGEVLGDCSSFS ETPKLNLKTVGEYLGKKS
YFEETDLKKLGAFLCK NNDDLNKKNIGLLFGENKEISATLRLEYSVQDYTQSQTFI YTPDLDLKRVGEYLGKNPEFIRSVLNNFAGLHCFSGLPVV CMPDLDLKKVGEYLGTHKNFMDQVRLEFAKLHSFKGLPIV DSEDVEPKDYLTFLGGGMPRDSDVVRMFYMSKFRWNYNML TDDEVDASAAGAWLGDAGVDRDYVRKAFMERFDWKNQDVL DEDGQKAELTATWLGN KLVPYGKFLGVILTEKD KFIGFVLCAKDNNY TGTGVENEKAVAWLVQEDPYHESVLKYYMKGYDFGNMDPD QNPSTSKQAITELLTDDLSQENCEIGYYYSTFFSFSNSSFC SHTDTNLQMLGKCLGKD EPAAAWLGD QQRGLRKAADGELLGGDSEFSKNTLKHLLRQLNFA PVD HDQFVSPEEYTQFLAAADAESEKDRDYYMDLETWHS NLL RGEYTSRDKAATWLGDSPEDNSNARTVYMSQFDWSGVDIL QRKGLSRQMIGEFLGNRQKQFNRDVLEFDLTTSFLACLCS EGSQVSNDKALSWLVTDKPYNKAVLKHYDSLYDFENTDIL EFSNVNRKNYLTYLGGDDPMDIAFLRCFYMSFFKWDANLL

 $N T S D L T F D G Y A S W M G D E G E L Q K E T C E A F M N L F T F K G K S L M$
$H N E Q K N K D Q \| S K L L T N L N L Q E Q S Q S L K L F V D R V V T N Q N L D$ HNEQKNKDQ\|SKLLTNLNLQEQSQLLKLFVDRVVTNQNLD GT S
YNPFLDKEFVGEYTSHRKNV NGLKRYVRLFDFCNLSLL NGE KGLCKSKN EDYLRLFTSTFDFTNLTLD QGQGPEQDSHGDYLEEREEMNDPMLHNFMD LHDWX
LSDGLDKERVSTYLSGEEELNRSVLSSLMEMCSKECHRDD REEFVSPEEYTQFRAASDNESAVIREHYMDMFTWDANLL
DEDFVSPAEYTQFLAAGDKDSKURAYYMSYFQWS PNLL

AEESAKPAEDTQFLAGDDPESTETRTDYFNNFKWPANLL DSQDVGNEPAAAWLGDDPNRATI REAYMELDFNWSNMNIL TYEGVERGALCGIFERKDKDCDRILREYLQHFSYRNVPID VSKERMAEWLGQDKRLNSLVLTYYMQCFTFSDMRLD




UniRef90 U5HOM3 UniRef90_Q5KHV3 UniRef90-J9AJR4 UniRef90_B6QTL8 UniRef90-M2QZZ1 UniRef90- X8JV48 UniRef90-UPIO0045603A0 UniRef90_UPIO0044142E2 UniRef90-G1X6W3 UniRef90-D5GGS8 UniRef90-G8BND1 UniRef90_U6KVS8 UniRef90-A0A058ZAR1 UniRef90_I1CCY3 UniRef90-J7RFS8 UniRef90_UPIO003C19840 UniRef90-H8ZCK9 UniRef90-F5HB19 UniRef90-E1EWL1 UniRef90-X6NZ48 UniRef90_Q87616 UniRef90-D8M2L2
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UniRef90-B6JV16 UniRef90-17MJ33 UniRef90-UPI0002C3EA90 UniRef90-G0W4B0 UniRef90-I3EGC8 UniRef90_Q4WWF9 UniRef90_U6GTF4
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UniRef90 DOAAG9 UniRef90-11BQ29

REILISTRLLVLIAMII QJLSEALHMSPNKPR\|ISVVQDWDETFRTRD RDVVHAASYSLLLLNTDLHVVDTTNRMTRTQFVRNT PGILHTVSAAMLMLNTDLHUAELSRHMSKAEFVRNT
QDVVHTTIYSLILLNTDLHDADTGERMSRSAYVKNT

 FELVADLVFAI MALNDALHSTSGASEMSKADFLEVFRQHD

 ES QVYFIVFSLLILHTDYYNPNNKDKMTKHQFLNLVHEDT

PDAAHTLAFA IVLLHTDLHKGPPMPRMRRSEFRRNCRDGG EDMVVKVVVATLFLNAELWYDATSEKDVFW EHQVYFIAFSLLMLHTDYFNPQNK $\square K M T V D D F \square D \square N D T Y S$



ADVTYCDCFS I M M NTD DHNQNMKDRMTDDDY DKFNTEMN MDFVFNLAFSFLVLNTKFHNPNVKAKPTFRDYMKDFTAEE KD VVHSVAFSLLLLNTDGHDANDASQMTRSQFVSNT

 $\begin{array}{lll}E D A C F & A G G G G I M L\end{array}$
ADLHLVQDSSHSKMTSDLFCENTMSTVLEQKFLDGDESTD RDLALRLVRAIVRLNEALHAHYSRPHVTARDFTEAFRRHD VDNCYLLTYALVILHTDRFNPSNKHKMTRWEFDDNLLLSD

 A D Q VYFMTFSLLMLHTDYFNPNNKCKMTKHDFVDLNDKYS EDS $\square \mathrm{F} \square \mathrm{C} \square \mathrm{LY}$ S G $\square \mathrm{M} \square \mathrm{L}$ TSTFNPN $\square$ K DRMTYQSFERMLIPCH KEFVFNLSFSFLVLNTKFHNPNDKVKPTFKDYMKDFTAEE VSHVYTLSYS IMLLNTDMCCTDDRDRMTRTKYVQTNDSDK DT I Y LLAAYATLMLLNTD DHN DSVKNKMS DNQF IQNT HN

FEKTY IVLYSTILLNTALHNHENKSK】SQTEYVRNTFSTF ADVVHTI SYSLLLLNTDLHLADDDQKMTKPQFIKNT PDIVHPLAYSLLLLNTDLHVADLTQKMTKNQFVQNT

PQ QVHSTAFSLLLLNTDLHDASASERMSRNQFVENT
SS GVYYVAYSLILLNTDLHNSD DDKR DSKSSFIKNTFEAL
A DVVHTDCYSLLLLNTDDH $\square$ A D DEQKMTKSQFVRNT D GV SII A YALVLLSVDQFAGHI RNKMSKREFI KNTLRAL
 SNVI YTIAYALLLLNTDLYDHSANKKDSKSKFVCNT EDSLHMFCFAAVVFD DD NTKYDKDYAFKSFFQN DQT $\square$ N K D ADAMAGVLLELHTSLHNENMRNNMTVEEFFRNGNECV


D D F $\square$ F NFSFS LLVLNTKMYNPN $\square K$ TKPTFHNHMSDFNEEE TDACYVLSFTR
MDVVLALSFSAVMLNHNDHGRGDSRLVTKDRFVEGCQGEH SSQVFFVAFALLILHTDHFNERNKQKMTKQEFINDIHDDE

 FEQUYVIVYSLULLNTALHNSNRKSRGRQSDFARNTKSLS ADVVHTICYSLLLLNTDLHLADDEQKMTKTQFVRNT PDDANAMAGVLL FLHTSLHNANVRSRMTMKDFVRNGNEC SADLHVAQGKHVRMTRSEFVRNTMST

UniRef90 M5GD96 UniRef90－U5HOM3 UniRefifo－a5KHV3 UniRef90－N1PFB3 UniRef90－B6QTL8
UniRet90
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UniRef90－G1X6W3 UniRef90－D5GGS8 UniRef90－G8BND1 UniRef90－U6KVS8 UniRef90 A0A058ZAR1
UniRef90－11CCY3 UniRef90－J7RFS8 UniRef90－UPIOOO3C19840 UniRef90 H8ZCK9 UniRef90－F5HB19 UniRef90－E1EWL1 UniRef90 X6NZ48 UniRef90 Q 87616 UniRef90－D8M2L2 UniRef90－Q8SR27 UniRef90－S9PW55 UniRef90－Q6CT40
UniRef90－W4K511 UniRet90 H3CGB2 UniRef90 GOURE6 UniRef90－E1F747
UniRef90－U6KGC6 UniRef90 S2KC18 UniRef90＇UPIO004408EA6 UniRef90＿I2JSI3
UniRef90＿s9xDZ6 UniRef90 R9XDH3 UniRef90－A7TKB6 UniRef90－UPIooo328BA02 UniRef90 J8LGT9 UniRef90 U6JRY1 UniRef90－D3BJV8 UniRef90－Q4U8H7 UniRef90 16 UP 49 UniRef90＿Q6CAN6 UniRef90＿V6LNX2 UniRef90－LOB1K7 UniRef90－A7APN4 UniRef90－G8ZSE1 UniRef90－12JSA2 UniRef90 W9WMK9 UniRef90＿Q6COR9 UniRef90－J3KKX5 UniRef90＿G7XFLs UniRef90－G0V897 UniRef90－H2AYS2
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PGAVLSDRTLGRTYUSVRSEPT
PTGQLGDDVLAGLYRSISMQQLQ DENDNPRDIARC QTPYEDDE EAPVESKPVHHNTFPPRSQTPFRPNDD NGN\｜IPKE！LSYFYDNDTSQE
ARGGVGRRVLNE $\square$ YENDRDTP $\square R F P$
NGNK LPVELVYFYDNVTSKEF
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TANVLTRELLDSUYDNUATNPFSL
RDCPDPAALLTS $\quad$ YRS $D$ AEQLLIVDD पPPSFSEEYLESMYQSVKKRPLEFP
SGKMVPREY DEY पYEN $\square$ TTKEF
V KFLSLLLQVLYNSTKNEKLEWAVE NNKGFSRRFTDGIFEEI STR KQDLIQVQF乌AELYDGUVFSPFSTNE
QWKGQLEVCLRDTYTSVKNQGI
PRLLVPDSTLEKIYTSVRHEKL
$K Q D D L S K E T F G Y L Y D N T V Y Q Q F V R \square Q E$

DGNEIAKD\｜LSYFYDNUTTKE
NGDEПP $\square \mathrm{D} \| \mathrm{L}$ TYFYEN $\square \mathrm{T} A K E$
VSSDLIKDMFNEM
DPPSFGMEYLESMYQSIKKKPLEFP EWQDGlVTLLRNDYNSLQETPLRTAS ADNKLSQKFLMTLYKEIQKYPITLQE

DGYKПPKP乌LAYYYDNTVAKE
TQANVPEHELKDFYASLSSNE LHLDTD

D GNKLPLEILSYYYENIISKE
NGNKFPIEILNYYYDNIIS IDE
GGKNFSQDFTNNTIENLLDKKTTH
PG TPSSYVGDUYDFIESHEFY DPSD GGNKIPLDLLEYYENI
TCKDVDVEYUETLYGQiKQRKLEDP


K QNDVSEVELKTFYEDLLSEELK
ENADASCEEVGDYYDNV
AAQNDSEDFVGHDYDNI
NGDNFNSKFDSE\｜IEQLQYKP\｜V DFAFLEQDM RDMYYRVAQRKWELDE VLQN【NVELMSDपYDDV
N
$\square P S N F S M E Y \square K$ S QFESVCEQKME $\square A$
EEPSVLVETCSAGYDDTRSGPL
NGNLIPIKMISYFYDNTIAKEIK VRQKlRIEELQHYYEDLARHELYLK VNQQTKKPLLAGYYDNLAHKELNLK TKQKLSDEVLSDYYDDLVKNELILKTE VAVPFPEDVMCEMYTRVARSKWEL

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sol25
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jpssm


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UniRef90-F2QQU8
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UniRef90_Q75D04



[^1]

|  | 60 |
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| UniRef90_A0A059F040 |  |
| UniRef90-J3PU20 | AGLVTRWTTGMLVLSEHLHDGLTDSMRYVAGF 1 GFPNEDR |
| UniRef90-R1G8L9 | VHTVYSLVYATIVLNTDLHNPAVKTKMSRAQFLTNCREAP |
| UniRef90-A2DGN9 | YDLASVIAMAKTLL |
| UniRef90-W5K0E8 | DKPPFFNCLFLLLLMLTADHKNE\\|LESENDKFQSNSKCVD |
| UniRef90-G4VI14 | RGMCWSLP |
| UniRef90-G4TEF3 | ECAKNLVI |
| UniRef90-B9SVJ4 | KDVAQNCCYSVIPYQTAGRDDNKARMASTIVFTAA |
| UniRef90-B6K5N4 | VK S $\square$ M DVCIKLIRNYHDDGNRK |
| UniRef90-B5DRV7 | P SLKPERRMRVEDLIKNLRGDD |
| UniRef90-B9WJS8 | EQ\Y\\|IIYSLILLNTALHNSNKKSR\SQSDFIRNTTFVQ |
| UniRef90-A3LY93 |  |
| UniRef90-H0GR06 | SGYCHIVLFSLLILNSDLHNNHKKTKFSMVAFINNDREEN |
| UniRef90-C5DQU9 | YNLCHIVLFSLLILNSDLHNENNQPKFSKEEFTEN |
| UniRef90-B7XHF1 | ØT DYFKTIYSFIFLNTMLYKVNNEKHMGFRDYY |
| UniRef90-UPIOOO2C3E513 UniRef90-F2QQU8 |  |
| niRef90-TOM5 |  |
| UniRef90_Q75D04 | YKLVH\\|VLFSLLILNSDLYNDMAQMKFTSAQFVDNT |

[^2]| UniRef90_A0A059F040 |  |
| :---: | :---: |
| UniRef90-J3PU20 | NETQFVESIVQA |
| UniRef90-R1G8L9 | Y L Q F VPERLL LE TYESTR T S P L A $\square$ A |
| UniRef90-A2DGN9 | YSNIPDNHKMKLYDEI NKKPI |
| UniRef90-W5K0E8 | DGEDIPREMLIGUYER\RQKELKTNED |
| UniRef90-G4VI14 UniRef90 G4TEF3 |  |
| UniRef90_G4TEF3 UniRef90 B9SVJ4 | QR Y S $\square \mathrm{K}$ E D L L E D $~ \mathrm{Y}$ E A VKK Q K $\square$ S A P K E |
| UniRef90-B6K5N4 |  |
| UniRef90-B5DRV7 | D CHDSDK D |
| UniRef90-B9WJS8 | QNEKLSKSLLS S F Y EDLS K NELHLLK |
| UniRef90-A3LY93 |  |
| UniRef90-H0GR06 | ENEHLTI E ELSEYYKTLKETPLPLFAE |
| UniRef90_C5DQU9 |  |
| UniRef90_UPI0002C3E513 | NDNFLPKDVVAHDYQYVDTHIIVVP |
| UniRef90-F2QQU8 | $\square \mathrm{SNNVP}$ |
| UniRef90-TOM5Z2 |  |
| UniRef90_Q75D04 |  |

lupas_21
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lupas
conf
conf
sol25
sol5
sol0
jhmm
jpssm


[^0]:    

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

[^2]:    lupas_21
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    lupas_28
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    jhmm
    jpssm

