## QUERY

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UniRef90_UP10004410FBB UniRef90-C4VBL3 UniRef90 C5DTW1 UniRet90_UPIOOO393E980 UniRef90-UPI000455DBB8 UniRet90_I1CMO5 UniRef90- S8CTU8 UniRef90-UPIO003C1A705 UniRef90-H2WD74 UniRef90-UPI000175860A UniRef90-UPIO00329DB88 GGKKGRLSEQLKYCDVILKEMLSKKHAAYAWPFYKPVDAE ASKKHRNTNQLQYLLRVVMKALWK HQFAWPFQQPVDTVV RPGRDTNQLQFLQKVLKPVWKHQ FAWPFQQPVDAK SKPGRKTNQLQMQNVVVKTLWKHQ FAWPFYQPVDAD GTLPPKRQEQLRFCARLVREMLSRKHASYAWPFYKPVDVT
 KKGRTTNQLQF LLKTV

## MKALWRHNFAWPFQQPVDAR

$K$ S S R MTNQLQY LQKVVVKALWK
TRPKRQTNQLQYLLKVLKALWKH
TKEQHKY I QAMLRQLRRCRD
 KLRESTKACNEILKELFSKKHSGYAWPFYKPVDAG KK GKLLTE QMKYCNSILKEELFAKKHAGYAWPFYKPVDAE K N G R L T N Q L Q Y L Q K V V $\quad$ L K D L
 K S K R L L Q Q AMK F C Q S V L K E L M A K K H A S Y N Y P F Li EP V A A K NVELLSE QLKHCS DILKKEMFAKKHASYAWPFYK SV D D S K P GRLT NQLQ Y LQRTVVMKALWK HQFAWPFNVPVDAN RRKKYDAELKFCGVVLRDLLSKKHEAYSYPFDDPVDPV



 $K$ QLKFLVRCI QGLKRVHDSRFFREPVDPV

 QQKYCAAIVRQLKRTKD K GKATESMKFCHKVLHELMGKKCKSFNAPFRAPVVDPV KKKKYQWELKFCQEVLDELHKPKHY LIAAPFYHPVDPV A ARGKRVADMLK Q C T T L L R K L M T HK H R T A E QLK Y C S K $\quad$ L T E L K R K R L K D A V P F L A P V D T V RKKKFEWQLKFCREVINEMKKPKYYSFAQFFYDPVVDPV
 QWELKFCQEVLDELHKQKYYSIAAPF LA HMKKVI SNLLKKSNASAAF SPSTVNSLLMKDCESLLTRLMTHQ
S PS TVVNS L L M K D C E S L L T T R L M T H Q $\quad$ K L QHRFCLSVVRSLKKMKD
SRRLLK S CTT L L E K L M K H K H
Y G WVV

H F A WVV
A P M S D TY LAL MK QCETLLKKLLA H

 K S S K V S E QLLK C C S GI L K E M F A K K H A A Y C

 WS K VIS DELLK F CY R V I D DLL L K P A H Q D L A WV F Y DLLPA K D S RQGRATNQLQF LHKVL VKALWRHHFAWPFHEPVDAT TVSNSNAHLMKQCETLLNRLMQH

NFGWVF NNPVVDV
$K N K K S Q L E L K F V E T V I N E M M K P K Y R D F S Y P F L Q P V D P V$ A GKRGKLS E HLR HCDSILKEMLSKKHAAYAGPCRRGLAGS A T S S TVA S VMKECQTLLDRVWSHK N Q LQ Y L K QV M KVWK H Q FA WP F H Q P V D AV

EQRLSHAFKKSSSLLSRDMKHK C GELL GKL MKHQ
APTGKMLSSMMKQCGQLLTKLMRHKH GSAMNKCFKNCGALLERLMKHKH TAEELKKCRRVLNKINKH QLKYCSQVLTRIKRNSNAP MK AC GQI L QKL MK T K $G L A E L E R D P A M R K C H N I L K N L L D N P K$ ANMKNLNSKDLDLLKKLIKQIQAHKS

A L E S QK EK KL K QCS TI L K T L DTHK D
 AKSKEKLSDALKKSCNEI LKELFSKKHSGYAWPFHQPAVDDK R K K K L P P E L R F C D E V L T E L R R T K Y Y D C N GAF L Q P V D V V E K K L $K R G P H Y A A M Q N V L T E M Q \quad N H A A A W P F L Q P V N R E$ K D Y E G L K R L R S LQ S HK K K CRD TLLKALLKLPE EEKFSEHMSVQDKRLETLTKLMKHPCAGPA MK Q C E A L L S RLWS Q D S Q G $\square$ AKRRRLTSDLTFCEDILMEMEAHDD
$\qquad$ $A W P{ }^{F}$ T FPF RYP V D A A



## QUERY UniRef90_F1QQP6 UniRef90-B7PZR1 UniRef90-G1TQT7

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UniRef90_UPI000298C6BC UniRef90-K7F3P0 UniRef90_A0A024J994 UniRef90-H2S638 UniRef90-WOTEF7 UniRef90-UPI000440C696 UniRef90-I1F8A8 UniRef90-M7NRZ3 UniRef90_G7E7Y5 UniRef90-F2T7R2 UniRef90-ROKCV9 UniRef90-14YCT5
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 A L E L H D Y H D I I K H P M D L S T V K K K M D S R E Y Q D A Q T F A A DV R RLNLPDYHRI I DHPMDLGTIKKRLENYYYASASECDQDFN KLNLPDYHKI I K K PMDLGTIKKRLENSYYWSGKECIQDFN KLNLPDYHKI I KNPMDMGTI RKRLENNYYWSASECMQDFN SLGLHDYYDI I KHPMDLSTIKKKMDSRQYRDAQEFAADVR
 KLKIPDYYEITKRPMDFGTIKKKLEHNDYTCAKECDEEFK

 KQN PDYPLI I KHPMDLSTMQRKLTNREYDSAQSFDDDMN TLGLDDYHEI 1 HQPMDMSTVKKKMEAREYTDADQFAADMR XL GL HD YHEI I KHPMDLGTVKQKMDNREYKSPEEFAGDVR KLKLPDYYTI I K NPMDLNTIKKRDENKYYAKASECDEDFN
 ALDQL N Y Y D I I K H PMDLSTVKRKLDRGEYPNADSFAADVQ
 ALNCPNYFDIVKHPMDLSTI QKKYAANEYDSADEFEADVR
 SLGGIPDYPKIIKKKPMDLGTMRTKGNESGQYASADRFRDDFK GLGLHDYDDI IKQPMDLTTDKKKLEDREYEDPSQFAADMR


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

 K L GL H D Y H S II K K P M D L G T I K K K L H G K G Y P S P V E F A E D I R K L $\operatorname{N}$ V $V$ P $\operatorname{F}$ AL NI P N Y H S VI K KPMD LD TVVERKLENNQYERARDFEE D DR


 K L N L P D Y F Tll I K
 GLLGL H D Y Y K I V K K H P M D L G TVV K S R L D K L N N I P D P H T I I K R P M D L G TII K S K L T T S G A Y S S P P C G F A S D V R AL GL H N Y Y DI V K N P M D L G TII K R KM D NQEYK DAYEFAADVR
 K L K I P P


 $R L N L P D Y H K I I \quad K Q P M D M G T I K K R L E N N Y Y R G A S E C L Q D F N$ KLLNI P D Y L T V I K Q P M D L G TVVK K R L A S G Q Y L S P LDD F A A D V R AL LI P Q Y L K I I K K PMDL GTVVQRLLKHGEYTSAKDA KA D L D GVAGRGRHPSHPVARRVQKKMDSREYPDAQGFAADI R

 AL LI P D Y F TII I S H P M DFGTI K T K L E E R N $\square Y$ S GTEE E FA D D V R


 LD GAP NYYKII K N P M DL S L I K R K V E N K E Y T T F R Q F E D D I R


 K L L G L H D Y H H D I I K K K P M D L G TVVK R K M D N R E Y K S A P E F A A R C
 K Y G I P P D Y P D K K I K Y A P M D L



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



LMFSNCYKYNPPDHEVVAMARKDQDVFEMRFAKMPD LMFSNCYKYNPPDHEVVAMARKLQDVFEMRFAKMPD TMFTNCCYVYNKPGEDVVLMA QALDEKLFWTKDNEMP TMFTNCYVYNKPGEDVVVMAQALEKLFLTKVAQMP TMFTNCYI YNKK
LMFSN CYKYNPP DHDVVSMMANLQDVFEMRFAKRPD LIFTNCYKYNPPDHDVVGMARKLQNVFEVKFAKMPD $L \vee F T N C Y G Y N K P G E D I V I M A E V L E K F F D E K L S M M P$





 LVFKNCYTFNPDGTVVNMMGHRLLEEVFNSKWADRPN

 LMF SN CYK Y N P P S H E V V V H M A R K L LVFKNCYAFNPE GTDVNMMGHRILEDVVNSRWADIPD LMIS NCFAYNSDTSPVHKAGVELQKLFEEKWGHMP LIFTNCYKYNPPEHDVVKMARKVQDIFEFKFARM


 QMFKNCFKFNDPGDPTFVAGQQLEAVFNAKWAE LVFSNCYAFNPEGS PVVNMMGHRLVAVFDKKWAEKP
 LI F K NCYKFNDPGDPTFNAGKSMEEDFDNKWSQ LTFA NAMTYNPVGHDVYVMAE LLLK SIIFEEWWKNM
 QIFF K CF LF NA PGEFV HTAGQQL EKV FEDKWA
LMFSNCYKYNPPD HEVVVMMARKMLQDV FEMRFAKMPD LMFRNCYRFNLQGDPTWVAGKSLEEVFDKKWS QMFKNCFKFNIPGDPTYIAGQKKLEELFDSKWAQ

 $L \operatorname{LFSNALLFNGPDHAVTLMGKRVQDVFDKQLRQMP~}$ LTF N N A ML L Y N P K E Q D VV H V M A A LLL LDK L F E E K WA A I E D LTFKNAMTYNPPS D DVVHIMMAVTL SK FFESRWK FIE L MFMNCYKYNPPDHEVVSMARMLQ
QL F T NC Y T F N P P E Y DI YK M A K T L E K QVLS Q LT Q L P
 LMFSNCYKYNPPDHEVVAMARKLQDVFEMRFAKMPD QIF ID CYKYNPD GNPVRQMGKSFEEVFNSFWSK

 LMFRNCFTFNPPDSDVYIMGARLKDVYETKMQK TM F T N C Y DY N K P A D DIV V L M A Q S L E K V F L Q K VA Q M P LTF S NA LTTYNPPGNDVVHYMAETALSKYFEVRWKADE

 $\begin{array}{ll}T M F & T N C Y V \\ L & N\end{array}$ LTFSNAMKYNPPSNDVHLMAKELDKDFDRKWKDLD
LMFMSCYKSNPP DHETVVAMARKGQDV F EMRFAK I P D D LTFHNAMTYNPKGQDVHFMAEQLLGI FEAQWPEI LTFNNAMKYNEKGQDVHAMADKLLKIFEENWAN LTF NNA LDSYNPKGGDVVYAMAEQLEEMFEPAYKKEED LTFHNAMTYNPKGQDVHVMAEVLVKDFEDKWAVIE L MLN NCYTYNGPGTYVYNE GQALEAVFEKEDANL L MFNNCYTYNPPGTVVHDMGKALESVYNDMMEGMP LTF K N ALLTYNPK GHDVVNAA MQLLEKF E E L Y R P IQQE LVFNNCMRYNAAHT QVHVFAQKLLEEFEKKMK

 QMF TNCYTYNKPGEDIVVMCQALEKLF $\square N K L A G M P$

LIVKNAKAFNGDDHPVT DAGYK LQSLFRAEMNR



LVFDNCRQFNPPTTYPVNCADEVEKVFRKEWSK L MLD NCYLYNNATDPVCDQARELEKAFKKHLAK LTFSNAMTYNPK GHAVHTGAETLSQNFELRWKADE LIF DNCQTFNEDDSEVVGKAGHAMRKF FESRWAE $L M D G N C L L Y N N R S D P V S Q L A D Q F R E A F A K T W S K$ QI F N NCEVVFNEDDS PVVGKA GHCMRQFFEARNNEL LVFDNCERFNEDDSE』GRAGHRMRRFFDKRWTE

UniRef90 A0A022T2T4 UniRef90－Q16EU1 UniRef90－11ME31
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UniRefo
N1 JF74 UniRef90－F1KQC6 UniRef90 ${ }^{-}$L71300 UniRef90－K7MQV5 UniRef90 B41X72 UniRef90－UPIO0021A5310 UniRef90－J3L2C8
UniRef90－T110S2
UniRe90＿－9EB25 UniRef90－R1DHZ2
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UniRef90 D8UBK3 UniRef90＿K3Z291 UniRef90－A0A024TT18 UniRet90－L2GYUO UniRet90－H3BET6 UniRef90 F7DN30 UniRef90－UPIo002B4155A UniRef90－X1WD55 UniRet90＿Q9LS28 UniRef90 U6HZ14 UniRef90－H2VSW3 UniRef90－W5NK73 UniRef90 B4KNP6 UniRet90＿R1DQK9 UniRef90－L7LZ38 UniRef90＿M4B7Z2 UniRef90 Q4UHX4 UniRef90－A4RZE4
UniRet90－ 6 K 151 UniRef90－B6K151 UniRef90－T0QAX2 UniRef90＿E2BPI3
$1 \quad \stackrel{10}{20} \quad 30$ 30 40 ASKPGRVTNQLRFMKK HIVLIEPGWNHSYAKPFKKPVINTN ANMKSLSAKEFDNLKKLIKQQQHHKS AWPFMEPVDPD QKQLNALIDRVLGM KTMQDHSDA WPFKEPVVD APEPMSPQDKRLVTGIFKKLWN NCPFATPFLQPVDPV AKTTKNTDGLMMCRVLLDELEGQRD AWPFLTPVVN

 ARQPKHAPHF AQLQH ILNEMQ NHPS

DVKACKNALHRLHQNKH AKPGRKTKQLQYAQNVV VKTPWNHQL AKKQLKDMQFCKNLLCEMECHEH $D \square K A C R N A L G K V K A N K H$ L S E L L E
G GKRTKVDELRQKLMPTLEKLYRQD ARRPKRSSHFAVMQQLLSDMQ SRRTNNELKTCEDULQKLMRNKS S
 GKSKELKDPD QLYS TLKNILTVQVKSHPNAWPFMEPV

 E LD DEF TAMY K V L


EEEERCVGMHKVLES $\square$ K D HVVD
GKEKSKEPK D P D QLYS T LK SI L Q QK SHQ S A P Fild PV DE E
QEKDYENVRRLVKSMQSHKMAWPFDEPV
QESMTSEELRRKCKELNRKLMNQPESP AFNTPVVDPVV
EIDD D YT A L Y KV LEALKKHKD
QQLTNLMRSLLKMNEHPDA

 ELYEALEKVLSEL KAHTEYSTPFLNRVN
 MPDLMRQFAGI IR Q $\begin{array}{llll}\text { l } & \text { T } & \text { S } & H \\ L & E & R & L\end{array}$

EWA WP $S \begin{array}{llllll}L & E & R & L & K & G \\ L & L & K & I & P & E\end{array}$

EWA QPF LQPVVVV KKCKELLKSLLK】PE A A GCFL

 D P MK F C E DLV V Q L M N QE D


A WPF $\begin{aligned} & \text { L } \\ & \mathrm{L} \\ & \mathrm{K} P \mathrm{P} \\ & \mathrm{K} \\ & \mathrm{K}\end{aligned}$



$\qquad$ $G \square$
KQEPE
RCGELLDKLLWHED

L E L D D L M H HEDAWP F L R P V T K S
EVGK EYKNHDDAWPFMDPVD

LP LD F K A CDE
G A M R K R
KHCSTALKKS T T Q H K W WAFP F N NP V D TA
GAMRKR CGQILTKLRKDKRSVW FNAPVVVE


$P$ DKK L L V
KK Q R LDD WS S Q CLLAL L R F M M HR G
$\begin{array}{lllllll}S & W P & F & M & K & L & V \\ G & W & S & F & K & E & P \\ V & D P D\end{array}$ ERNFC R H V V T E E D L
$E \square S$ WP F
GAKDKESSRRLRKCERLLLYY Y CHE Q S A D
$G A \square S \square R \square A$
L E ELD H H D

LT S WETSCERVLNRLGK $⿴ 囗 十$
K S

$K$ QCLS AV R QLLMAHK
WGFP F S A P V D P D
RK DR Q R RKPFFPVLEMLFEMQAHPSSWPFAQPV





UniRef90 V9E3Y8 UniRef90 U7PSF4 UniRef90_W7ADE5 UniRef90_L1YG6 UniRet90_Q4WXX2 UniRef90-M2TJM2
UniRef90 - Joxh91 UniRef90-L8GG22 UniRef90_V2Y084 UniRef90-U4UHX1 UniRef90_G2WQD6 UniRef90 UPI0004622618 UniRef90-T1EHT7 UniRef90-Q5KB82 UniRef90 F2U9E2 UniRef90- BowJC3 UniRef90-W5MZOO UniRef90-U6HXU5 UniRef90 E4V5F5 UniRef90-W6MJX4 UniRef90-T1IDD9 UniRef90-s3D2L8 UniRef90 W5LBW6 UniRef90-FOYY83
UniRef90-U5HH13 UniRef90 UPl0004561373 UniRef90-W4GA57 UniRet90_U6KYZ5 UniRet90-F8NSW2 UniRef90-H2Z2HO UniRef90-UPIOO045727B7 UniRef90-UPIo003991B1A UniRef90-H9JVH5 UniRef90-T0КХто UniRef90-B4N9K0 UniRef90 W7J964 UniRef90-A9TEJO UniRef90-Q1RPW5 UniRef90 A7EKF4 UniRef90-11G7R7 UniRef90-A0A024TEJE UniRef90-UPIO0046243D0 UniRef90 O7PWX5 UniRef90-UPIOOO38E9EOF UniRef90-UPI0002654B3D UniRef90 H3BA14 UniRef90 W5KYE4 UniRef90-Q4STE4 UniRef90-Q6BER5-7 UniRe990 Q8IH16 UniRef90-A8PJU5 UniRef90-J91T18 UniRef90_V9KBY5 UniRef90- J4C2M3 UniRef90-UPIO00161DEED UniRef90-U6GC59 UniRet90 C3ZAG9 UniRef90-F6YAZ7 UniRef90-M1VIN4 UniRef90-A2DYA7 UniRef90 U3JN87 UniRef90-Q9VC36 UniRef90_UPIo003AF105A UniRet90 W8BEG0 UniRef90-UPI0003F07EBD UniRef90-H2T8H7 UniRet90_IVIY5 UniRef90_UP10002C3DC6B UniRef90-B4K518 UniRef90-A0A024UPZ1 UniRe990 U6IHL5 UniRef90-A0A024G2LO UniRef90-B4HHK4 UniRef90-UPIO0042ABA9F UniRef90 E9Q7L3 UniRef90-F5H6M9 UniRef90-A2DJD7 UniRef90- UPIO004417531 UniRef90-UPIO0046CB585 UniRet90_E9E5H2 UniRef90 F6WHU8 UniRef90-UPIOOO2C44051 UniRef90-FOVGW7 UniRef90-UPIO0046C2848 UniRet90-H2UFV0 UniRef90-E7EZ71 UniRef90-F8Q2X4 UniRef90 F1QK22 UniRef90_B8PE32 UniRef90-E1ZEN4
${ }^{10} 30$ 30

40 KKAQNKDVQHFNELRRFLYQQQNHKQAWPFLTPVNRD ELYEAAEKVLSELKAMTEHSSA FTTRVN KVLMELKANEHAHPFLQRVN
PDFELLEHVFDSL KSHRTSWPFREAVN ATPQQEEENDEYLHEVLKQLKSDQAHASAWPFDKPVSRK ATREKMKKAFMDCYKAVLACEAEDGRKRCEDFRDV PD SQD DDTLANMLKTLNAVKNHEASWPFRLPVMD

KGKKSSKP FLFSLLEAMASHR
S $\|_{\text {TPF }}$ RQPVDPV ARKKKKLSELCQQLYESIRNFKKEDGSTLCDTFIRA PK AAMELQLTPFLVLLRSTLDQLQEKDA KA Q K SPDMDELSRILKELRQITRNHKSAWPFTNPVDKD


DLAFCRDLLTRMLSGPGTRLVGHFKDPVDPV DFTACKSMVKKLLKDKHVTL FQHPVDPVV DKKSLELILDKLQKKD IYGVYAEPVDPE SRRPKRGPHFAVMRHILVEL NGHGSAWPFVNPVNTE ASAAQLRQHDQDLRRVVTRLMDHRDNSF EQIVHVLDILSRHHSAWPFQKPV EHNFMQRLMTDLQSMGHPGSWAFLQPVNGE CHELYNTI RDYKDDHGRLLCELFIAPK

SMSLPFHEPVSPL
SQKRRPLSRLLEQLLRNLEKRDHQFFAWPVNDN
DDYEFCLEVITELYKSKYKSFAWPFYEPDDDA
NPWKNYCFKILHKLKKK E पACWFLKPVNPE GQGPSPAPAKKVLEGVLDKLKKKDTY GVVFSEPVDAN ARQPRHGPNFSQLQRLLSSLQ NYHQSWPF $\square S P V N \square N$

KKALHRSपKATGRTLARMVSKRAEPDAGPFLDPVPS
EECER $\square \mathrm{VAG} \square \mathrm{NQ} \square \mathrm{MT} \square \mathrm{D} \square \mathrm{ASAFVAPVD} \mathrm{\square Q}$
SSDQKKCEKLALYMYCN NLSUPFHEPVSPLV MEMQ पTPFS QLLRALLDQLQMKDQARI FAQPVDVS HRMSTPFRNPVDLN KLYELYNLIRNYKDERGRELSLPFLQLDPS
 VENENTPGQQLLEHFLRQLQRKDPHGF RAAFPVTDS AMEMRDRHPSSWPFRRPVSVS
 MNSELQMKCTEVLEKD KERPTSKWFMDPVDPN MKASADAWKEQCQQLLNLIY EREDSEPFRQPVDL ARKKRRLDPTEGCQQLYDSLRNDKKEDGSMLCDTFIDRK STRDDDDFNPYEELFAAVMSMNDRPLHRMFLILLDS
 PEVRKLREINRKLMTQPERQGGAFNVPVDPD PLRSVCAALVTRMGQEEKAPRPFSRPVDPV RECQKLLRGLQSQKYQKNSWPFQKPVKAL AQSYDTQAWKKQCQELLNLIFQCED SEPFRQPVDL AME LRLTTPLVLLRSVLDQLQDKDPARI

FAQPV FSRPDDPE


NNWKKQCKELMNLIFQCED
GASGGTDPRHKKFAGDIDACRRCRDFHD FLEPVDVV ALEMQLTPFLILLRRTLEQLQEKDTGNFSEPVPLSEVTE AALELKLSPALVLLRSTLDQLQEKDARRAKMESQPVNLS K LKP PLKEVLTKLDTQKKKDDYAFFDSPVDP ASMEEERPPLKATLEQLLEAIASCTDSSVSELFQKLDPS






|  |  |
| :---: | :---: |
|  | LI wo |
| UniRet90-W5UMM8 | L LaKNAKAYNEGSQVYKDANTIKKVF |
| Uniretelo-G3PSR2 UniReito G7PXW7 | MFRNCAKFNYPSEVAQAGRNLEMFFISNLKEVPD |
| Unireteo-Upolooz388450 | TMF |
| UniRefe90-UP100044005506 | LIEANAKAFTPKRSKUYSMTLRLSALFEERERKL |
| UniRefor - - ANGP4 |  |
| UniRet90-D5GA | LMFKNARTYNEGSKVYEDANAMDAEDRRYAE |
| Unirefe90-UPI |  |
| NiRe90-HgGNQ2 |  |
| Unirefeo-M7 |  |
| UniRe | L |
|  |  |
|  |  |
| Unireito - |  |
| UniRet90-Upiooor ${ }^{\text {a }}$ | LMF WNCAKFNYPDSEVAEAGRCLEVFFEGWTKEU |
| UniRef90-Q4 |  |
| UniReit90-A0 | RUFANAQVYNAADFFHKDALKLYDEFQD |
| UniRetere-Coze | RMCNN |
|  |  |
|  |  |
|  | RMW NCREYNSPTHPTRRNVAFMRKKADHLLEFISD |
| Uniferioo TM | LIFENS KTYNHDTEVGGAGIRGMSVFNTLVKRLPE |
| UniRet90 O2HH | R1 CHNAO |
| R7TL |  |
|  |  |
| UniRee90-UP10004444ECO |  |
| UniReioto Jbezer | LMFANATLYNGRGSV |
|  |  |
| Ref | LMWS |
| UniRei90--06 | I MFENAKKYNLPSSRLYKDAVKLQKVMQMKVQELLD |
|  |  |
| Uniretao - 1 Pfe |  |
| Unizeto -Upioos | Y WD |
|  |  |
|  | QNAIIMYNKHDTFIUKMAVSMQEECLCHMQ |
|  |  |
|  |  |
| UniRefi90-O6 | LIMNT |
|  |  |
| UniRefiot UPilooze2448 | LMVNNCLAYNRKDTMFYRAGVKMRELTEQARKDYPE |
| Ret90-E0 | QMCKNA |
| Ref90 UPIoos38ED |  |
| Unizeto -W4V | QMCQNAQUYNEEESLI YKDSV |
| Unireefo- spopw |  |
| 90 М7>0Н2 | NAEHYNQGSHVLSCLEKTEOLTDMLHKHLP |
|  |  |
|  |  |
| Uniret90-W5M |  |
|  |  |
| Unirefolo Goosp |  |
| UniRef90-C56028 | VM |
| UniRe90-H2ZED8 |  |
| Reforo |  |
| UniReiso-K9 | L |
| Ref |  |
| Unireig-M4YSK5 | LMFDNARHYNGEGSAMVGQDAVNLRNEYKSKCNE |
| Re90-LLL |  |
| Rei90-O1 | LMCENADRYNHSETVYHKAAKKLLHVGARLLQ |
| Unireteto-FITPIO |  |
| Unireipo-U1ML96 | LVFENCSTFNPPDDEVAQAGRSVYNLYSKAVKE |
| iRefor W6CMGO |  |
| Ref90-A0A016UNM7 | LLMENTMTYYKEETEEHKACELYELYY KLTKEKVD |
|  |  |
| Unieeifo-W WHkT2 |  |
|  | VYSNCMAFNPPNDWLHRVAEKSRDKFMERWRR |
| Ref90-T1KG49 |  |

UniRef90 H2T237 UniRef90 B3S7M2 UniRef90-U5H5R2 UniRef90-A2FAW7 UniRef90 K7EEF6 UniRef90-B6AFV4 UniRef90-B1H3D2 UniRef90 G6DOZ UniRef90-UPIOOO26597C7 UniRef90_L7LY77 UniRef90 W1 $\mathrm{Q169}$ UniRef90-E3Q8G9 UniRef90-W4Y309 UniRef90 -I1VIX5 UniRef90- F6UBA4 UniRef90-U7Q601 UniRef90-UPI0002A4BCCD UniRef90 G0V6F6 UniRef90-UPIO002659783 UniRef90-DONO59 UniRef90 K7MQ07 UniRef90 UPIO004573BA0 UniRef90-F2U8D2 UniRef90-S8EHV3 UniRef90 DOA8L1 UniRef90-GOSB54 UniRef90-U6H4F2 UniRef90- UPIO003D76D30 UniRef90 UPI00033435BF UniRef90-G4NAY3 UniRef90-F7C7U1 UniRef90_B4JUB UniRef90_B9IGX7 UniRef90-B4N950 UniRef90_UPI00026584D3 UniRef90 14 Y 181 UniRef90_UPIO003C47AEO UniRef90-H3CWD4 UniRef90 A0A024JEX5 UniRef90-N1PDQ3 UniRef90-F2UIM3 UniRef90-A0A023EZU8 UniRef90 H2ARM4 UniRef90-UPIO004622D26 UniRet90_C1MHR1 UniRef90_14YH28 UniRef90-12JVX3 UniRef90-UPI000298C327 UniRef90_M7T1Z8 UniRef90 UPI000258DFC8 UniRef90 ${ }^{-}$A0A023F423 UniRef90-H2SJQ7 UniRef90- S8DFC8 UniRef90-UPI00021A6FE3 UniRef90-U1M6J0 UniRef90_G1N1E4 UniRet90 H9KU57 UniRet90_U7PYC9 UniRef90-A2DQWg UniRef90 H3HDS6 UniRef90-V9ESR8 UniRef90 G2X7T9 niRef90_A7SQM8 UniRef90- A3FO86 UniRef90-UPIO002657351 UniRef90_UPI00019B37E4 UniRef90 A2EBF8 UniRef90-A2FGR1 UniRef90-A0A044TFJ9 UniRef90 GOPD37 UniRef90-UPIO004409A55 UniRef90-M5FN82 UniRet90 UPI000440BDFF UniRef90 l1BMH9 UniRef90-N4VMY7 UniRef90-H1UUZ2 UniRef90 ${ }^{-}$AOA010QUM4 UniRef90-B5DMK0 UniRef90 A2E602 UniRef90_W9CSC5 UniRef90-M2YK87 UniRef90-L2GXG2 UniRef90 G9PA40 UniRef90-l1RUR2 UniRef90-LiJH57 UniRef90_GOP1Y8 UniRef90 UPIOOO4560310 UniRef90_G6DC48 UniRef90 G5EEY5

1
STEQSLSPE ${ }^{10}$ QRRCERLLLIYVFC KLSVGFR
SRFVEQHVFAREVVDFTRRVS
MSFSPDLKQ RCIKAMDNLMSHPПAS円FAKPVNPE SKKNDRKQRMK ILFNVVLEAREPSGRRLCDLFM VKPS WKHMCKKปTQCLV EFPYSGPFMYPVDES $E T L L K L V D Q L A K A D S R R \square F A$ ERRRTDPLVTLSSLLEDLNTMRHLPDVQPFLFPVNPK K S STSPLLKQ KTV KTVISYKDEDLSESFMQL PP E A TLREL RLLFL R D L L T K L M R D R R Y S M , FA K P V D A S

PSSMPSWARAA WN LLQRVMRFRGANRASWFTRPVDPA M QIN PLD S TMHKLVDALEAKD T A E\|F REPVDVD SRRQNLELQKCEEILTKLDKFR FSWPFREPVTTE


LQKLLGVLLNIVQERDRFFAW
PLKKRMQGIVTKLTKEMGGD TV FEHPVDVE LKKULNNI I DFLQRKDTYEFAEPANLDV

 R K L A G L L L

P P K LT K QMN N I D T V I N Y K D R C S G R QL

$P$ N

S P LT Q T L R P $\square F$ D GI Y QL R D A E G H D V S L V F Q T L P D R K
E WDAMSKVLNAIYDYRTQDGFDPFHRKVN
Q D L L K E C A N K L

QK TA DE E V V R A L T S A T K R R LA D M F M E L V D
 K E R L K S V L T P F F DVVVWTLTEDED GRL RADL F REVV P S


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

 A L T F I L D QR KCE R L L L Y L LY CH R E L S DE F Q E P V P A S E R A $\square E \square T$ N K $\square$ K K $\square \mathrm{P} \square \mathrm{D}$ S F F F V K K K GLYEALPKLIENLQRRDSYFFCEPVNPD
 LMMLFNE $\quad$ YY QHTDRPMVEP FLRLVLP P F L E PVNWK

 E LIE H K I R S L L H K L R VD K S

QMRQALEK IMAFDRYSY LD RVLSELLRA P T P P E A VA F R N P P V V
 $\square L N T$ TLLSN

EKUVE MIRKKEAEDEAYFEPF N RLLK K LRHKRRQRVCWAFNDSRVWV QREKC $\quad$ KK I DTVVT WEVCHPFVKMVDPE L L NQL RDKQGRPFATNFLTHPDRK GRPPKLLTPMEARMQTILKGURKAKNKANQVMIKHPDPD K K A K N L L T DL DN K T $\square$ QR Y A S A F L R P V S T K LT P TE A RIT S I L K ELLRKAKDKD GNAP F ER LL P D
 $\square$ QKCRNVPK S A $\square$ FH T K V D L K LAKVEALDRAHFFAAPV



| UniRef90 H2T237 |  |
| :---: | :---: |
| UniRef90－B3S7M2 | KTNCHLYNPPDHATRKDCDEVFDFYHGEY |
| UniRet90－U5H5R2 | LIFDNAFLYNKKESTVHRAASKLL |
| UniRef90－A2FAW7 | 1 WS N |
| UniRet90－K7EEF6 6 | MFRNARHYNEEGSQVYNDA |
| UniRef90－B6AFV4 | LVFRNCRKYNESTSDIVEWCNKI QS |
| UniRef90－B1H3D2 | LMFRNAMHYNEEGSQVYNDAHVLEKVLKEKRKEL |
| UniRef90－A0A024UGF7 | LTETNCTTYNPD |
| UniRef90－G6DQZ1 |  |
| UniRef90－UP100026597C7 | CSNAQKYNVDGSLI YEDSIIMQSVFTK |
| UniRef90 L7LY77 | LICSNALIEYNPDRNPI RHRACAL |
| UniRef90－W10169 | LIFANAQTYNHEDSLLYQDAVIL |
| UniRet90－E3Q8G9 | MFSNCQTYNEEASLLYQDSLTL |
| UniRet90－W4Y309 | LVRGNCLQYNPPGH |
| Ref90－11VIX5 | LMDRNCLAYNDRETMYYRAGVRMRDQCAA |
| UniRet90－F6U |  |
| UniRef90＿U7Q601 | LMFNNAKLYYQDGSELFVAAVK |
| UniRet90－UP10002A4BC | D |
| UniRet90 G0V6F6 UniRef9－UPIO002659783 | LVCONACQYNAADTIYYKEAKKLWRKVQKLFFTLED |
| UniRef90－DoN059 | LVFQNCKTYNAEGSD $\ W \mathrm{~V}$ VAAEL |
| UniRef90－K7MQ07 | LI CSNA |
| UniRef90＿UP10004573BAO | A $R$ |
| UniRef90－2U8D2 | RVILNAQVYNREGE |
| UniRef90 DoAlt | WK N |
| UniRet90 Gosbis | RICHNAQVYNRPSAPIVADAAKLLEVFKEKLDEL |
| UniRef90－U6H4F2 | LIFRNCRTFNDEATPAGQFVLRLCAEAEAR |
| UniRef90＿UP10003D76D30 | L MLETCYRLHGVDHWIISKQGQKLEMLLEQKLALL |
| UniRet90 UPIOoo33435BF | SNAKDFYDKGSQVYEDAE |
| UniRef90－G4NAY3 | SNAKDF ${ }^{\text {d }}$ |
| Ref90－F7C7U1 |  |
| UniRef90－B4JUB66 | GNTMLFYQESKTFSNK |
| $\begin{aligned} & \text { UniRef90-B9IGX7 } \\ & \text { UniRef90 B4N950 } \end{aligned}$ | LVSGNAMHFNSSSTVYFRQARALDELAKKVFRDM |
| UniRef90－UPI00026584D3 | CLVYNYPHSDEVTAAKALSVMFCEMLTQV |
|  |  |
| UniRef90－UPIO003C47AE0 | WI LHNCIIYNGGNHKLTQDAKIVIK CEHEMNE【E |
| UniRef90 H3CWD4 |  |
| A0A024JEX |  |
| Ret90－N1PD |  |
| UUİ |  |
| UniRef90－A0A023EZU8 | LMCNNAMVYNQPDTUYYKAAKRLLL |
| UniRef90－UPI0004622D26 | LVFLINALYYNEPGSQ |
| UniRef90－C1MHR1 |  |
| UniRef90－14YH28 |  |
| Ref90－12JV3 | NARUYNQEGSLY |
| UniRef90 UPIO00298C327 | RMFENAKRYNVP S S Sily |
| UniRefto－MPI |  |
| UniRef90－A0AO23F423 | Qi VENSTLYNGGKSSLTVAAKRMMTVCVERLREKEE |
| UniRet90－H2SJQ7 | LIFSNCAKYYK凹TSEVGSAGMYロEDYFEDQLKQDPD |
|  |  |
| Ret90＿UPI00021A6FE3 | QILENCTVYN |
| UniRef90 U1M6J0 | RMF SNCFKFNAVDTLYYKAGYD |
| UniRef90－G1N1E4 | LI FKNCERFNEADSEVAQAGKAVALYFEDKLTEDPD |
| UniRef90 U7PYC9 |  |
| UniRef90－A2DQW9 | AVASELQQUFRRKSNFVP |
| UniRef90－R9PC19 | R1 |
| UniRef90 H3HDS6 |  |
| 俍ef90－V9ESR8 |  |
| UniRef90 G2X7 | LMFSNCQTYNEEASLLYQDAQTLQNFFHDEMAK |
| UniRef90－A7SQM8 | LCFNNAKTYNEPNSMLYKDAERMLDHMSKKKTEU |
|  | Q N |
| UniRef90－UPIO0019B37E4 | LYNNSSKFNGRYSAYTET |
| A2EBF8 | WNNSLA YNKNNQTLVMI |
| A2FGR1 |  |
| UniRef90 A0A044TFJ9 | RLFNNCFKFNAPRTLYYKAGYDLAEMARKLCOK |
| UniRef90－G0PD3 | L VGKNAQQFSGKGSDUWKDAEQLKTVVKEKI AKLE |
| UniRer90－M5FN82 | V WDNCLI |
| UniRef90－UPI000440BDFF | LI FSNAQQFNDDHTPLWEAAETLKGHFRQ |
| UniRef90－l1BMH9 | LIWENCMTYNTTTSKYYRDACKLK |
| UniRet90－N4VMY7 | FNNAKHYNEEGSDTYAA |
| UniRet90 H1UUZ2 | QICHNAQVYNRPSSALFKSATI RDLLKQELQKL |
|  | TMYSNAFEYNLESSECVAAQKLKTLTIATCKQL |
| UniRef90－AOAO10QUM4 | LLWDNA |
| UniRef90＿B5D |  |
| UniRef90 A2E602 | LI YLINSKTYNGEEAYYTLMAFEARNWFFKK】EHLP |
| UniRet90－W9CSC5 | RLVKNA |
| UniRef90－L2G | KMWQNCVTYNGTDHGLSKDARNMLDLGEETMMSKKD |
|  |  |
| niRef90－11RUR2 | LMFENAKRYNEDDSEVYKAAVDLQREAHML |
| UniRef90－LiJH57 | LIESNAKSYNPPEHDYHKMADKVSAFFEEIWA |
| ef90 GOP1Y8 | NGPQ |
| UniRef90－UP1000456 | VLANAMTYNKADTPFHKAASRIQRQ |
| UniRef90＿G6DC | LMVWNACLIFNEPGSQLL |
|  |  |

UniRef90 A2F1V9 UniRef90-M3VYN5 UniRef90-UPIOOO21A43E9 UniRef90 U1GA56 UniRef90 UPIO00012309E UniRef90-13JPJ2 UniRef90_B4JGW2 UniRef90 ${ }^{-14 Y \mathrm{JI} 8}$ UniRef90_M2NOD5 UniRef90-S8AVZ9 UniRef90_W4XIZ5
UniRef90
URB4 UniRef90-E5SIW1
UniRef90-F7E182 UniRef90-G9MKF1 UniRef90-W4GMW1 UniRef90 D8LKC4 UniRet90 UPIO0026549AE UniRef90-U6NVY3 UniRef90-X6MYG4 UniRef90_D7FIW7 UniRef90-A2E5E3
UniRef90 E9GEW8 UniRef90_J9K087 UniRef90 G7YDK1 UniRef90-UPIO0035A1F2E UniRef90_UPIO00350DE5B UniRef90-UPIO00333A0B5 UniRef90 S709N2 UniRef90-UPIO0042CD14D UniRef90-UPI0003AE12C9 UniRef90 ${ }^{-}$M3BS06
UniRef90-F0Y817 UniRef90-Q6FMX8 UniRef90 N1JGK0 UniRef90 UPI00029DBC06 UniRef90-Q4S8V9 UniRef90-G4VLD2 UniRef90 B3RXV1 UniRef90 K3WFG0 UniRef90-H9K8E8 UniRef90 A2FR76 UniRet90 G6D6X4 UniRet90_E3M7Q2 UniRef90-L8HJ26 UniRef90-F2TVA8 UniRet90-H9JMF7 UniRef90-M5WMJ1 UniRef90 B8C8N7 UniRef90_THFK UniRef90-E3LLQ7
UniRef90_S6E1T6 UniRef90-AOBRC7 UniRef90-D7L973 UniRef90-W5NIR6 UniRef90-M2YNU5 UniRef90-J4DP40 UniRef90-UPIO002C43C8F UniRef90 UPI0001D53F77 UniRef90 G3QBQ8 UniRef90-V5F983 UniRef90-T1IVK3 UniRef90 P22082 UniRef90-UPI0002B48960 UniRef90-W6LOI3 UniRef90_JoDY87 UniRef90 S6E430 UniRef90-B9WJQ7
UniRef90 UPIOOO32AE29D UniRef90_W5JMJ8 UniRef90 W4FRZ7 UniRef90-D8M1IC UniRef90_E4UXZO UniRe990 B8C0IO UniRef90-H9JHD4
UniRef90
H8X1S6 UniRef90-G0ZJ12 UniRef90 D8UK65 UniRef90-V5H821 UniRef90 B8NRH3 UniRef90_U7PP18 UniRef90-H3C6D3
UniRef90
B8CAI7 UniRef90_G2R8Y3 UniRef90 A2H2G8 UniRef90-L8G9X5 UniRef90-UPIO003D0A678 UniRef90 A9URH5 UniRef90-UP10003DEBC78
UniRef90_V7BLS5

## MEAR $\square \mathrm{KS} \mathrm{VL} \mathrm{K}$ G

A AYMKQKTMMQGLWNAIHQFRAPGN LAY WPAGAF DDPS



 LTRLK D D D GEDV AYPFI GKPDRN I MLVWWRAAASHKYASVFLHPVT ELLRKTA DKSGRLVATNFEELDPP

AKSKEDAWRM
$\qquad$ C Q R L L VG LE T $\square$ S

 SKNRRRADP QVIMS GULDEELNA DREDPYTQPFHTAVEKR




QEQLK CEFVLLSVYCCSESSF
 KRESRKLQQAE VI NDLDSHCLYPHEAPFKNPV S


 | $K$ | $L$ | $L$ | $A$ | $V$ | $E$ | $N$ | $V$ | $A$ | $K$ | $R$ | $K$ | $E$ | $A$ | $K$ | $W$ | $F$ | $K$ | $K$ | $P$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $V$ | $D$ | $H$ | $V$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $K$ | $M$ | $K$ | $R$ | $E$ | $V$ | $D$ | $D$ | $N$ | $N$ | $Q$ | $T$ | $L$ | $T$ | $L$ | $T$ | $F$ | $E$ | $K$ | $L$ |


D D Q VAFSSF LLD N IVTTQKMMPDSWPF H HPVN $E$ S REMQLFRRRLRQLLRRVVAHLASRRFADFTRPVQLD


 1 M NVWR Q】A GHK DANLFRRAV R

SEAYKVCESVIDY LRSHPKGQT FLEPVDHV $D L N$ Y GYKI LQEI LNVPK SRL IL EKPDES
 E Y L S I I S K LL N Y S E GRFG I FFM Q P VN P D NILESIVDTLRA KEVSVSYLFLKPVSKK
 EMI CA EAIDQY TDED GMA I F T P F V Y L P L I K F K Y A YLE T T N K L I K F D K Q K I F R F P V D T K

 KLLK T I P D S H P F H R P V

P S
$N \square L E R \square V E T L \quad K D R F D \square S Y \square F \square K P V S K K$
 SF ILNE I Q E CKN IP K SVAAFHFKVDP K


R D M P DVQP F MF P V N A K


 $D$ LE R CE Q IVK Q DKD G L F A K P VTD DV
 EKIVEEIIRRPDEEDYGYFEPFFNLP
EDTLREDRLGLRDVTNRLSQDKR FKAFTKPVDLA A LETPRDALHRLYEPIFNSLWDMEFDNLGGPFRTVIDAK


A R A AR L A Q $\square F K$

K E ELLA DAE EL LT LL F

| $N$ | $L$ | $E$ | $S$ | $V$ | $V$ | $D$ | $T$ | $V$ | $K$ | $D$ | $R$ | $Y$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $N$ | $I$ | $L$ | $E$ | $I$ | $I$ | $V$ | $D$ | $F$ | $L$ | $Q$ | $R$ | $K$ |

DELAAA PFRFPVVPA
$P L K N I L E \| I V D F L Q R K D D E L L A E P I N P D V$


UniRef90 A2F1V9
UniRef90－M3VYN5 UniRef90－UPIOOO21A43E9 UniRef90＿U1GA56 UniRef90 UPIO00012309E UniRef90－I3JPJ2 UniRef90－B4JGW2 UniRef90＿14YJI8 UniRef90 M2NOD5 UniRef90－S8AVZ9 UniRef90－W4XTZ5
UniRef90
URB47 UniRef90－E5SIW1
UniRef9－FFE182
UniRef90－14YCS6
UniRef90－G9MKF1
UniRef90－W4GMW1 UniRef90－D8LKC4 UniRee90 ${ }^{\circ}$ UPI00026549AE UniRet90－U6NVY3 UniRef90－X6MYG4 UniRef90－D7FIW7 UniRef90－A2E5E3 UniRef90－E9GEW8 UniRef90－J9K087 UniRef90－G7YDK1 UniRef90－UPIO0035A1F2E UniRet90 UPIOOOO350DE5B UniRef90－UPI000333A0B5 UniRef90 S709N2 UniRef90－UPIO0042CD14D UniRef90－UPIO003AE12C9 UniRef90－M3BS06 UniRef90－F0Y817 UniRef90－O6FMX8 UniRef90＿N1JGK0
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UniR Ref90-L8HJ26
UniRef90-F2TVA8
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UniRef90_B8COIO
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UniRef90_UPIOOO3DEBC78
UniRef90_V7BLS5

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 IIPYNAQVFNDPESGAFQDALVVKQEIERQLQLL LPFSNAILYNEADSDVAVCAAALLKVLD
LMIENYKKYNQNNPMLLNTARLMEYHFRKLVE Y！WKNAFDYNEDNSELYKDAREMQLYFNKLLNK LITNSTKYNGR
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LIFSNARIYNTEDSLVYLNSVELEQVVTSKYRELEE LMFANCIMYNQSGDDLVELTKTMKQDISELGKM Qi VENSSLYNGAKSSTTVAAQRM
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TI FWNGCSFNPFHDIWYQQCVVLKVCYMNIVKQLEE YLWTNARTFNEDESE【A ILAGELEKFGNTRリAE LMFSNCVKYNPNGVWFRNEADRQKKLWKEK
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LI WQNADEYNPDDRQ
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C $\square$ KFFK ${ }^{20}$ M M H P WVS A ${ }^{30}$
RPKYDFHVPV



$K$ LVECLT QVHTHAQAEDQY $\square F A Q P V T D D$
 R R L L A A F K DM S L G I A DP F LAA P V D L N S D K QERMYSKMEKVLSK K R A Y T P F S V P F L N K V V RK Q S L S P L L S K L E MI H Q T VWQME EA EI FK CP S S GSN N S
 S R KPKRS R P Y N L K E L L K L A DS RMMF PGTE DF QK P D DP
 K K M K K I V D A V DK Y K D S S L $G L E M Q S Q Q A K C V Y L L L R L Y C K Q N \quad S G P F T K$


VS T K N FE D LQQ L L N D L H E M A A D QF N $\square$ F A A P VT D D $\square$

 PFRKMVISRAD



 GA $\square K Q S R S E H L N A L E V V V Q R L L E M P E S E L$

 ENTLRELRLLLRDVTKRLATDKR FNIFSKPVS

 K RLEE E QE E DTF RELRIVFLRNVTHRLA I IF TK PV DP D K M L H E E Q LK CE L L L L N V C A WS K S S FF T P $R N \square S R R D \square E$ GHFANPVD $\square^{K}$ QCWA L LKRLMVGRD

$\square$ KE V I E K F N E $\square$ LM S $\square$ M S S $\square$ A E VM N Y A F L N E VN $D M D Q R K D S N V L H V S D G T D$
 K R L L K Q WE K L L R D NVLLKL LKND N NAFYFPVLEDI N IN

K K M K K IVDAV DKYK D S S S GR QLS K F I CP P $\square L H$ LI EKLQ E T E S F EVVFK Y P V T
$K L V K L E P L V K V L R L V R S H R L G S V F Q R R L R S Q$ CRS GS F H D K $M S L T E E L R T C$

G N K N K R $\square$ N Q WE N $\square \mathrm{L} N \mathrm{~N} \square \mathrm{~L}$ K N L K C D S N S V Y F $\square \mathrm{P}$ V LD D K N $\square \mathrm{N}$ AK G $\square$ KYYPE EELAALI R S L NRDED H HI Q S L K E A L Q R H L DLL I K E P K Y N L F
QK LTT DRMLS CEY LL L KL Y Y C K E SVFAKNPCDTVVT

 T S $\square$ N Q LMR QLQ $\quad \square K$ D P S A F F S F P VT D F $\square$

PEEQSKCEF LLLKKYCCSESS F
$F A K \square \quad P \stackrel{V}{Y}$ RSEDKMFRCTKALEQLF IVDKLNN QFRYPVSPT

## UniRef90_Korby4 UniRef90_U6N5U0 UniRef90_UPIO002BD17B5 UniRef90-KOSQIO UniRef90-W5QHHO UniRef90-UPIO003EBDD4A UniRef90-K9DX62

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UniRef90-U6NZ54 UniRef90_Q6BER5-8 UniRef90-W7AAD9 UniRef90_UPIO003C1283D UniRef90-LOB1E3 UniRef90-W4IPJ1 UniRef90-W1Ql02
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UniRef90_M4CM74 UniRef90-K3WB48 UniRef90_Q7RSD6 UniRef90_W6KUL7
UniRef90_U6LXZ5 UniRef90-D8M8Q1 UniRef90_UPI0003C107AE UniRef90_UPI00042B1EF1 UniRef90-A2DPV8 UniRef90-A0A059EKR1 UniRef90_V4LP56 UniRef90-B7G9A1 UniRef90-G1QC70 UniRef90_UPIO00185D66B UniRef90-F7E5B7 UniRef90-Q4N3J4 UniRef90_T1HXM5
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UniRef90_UPI0002C3D5F2

## 

 EE
E

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E
T
R
R KRDWGDYYLIITNPDCMNDI QKRI KKEDYNSLADMRRDMD PHYTRDASQDLEEPMWLNKI K DKLMMTLYYQVWEFVRDMR

 K K E LP P Y Y A VI KTP P S F NTLKKRV P HYTDAQYF I NDIF PTALTDYYQTIHNPIDMKTMRDKLFSDQYKTLASFIQDAR ETTAEGYRQFIAEPMWLRKVQARLAAGAYALDPHFKQDVA
 P S N
 NMGVPD R WK T E TWS W A Y F S
 K K L Y P D Y Y M I I K S P IDA L D A I R K H I N GT F Y K T D E A M K S D A
 K S T S R G T L S P P M WL D R I K S K L E S K K Y QK F G E FVVS D FR

 TVERANYGSVV E EPMGGLDVLDNKLRMNAFASSREVWKACN $E^{\text {P }}$

A P
P
 $\square \mathrm{L} Q \mathrm{Q} \mid \stackrel{\mathrm{L}}{\mathrm{V}} \mathrm{L}$ D K S E A MK K P K GME D DE S K
GYR D
Y

DTY DYVKEQQKR

 D N IDK E E Y R I K I I K K P M D ARSCP
$E K \square A P$ ES Q PR Y F S I I K H PMCFE NI E D




 $M D L G T V K K R L A E G R Y L E M Q D V V A D V R$




K R G
VEVB $\begin{array}{lll}\text { K Y A K K T } \\ \text { R Y K K M I } & \text { E K } \\ \text { L R }\end{array}$ L F K L A V K Y






|  | $100{ }^{90} 110$ |
| :---: | :---: |
| UniRef90 KoRBY4 | VANCFENPPGSWLRDA ROQDAMQRDADPE |
| iRef90－UPI0002BD17B5 | LVSNHRAFYPKNKKFINRALQLEALEACSDFKNVPE |
| UniRef90－K0SQ10 | LICHNCCKFNGRESDYARLTREFEEMVD |
| UniRef90－W5QHHO | LIFHNHKTFFKASDFGQVGLDhEAEFEKDL |
| UniRef90－UPIO003EBDD4A | LVFKNCAKYNEVGSEMADSGKAVSDYFE |
|  | L |
| UniRef90＿AOA024 | A M T |
| UniRef90 UPIO002739952 | A EFKP |
| UniRef90－T1GBC1 |  |
| UniRef90－13EJ17 | LWW NCARFNNTHGNVYAMAQKM |
| UniRef90 UPI00022C9B99 | RTVYNSKLYHKDDHDRVKLSKKLEELFEEHFA |
| UniRef90－Q4H2L4 | RVFRNAE |
| UniRef90－11FXS1 | WILHNCDIYNGGKHALTKIAKGIVKDCKEDMREVE |
| UniRef90 G4LUL9 | MCNNAMVYNPPDTIYYQRARKMMQCDRACKDTP |
| UniRef90－UPIO0038704AD | LLCQNAQTFNDEGS |
| UniRet90－U6NXY7 |  |
| UniRet90－W5N196 | LI FQNCVQ |
| iRef90－MOUXAO | T SNAMC |
| UniRef90 Q2H6H6 | LMVANCRTFNEESSGLCQDVNLIEAFFRARFEELAD |
|  | $V Y$ do |
| UniRef90－UPIO003D6E1B8 | v |
| UniRef90－s9W4L5 | R V F |
| UniRet90＿W4YTW2 | KLEQNALEFNERD |
| UniRef90 12 H 2 V 9 | Q PWNAKTYNTKDSVFYVDANILQKHLMERLKK】 |
| UniRef90－KOREP0 | TLCVNACLYNAEETVFARTAKS |
| UniRef90－A0AO？ | QVFQNADEYNGVSSDTGTFAMELQQAT旨KILSDLVD |
| UniRef90－UP100046BB426 | LI FSNSKAYTPKRSRIYSMSLRLSAFFEEHISSV |
| UniRef90 S7NK23 | LFHNHKTFY KASALGQIGG |
| UniRef90－UPIO003F0B2A0 | RVFSNAEKFYGQKIDFTKDİ |
| UiRet90－88 | KRNAVKFNGKGSP的NE |
| UniRet90－K0RU71 | VT NAMKYNSPKNPYHVA |
| UniRef90 J3PMB4 | RMFKNAQHFNEDGSMVWNDSKVLETKFVELIHHPP |
| A2EESO | ANGKENGPR |
| UniRet90 UPIooo39 | CNNALEYNPDDTYATVREEM |
| UniRef90－Q9UTN6 | TMFNARYNEEGS |
| UniRef90－UP10003ACCE50 UniRef90－F1R6N2 |  |
| UniRef90－K8z822 | LI RANARRYNPC |
| UniRe990 UPIOOO42CF326 | L FQNHKVY RDSKF■SLGLQLETQFENDFKD■ |
| UniRet90－G4YNJ3 | LYFNYCTTLNGPTSVINKTGNNWRKTFQQMLARLVE |
| UniRef90－A4S3B0 | S $\square W S N C R S C Y P S S S R M R K L C D L E E L M F T T T W R$ |
| UniRef90＿UPIOOO3 | WDNCTKYNAGP |
| UniRef90－H7BYF1 | LICSNALEYNPKDT |
| UniRef90－B7S3X9 | SHNCVK |
| UP10003C19 | NALEYNPDR |
| UniRef90＿A7AQG8 | N CKKYNSETSWL |
| UniRef90＿UP10002BD149A | NA |
|  | QI IYNAFKFHEKDSVIFKEADSMLTC |
| Unil | LIFQNHRSVYKGHKF■MLGLQVEAMFERKFKYロ |
| UniRef90－A9VBZ88 | V S Y y il |
| UniRef90 U6NZ54 |  |
| UniRef90－Q6BER5－8 | ENAKTYNPKGNAVFKCAETMQEVFDKKLIDVRE |
| UniRef90－W7 |  |
| UniRef90－UPI0003C128 | NALEYNPDDK |
|  | P Y N ${ }^{\text {K }}$ |
| UniRef90 W41PJ1 | LYKNCDPNPENKYIEAAKSSDMKFEFLWNKWKE |
| UniRei90 G1SG47 | M |
| UniRef90－J9DKS8 | LISDNCRAYNKSNFFVNDANLLDK |
| UniRef90－UPI0002C3250C | LVFSNAVVFYRKAAPEHVAALELRSL |
| UniRef90－A5K2C8 | N A |
| UniRef90－E91 | WI QHNCVVFNTCGS |
| UniRef90－A2E7 | CVWVNPLKANKKDF |
| UniRef90 M4CM74 | TF |
| UniRef90－K3WB48 | VFENAKLFNAPNHSIHVDADILLRR |
| UniRet90－Q7RSD6 |  |
| UniRef90－W6 | NCVRFNGSESPLAETAESFESFFNQ |
| UniRef90＿U61 | LVFKNARAFNAPQDKPFQDGCLLEHUFNSLWAP |
| iRef90－UP10003C107AE | LIFKNCQKFNQ |
| UniRef90－UPI00042B1EF1 | A MV |
| UniRet90－A2DPV8 | C A |
| Ref90＿A0A059EKR | F |
| UniRef90＿V4LP56 | F |
| UniRet90 ${ }^{\text {B7 }}$ | K1 WLINCULYDEKNSNYFRFALLLNKHWDKAY |
|  | E |
| UniRei90－F7E5B7 |  |
| UniRef90－Q4N3J4 | A |
| ef90－T1HXM5 | A M |
|  |  |
|  | $N$ NCDSVIGQQA |




[^0]110
lupas_21



[^0]:    90
    100

