UniRef90_G3VF71 UniRef90_UPIooo333B997 UniRef90-UPIo003C1446B UniRef90-V9KTW8 UniRef90-JJRYDO UniRef90-F1ROA6 UniRef90-H2TFRO UniRef90_Q7PJT7 UniRef90-B5X2E1 UniRef90-E9GB01 UniRef90-H3B558 UniRef90-S4RMX4 UniRef90-V9K915 UniRe990_U5EUZ2
UniRef90_UPIOOO3FOEAE UniRef90-UPI0002657AE7 UniRef90-B4KEU8 UniRef90-Q6NVM4 UniRef90-B7QL57 UniRef90-UPI00034F283E UniRef90 ${ }^{\text {K1X3T9 }}$ UniRef90-UPIO00258F1B7 UniRef90-T11PF9 UniRef90-D6W6L7 UniRef90-W5JB36 UniRef90-FOXF3 UniRef90-A9VOY7 UniRef90_UPlooo359BB07 UniRef90-T1FYH6 UniRef90-UPIO00359B756 UniRef90-A0A016Q8R8 UniRef90-S3CP73 UniRef90-H2MB60 UniRef90-M7S6L2 UniRef90-V5I8H4 UniRef90-C3Z247 UniRef90-T11199 UniRef90-EOVT79
UniRef90-Q4P115 UniRef90-E9EZ35 UniRef90-G3JCP6 UniRef90-K1Q197 UniRef90-UPIO0045610A1 UniRet90-M1EHJ2 UniRef90-F2UPX5
UniRef90 K7FFM3 UniRef90-G2XG68 UniRet90_UP100044147F6 UniRef90-G9NN71 UniRef90-C7ZPQ7 UniRef90 B8PBL3 UniRef90-E4WUL8 UniRef90-S7QG78 UniRef90-J3JUS4 UniRef90-R8BQ23
UniRef90 G7YM97 UniRef90-G4MV90 UniRef90 F4PBM8 UniRef90-A7RQH5
UniRef90
X8JDH7 UniRef90-W3XAD1 UniRef90-A7F6U7
UniRef90
T4ZYP2 UniRef90-A0A015NE38 UniRef90_S8ETS5 UniRef90-GOS645
UniRef90 F4RCE4
UniRef90-J3NNC9 UniRef90_NVVUJ7
UniRef90 UPIOOO3C2899E UniRef90-D5GH83 UniRef90_S3D981 UniRef90-T1KL07 UniRef90-F7VS13 UniRef90-A0A024JL23 UniRef90-R7YPF2 UniRef90-C5P5C3 UniRef90 W1 QKJ2 UniRef90-UPIO004407696 UniRef90-UPIO0044139FD UniRef90-M7XY86 UniRef90 A0AO5827H4 UniRef90-C4Y6Y9 UniRef90-11FF25 UniRef90-H6QVL6 UniRef90_Q2HOZ5
UniRef90_F8Q7C3 VEAFDSLLAGPVAEYLKISKEIGGDVQKHAEMVHTGLKI SVEAFDKLMKSMVAEFLRNSRTLAGDVEDHAEMVHSAFQA VDAFDRLLSGAVAEYLKNSKVLGGDVEVHAEMVHAAFQA VEAFDALLSGSVAEFVKHSKII GDDVEKHAVMLSAAFQA
 SMEAFDRLLSGSVSEYVQSSAAIGGDVAKHAEMVNNALQV


S
S
S
 SVQGFEALLKGPFQAYMALSRTIGA

 S| DAYQDIMHGPLVSFLELSKKLG
 SVEAFDKLVSSMVAEFLKKSRVLAGDVETHVTVVHSAMKI V QAYDAVVNSYLEKFLELSKKLDGDVSTQANLVKDALSA SVVAYD DII S A SLAK FI SLSNDI GGDVKTQAAIVKAAFDA AI E EF DAFL NTSVENYVKLSHQUGGLVAEQASLVKTGFQE
 SI E D F D AFI S Q SVVDKYVQASNKLGGEI SEQASKVLEGFQQ

 AV A GYRNLI Q GPLSNYVKQSNLI SVVQGF Q QV L Q GPFANYLQASSHI | $A$ | $V$ | $K$ | $A$ | $Y$ | $D$ | $E$ | $E$ | $V$ | $G$ | $Q$ | $A$ | $L$ | $D$ | $E$ | $F$ | $K$ | $Q$ | $L$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $S$ | $S$ | $A$ | $K$ | $I$ | $G$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| I | $E$ | $E$ | $F$ | $Q$ | $Q$ | $F$ | $I$ | $S$ | $S$ | $S$ | $V$ | $G$ | $K$ | $Y$ | $V$ | $K$ | $I$ | $S$ |
| $T$ | $E$ | $L$ | $G$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

 SVTAFDEIVNSSVGKFVDLSNKI QGDVARQAADVLAGFRA $S V K A W D A S V A G A L A E Y Q E L S G R L G N P V A E Q A N D V V V K T F A E$

V H S A F Q A
$S V S G Y D E L L S G P F A D F L A K G R A L G G D L A T Q L D I V E R A F H A$ I E A F D R L L N G S VA E F L R N S K ILL E G DVV DHAAEMV RAA A Q A SI QEF D IFFITTAVENYVKKSKQLGGLLADQAAKVLAAGFQA


 S E EFDS FI S Q SVGNWAKISKA GGGLVAEQAAKVVEAFEE SVQAFDELGEGKLKPF VDLTKGFAS TVVEQASLLEKEFS D
 S L S G Y T D L L Q G P L A Q Y L Q i S E K I G G DVVA E Q S K L V S A A F E A SII E D F D A F M E T S L G K Y A K L S Q Q L G G LI A E Q A A KVVVQG F K E
 ALTAFDTLLNGQFKTFLALSKTLGGIVHEQSQVVSDATKA
$\qquad$

$\qquad$ SVKVFDEVI | $S$ | $E$ | $S$ | $V$ | $A$ | $K$ | $C$ | $L$ | $K$ | $I$ | $S$ | $S$ | $E$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $A$ | $G$ | $K$ | $L$ | $E$ | $P$ | $F$ | $L$ | $R$ | $V$ | $A$ | $G$ | $E$ |
| $I$ |  |  |  |  |  |  |  |  |  |  |  |  |

 ALAAYDELI EGPLKNF L SVEAYDEVIVGKVKPFVELTKAV



 $V$ E A F D R L L N G S V A E F L R N S R T L E G DV K T H
SVVEDFDELI TKEVAKYVEKSAEI GDLVAE QSKAVEKCFAA AVEEFDAYLAGTVKTYVALSNALGGPVAKQATSVHNALDG
$D$ DI E G S F G V Y L K L S Q Q G D LV H Q H A Q MV N K AV Q E
 SVAAFDEVLRGALAKYLELSKELGGLIADQSKHVQAAFNA SVKDFDDFLKEFLQPYLTASKAI GSFVEEQSKKLEEAFKV S I A A F D D LI D G E L G Q WL EMMS K Q I G GVVVA E QA S A V S Q A F T A SI E A F D ELLI N K E V K P F V D D I A Q K I G D AV A E Q S K A V L Q A F E A


 I T A Y D DI I N G ALLK T Y L S L S S TII G G L V K D Q S DEVVAKVF NA
 V D E F D QVLNGKLSKY FELSKKFGGEISEQAEIVRKCFNR SLKAYDELI A GPLQKY LGFSKEVGGSAQEQAQHVDATFSA
I E K F D DL I N QP L A S WAK LS N DIGGGLVAK QAA KVVEA FE E

UniRef90_G3VF7 UniRef90_UPIo00333B997 UniRef90- UPI0003C1446B UniRef90 V9KTW8 UniRef90-J3RYDO UniRef90-F1R0AG UniRef90_H2TFRO UniRef90 Q7PJT7 UniRef90-B5X2E1 UniRef90_FRR8R3 UniRef90 E9GB0 UniRef90-H3B558
UniRef90 $\mathrm{S4RMX4}$
UniRef90 v9K915
UniRef90-U5EUZ2 UniRef90_UPIO003FOEAE3 UniRef90-UPI0002657AE7 UniRef90-B4KEU8 UniRef90-Q6NVM4 UniRef90-B7QL57 UniRef90_UPI00034F283E UniRef90 ${ }^{-}$K1Хзт9 UniRef90-UPIO00258F1B7 UniRef90-T1IPF9 UniRef90-D6W6L7 UniRef90-W5JB36 UniRef90-FOXF3 UniRef90-A9VOY7 UniRef90-UPIoo0359BB07 UniRef90-T1FYH6 UniRef90 UPI000359B756 UniRef90-A0A016Q8R8 UniRef90-S3CP73 UniRef90-H2MB60 UniRef90_M7S6L2 UniRef90- 5518 H 4 UniRef90-C3Z247 UniRet90_T11199 UniRef90-EOVT79
UniRef90- Q4P115 UniRef90-E9EZ35 UniRef90_G3JCP6 UniRef90-K10197 UniRef90_UPI00045610A1 UniRef90 M1 EHJ2 UniRef90_K7FFM3 UniRef90_G2XG68 UniRef90_UPI00044147F6 UniRef90-G9NN71 UniRef90-CTZPQ 7 UiRe90_G2R308 Uniref90-B8PBL3
UniRef9O_E4WUL8 UniRef90_S7QG78 UniRef90-J3JUS4 UniRef90-R8BQ23 UniRef90-G4MV90 UniRef90 F4PBM8 UniRef90-ARROH5
UniRef90
X8JDH7 UniRef90-W3XAD1 UniRef90-A7F6U7 UniRef90-T4ZYP2 UniRef90-A0A015NE38 UniRef90_S8ETS5 UniRef90-GOS645 UniReffo-F4RCE4 UniRef90 N4VUJ7 UniRef90-UP10003C2899E UniRef90-D5GH83 UniRef90-S3D981 UniRef90-T1KL07 UniRef9-FYVS13 UniRef90-A0A024JL23 UniRef90-R7YPF2 UniRef90-C5P5C3 UniRef90-UPIOOO4407696 UniRef90-UPIO0044139FD UniRef90-M7XY86 UniRef90 AOAO58Z7H4 UniRef90-C4Y6Y9 UniRef90-11FF25 UniRef90-H6QVL6 UniRef90_O2HOZ5
UniRef90_F8Q7C3

EK A LIN T A S Q S K K P S QET LLE LIK P LNNFAAEVGK DRDSN ERSLLVTASQCQQPDGNKLSSLLTPISEQMQEVQTFREKN QRAFLLMASQHQQPQENDMAALLKPI SEKI QEI QMFRERN




## 


$\qquad$
$Q R R Y V T L A$ QRALLVMASQYQQPAEKDLSAILAPLSGKIQAVQDFREKN


a

O

## ー

RAF KVA


QR S F L L V V A S

Q QLQY EMAS



a QRA F L L L MA S
QRAFLLLVVS
 QRKFLLI ATKAAKPSTSSVYQNLLMPINDAVMAATEELKESN

 QKTVIVLAA K H S K P A D S D L Q K L E P QV K A I T A V T E F R E T S LREVVI LAASACKKPDQQAF GELL GP LQQGDI EA I TRELEA N

 QR H LI QVA S L S K K P D T A T T Q E L I K P L Q Q S L A K V T E L L K D K N








 T R K FI YA A S Q S K K LD M N D F Q E A I K P I S D A I Q A V Q E I K D K N QRAF I LMASACTKASDPSYMS LLKPTQQAL MSTIIEIMKDKN ERDFLLLIVSK AK K P D D P K L Q E L WA G D S K P L Q A A V T I K E E N
 ERKFLQAASKSAPVDASVFQSALAPDVEVIVKAVEVKDAN $M R N L L L T A S A C N K P D S K T F T S$ LQQEPI GKGVTAVMQVPEKN
 QRAFLTVVA ASSKKPSDAVLGELLAPTSGAAIAAAQGDRDQN
 EREDLVLASKHKQPKPDVTAQQMKPLGVCVDETIAYCEKR QRTFLLLITSSSCQNPSSNVVFMELLQSNSEPLNRVVEDIKDAN


UniRef90 G3VF7 UniRef90_UPI000333B997 UniRef90-UPI0003C1446B UniRef90 V9KTW8 UniRef90-J3RYD0 UniRef90-F1R0A6 UniRef90_H2TFRO UniRef90-B5X2E1 UniRef90_F6R8R3 UniRef90_E9GB0 UniRef90_H3B558
UniRef90 S4RMX4 UniRef90 V9K915 UniRef90 U5EUZ? UniRef90_UPI0003F0EAE3 UniRef90_UPI0002657AE7 UniRef90-B4KEU8 UniRef90_Q6NVM4 UniRef90-B7QL57 UniRef90_UPI00034F283E UniRef90 K1X3T9 UniRef90-UPI000258F1B7 UniRef90-T1IPF9 UniRef90_D6W6L7 UniRef90-W5JB36 UniRef90-F0XF31 UniRef90 A9V0Y7 UniRef90-UPIOOO359BB07 UniRef90-T1FYH6 UniRef90 UPI000359B756 UniRef90-A0A016Q8R8 UniRef90_S3CP73 UniRef90_H2MB60 UniRef90 M7S6L2 UniRef90-V5I8H4 UniRef90-C3Z247 UniRef90_EOVT79 UniRef90_Q4PI15 UniRef90-E9EZ35 UniRef90-K1Q197 UniRef90-UPI00045610A1 UniRef90_M1EHJ2 UniRef90-F2UPX5
UniRef90 K7FFM3 UniRef90-G2XG68 UniRef90 UPI00044147F6 UniRef90-G9NN71 UniRef90_C7ZPQ7 UniRef90_G2R308 UniRef90-B8PBL3 UniRef90-S7QG78 UniRef90-J3JUS4 UniRef90_R8BQ23 UniRef90_G7YM97 UniRef90-F4PBM8 UniRef90-A7RQH5 UniRef90-X8JDH7 UniRef90_W3XAD1 UniRef90-A7F6U7
UniRef90 T4ZYP2 UniRef90-A0A015NE38 UniRef90_S8ETS5 UniRef90_G0S645 UniRef90-F4RCE4 UniRef90-N4VUJ7 UniRef90-UPI0003C2899E UniRef90-D5GH83 UniRef90 S3D981 UniRef90-T1KL07 UniRef90-F7VS13 UniRef90-A0A024JL23 UniRef90-R7YPF2 UniRef90-C5P5C3 UniRef90_W1QKJ2
UniRef90_UPIO004407696 UniRef90-UPI00044139FD UniRef90_M7XY86 UniRef90_A0A058Z7H4 UniRef90_C4Y6Y9 UniRef90-I1FF25 UniRef90-H6QVL6 UniRef90-Q2HOZ5

RSSKFFNNLS RGSKMFNHLL RGSNMFNHLS RGSKVFNHLSAVSE RGSKLFNHLAVSESI PALGWI AVDPKPGPYVKEMNDAAT RGSKLFNHLSAVSESVAALGWVAVVPKPGPYVKEMNDAAT
 RTSPFFNHLSAIS R S S PLF N HLLSAV
RGSQLFNHLS G I
RGSPLFNHLSA
RGSVLIF NHHLSALV S
RPSKQFNHLS
RKSQFFNHLSAI

RTSPLFNHLSA
RGSKLFNHLSA
RTSKFFNHLSA
RASQFFNHL
RGSAVFNQLSAV


RGSPFFNHLS
RRSPQFDHLSAVS
RGSSMFNHLSAVS
RTSQFFNHLSTV
RRSQFFNHLS
RPSPFFNHLSAISESV
R

RGSCLFNHLS
RGAPVFSQLSAV
RSSPFFNHL
RASQQFNHL
RTSEFFNHLSAl
RGDKHFNHLSTVSES
RPDPMYTNLSAVADGGMMLGWVAVEPKPGPYVGEMKDSAQ
RSDPLYTQLSAVADGIMVLAWVTVSHKPFTHVEEFLGSAQ
RPSKQFNHLSAIAESLPALCWVRVAPTPGPYVKDMQDAGM

RRSNQFNHLLSAVSE GIDPCLGWVTI APKPAPYVREMKDAA
RGSKMXXX
RPSPVFSQLSAVA RKDRWFNHLSTIAEGIMVLAWVTVDNRPYKHVEESLGSAQ R P
RPDPAYNHLSA AV
RKDRWYNNLCCTVS


RTSPFFMHLSAISESVTALAWVTVSPAPAPFVKEMNDAGQ
RS SPVYSQLSAVADGIMVLAWVTADGRPHKHVEESLGTAQ

RPSPLFFHLSTVADGIGALGWVVVEPAPAPYINELKDAAA RRSNYFNHLSSWSEGI PALGWVTVV KGANFVNEMNGSAE
 R G S P A Y TQLS AV A E GI MVLA WVTVDMRPYKHVEESLGSAQ R D S P Y F $\square$ N L S V V S E G



 RGSDLFNHLSSVVAE IVMVLAWVTVVMKPHKHVEACVQSAQ RGSAVFS QLSAVAEGIMVLAWVTVDSRPSKHVEESLGSAQ

 R A S S WF NHLS AI SESI G AL G WVTVVSPTPAPFVKEMTDAST
 R S S P Q S NHL STIAE GVPALTWI


 RKERWYNHLMVI SEGUPSVGWVGVEPKPGPHVAQMKEAAE RTSRWFNHLTTVAAEGAPAVGWVTVVPKPAPFVSDQKAAAAQ RASKESNQLTVVAEGLPALGWVTLDEKPGPFVGEHRDSAM



RADKSYNNLSAVSDSIMVLA WVTIDTKPFKHVEGSUGSAE

## QUERY

UniRef90_G3VF71 UniRef90_UPI000333B997 UniRef90_UPI0003C1446B UniRef90_V9KTW8 UniRef90_J3RYD0 UniRef90_F1R0A6 UniRef90_H2TFR0 UniRef90_Q7PJT7 UniRef90_B5X2E1 UniRef90_F6R8R3 UniRef90_E9GB01 UniRef90_H3B558 UniRef90_S4RMX4 UniRef90_V9K915 UniRef90 U5EUZ2 UniRef90_UPI0003F0EAE3 UniRef90-UPI0002657AE7 UniRef90_B4KEU8 UniRef90_Q6NVM4 UniRef90_B7QL57 UniRef90_UPI00034F283E UniRef90 K1X3T9 UniRef90_UPI000258F1B7 UniRef90-T1IPF9 UniRef90-D6W6L7 UniRef90_W5JB36 UniRef90_F0XF31 UniRef90_J9K081 UniRef90-A9V0Y7 UniRef90_UPI000359BB07 UniRef90_T1FYH6 UniRef90_UPI000359B756 UniRef90-A0A016Q8R8 UniRef90_S3CP73 UniRef90_H2MB60 UniRef90-M7S6L2 UniRef90_V5I8H4 UniRef90-C3Z247 UniRef90_T1I199 UniRef90-E0VT79
UniRef90 Q4PI15 UniRef90-E9EZ35 UniRef90_G3JCP6 UniRef90_K1QI97 UniRef90_UPI00045610A1 UniRef90_M1EHJ2 UniRef90 F2UPX5
UniRef90 K7FFM3 UniRef90_G2XG68 UniRef90 UPI00044147F6 UniRef90_G9NN71 UniRef90_C7ZPQ7 UniRef90_G2R308 UniRef90-B8PBL3
UniRef90-E4WUL8 UniRef90_S7QG78 UniRef90_J3JUS4 UniRef90_R8BQ23 UniRef90_G7YM97 UniRef90_F4PBM8 UniRef90_A7RQH5 UniRef90-X8JDH7 UniRef90-W3XAD1 UniRef90_A7F6U7
UniRef90_T4ZYP2 UniRef90-A0A015NE38 UniRef90_S8ETS5 UniRef90_G0S645 UniRef90_F4RCE4 UniRef90_J3NNC9 UniRef90_N4VUJ7
UniRef90_UPI0003C2899E UniRef90-D5GH83 UniRef90_S3D981 UniRef90_T1KL07 UniRef90-F7VS13 UniRef90_U5H316 UniRef90_A0A024JL23 UniRef90_R7YPF2 UniRef90_C5P5C3 UniRef90_W1QKJ2 UniRef90-UPI0004407696 UniRef90_UPI00044139FD UniRef90-M7XY86 UniRef90_A0A058Z7H4 UniRef90_C4Y6Y9 UniRef90_I1FF25 UniRef90_H6QVL6 UniRef90_Q2H0Z5

F Y T NR TLKEFK GVNQDQVDWVSNYVNFDKDLEKY TKQYHT FYTNRVLKEFKDVDKKHVDWVKAYLN I WTELLQTYI KEYHT
 F Y TNRVLLKGYKDTDKRHVDWVKSYL NI WTELQAYI KEHHT F Y T N RVLKK Y K DNDKR HVVEWVKS F L T I WT QL Q A Y I K E Y H F Y S N R V L K E Y K DVD K K HVVDWV K T Y L S I WT EL Q A Y I K Q Y H T
 F Y T NRVLKK YKEKDK THVDWVKAYLSIWTDLQSYI KQHHT

 FYTNRVLKDWKDKDKNHVDWVRAWVQVLTDLQAFVKQHHT
 F Y TN N R L L K E YR D S D K R HVVEWV KA F L G I W K E L Q A Y I R E Y H T F YTNRVLKKD YKETD K K HVVDWVKA Y L K I WADFQAAYI KANHT FYTNRVVLKDWKEKDSTHVDWVRSWVQTLTELQQYIKQYHT FYT N R V L K D Y K E T D K R H I E WA K S F L K I I T D L H V Y V K T H H FYTNRVLMEYKDKDKTHVEWTKA WLEVL NQLQQAYI K QY H T FYTNRVLKEWKEKDPKHVEWARAWLQTLTDMQAYI KQYHT
 FYTNRILMMDYKEKDKTHVDWARSWLTVLDELQQAFVKEHHLL
 Y WG NRVLKKEFKDKDPK QVEWDQS Y YQVVFKDLTEYVK QTFP FYTNRVVLKDWK EK D K V H V E WCKA WVQTLS DLQQQYVRQHHT FYTNRVLVDYKEKDQTHVDWVKSWI QTLTELQAYVKQHHT
 F Y DN R V L K D W K E K D L N H V E WA R L W I Q T L T E L Q Q F I K Q H H T F F G N R V L K E F K E K D P L L Q V E WV Q S F Y Q V F R D L T D F VVM Q H F S F Y T N R V L K E WK E K N K T HVVE WA R T WV Q L L V D L Q A Y V K Q H H T


 F F G N R V L K E Y K E K D P K Q I E WVVQS F Y Q V F R D L S D Y V K Q Y F S


 F Y T N R V L K D FK D K D Q R HVVEWAKA WI Q T L M K L H D Y V K Q H H T FYTNRVLKDWKEKDKKHVEWVKAWLETLAELYKYVKETHT FFTNRVLKEWKEKDK $\square H V D W T K A W V Q T L S E L Q A F V G Q Y H T$
 F F G N R V I F Y T N RV L K E Y K D K D Q T HVVD WV K T WN DTLIS K TIIA Y I K E F H T F Y A N R V I K D Y K D T D K T QV E WCRRSF DK L L E A LiRTY I M Q N Q T FYTNRVLKDYKHSD LRRHVDWVKSYLSIWSSELQAYIKEHHT FYTNRVLMEFKDKDQSQVDWAKSWVAVLDDGLYDY I K D $\square H T$
 FYGNRVI KEFKEKDPKHAEWVKGYLSLLEELKKYIMEHHT


FWGNKVLTA NKNKDEQQVEWVKAYFQVLRDLADYVKNYFP
F Y A NRVLKEFKEKDPRHGEWVKGYSGLLEELRKYVMEFHT F Y T N R V L K E Y R E T S P E H V T WT K L L L G A L R E L Q A Y I K Q H H T F Y G N RVI KEFKEKDPK HAEWVRAYSGGI E ELGRQYIVVDHT Y Y TNRVVLKDWKEKDKNHVDWVKA WVQTLTDLLQAFVKQHHT

 LF GNKVRMQYKEKDPQHVQWVASLQQMCKDLAEYIMEHFS FYANRVIKENKDKDK THVEWVSAYVGFITELGAYVKQWHT F Y L N R V L K D F K E K D A K HVVEWVK S V K A IVGVALK E Y I N E F H K
F YVNRVLK K F K DK D Q K HI D WAR GFLLALLDELKK Y V TE Y H T
FFGNRVLKKEK DKDADQVAWDQSFYAVFRDLTEFVKNNFPD YF GNRLLKKEFKEKDPKQVEWLQAFYQIFKELSEYAKNNYP
 F Y T NRVLKEFKDKDPKHAEWVKAYI SLLEELRKYVMDYHT FWGNKVLTA NKNKDNQQVEWTKAFYQI FR DLMEYTKTYFP
 FFGNRVLKEQKDKDAQQMAWVNAFYQVFGDLNDFVKQHFA
 FFGNRVITTSHKETSPKHVEWVRSFYTVLTALETYVADHHA Y WG N RVLKE F K E S D P K Q $\quad$ E W W Q S Y Y A V L K E MIIE Y I K S T Y P F Y T NKVLVA YKEKDK THTDWAKA WLQRLND LQKYI R VY H T YMGNRVMQANKNTDPQHTEWVKTFYQIFKDLSDYTKEYFN FWVNRIVKAFKDTNPKQVEWARSFSATLDALRKYVMANHT FYANRVLKEFKDVDK $\quad$ KHVEWVQSFQK LLTGLQAYVKKHHT L Y G N K V L K E Y K E K D Q THVVEWVQQS F Y K L F K A L I A Y I K E H H P F Y G N R V L T E Y K E K D K T H I S Y I Q A Y Y N I F K S L I A Y I R E Y F P
 FYGNKVI K EFK E K EP K HVVEWVRA WMA L L E EQQRKY VME M H T FYSNRVIKDFKDKDAKHVEWSKAF DALLDE LRRKYVLE Y H T FWVNRVI KEHKESNPKQVEWARSFAALLEELRKKYI MQYHT F Y S N R V L K D F R G K D D T Q A S WA Q S V P A L F N E
 F Y G N R V K K E Y K GK D N Q H C E WV D A Y F GMF K D L Q E Y V K T Y H T F WVNRVLK DFKETEPK LVE WAKSFVVVLEELRKYIMMQYHT
F WG N K I L T A N K N K D E Q QVE WV K A Y Y QV I R D L A E Y V K T Y C N

QUERY
UniRef90_G3VF7 UniRef90-UPI000333B997 UniRef90_UPI0003C1446B UniRef90_V9KTW8 UniRef90-J3RYD0 UniRef90-F1R0A6 UniRef90_H2TFR0 UniRef90-Q7PJT7 UniRef90-B5X2E1 UniRef90 E9GB01 UniRef90-H3B558 UniRef90-S4RMX4 UniRef90_V9K915 UniRef90-U5EUZ2 UniRef90_UPI0003F0EAE3 UniRef90_UPI0002657AE7 UniRef90 B4KEU8 UniRef90-Q6NVM4 UniRef90-B7QL57 UniRef90 UPI00034F283E UniRef90 K1X3T9 UniRef90-UPIO00258F1B7 UniRef90-T1IPF9 UniRef90_D6W6L7 UniRef90-W5JB36
UniRef90-FOXF31 UniRef90-J9K081
UniRef90-A9V0Y7
UniRef90_UPIO00359BB07
UniRef90-T1FYH6
UniRef90-UPI000359B756
UniRef90-A0A016Q8R8
UniRef90_S3CP73
UniRef90-H2MB60
UniRef90_M7S6L2
UniRef90-V5I8H4
UniRef90-C3Z247
UniRef90_T1199
UniRef90_EOVT79
UniRef90_Q4PI15
UniRef90-E9EZ35
UniRef90-G3JCP6
UniRef90-K1Q197
UniRef90-UPI00045610A1
UniRef90_M1EHJ2
UniRef90-F2UPX5
UniRef90_K7FFM3
UniRef90_G2XG68
UniRef90 UPI00044147F6
UniRef90_G9NN71
UniRef90-C7ZPQ7
UniRef90-B8PBL3
UniRef90-E4WUL8
UniRef90-S7QG78
UniRef90 J3JUS4
UniRef90-R8BQ23
UniRef90-G7YM97
UniRef90-F4PBM8
UniRef90-A7RQH5
UniRef90-X8JDH7
UniRef90_W3XAD1
UniRef90-A7F6U7
UniRef90 T4ZYP2
UniRef90-A0A015NE38
UniRef90_S8ETS5
UniRef90-G0S645
UniRef90_F4RCE4
UniRef90-J3NNC9
UniRef90_N4VUJ7
UniRef90-UPI0003C2899E
UniRef90_D5GH83
UniRef90-S3D981
UniRef90-T1KL07
UniRef90-F7VS13
UniRef90- A0A024JL23
UniRef90_R7YPF2
UniRef90_C5P5C3
UniRef90 W1QKJ2
UniRef90_UPI0004407696
UniRef90_UPIO0044139FD
UniRef90_M7XY86
UniRef90-A0A058Z7H4
UniRef90_C4Y6Y9
UniRef90-I1FF25
UniRef90 H6QVL6
UniRef90_Q2HOZ5
UniRef90_F8Q7C3

TGLT WNPKGGDAKSA
TGLA WSKTGPPAKE

TGLLSWSKMGPDASAQS
TGLSWNNSGPDASA历S
TGLTWSKTGPQPTDA
TGL $\square W S K T G P K A P P S$
TGLSWSKSG
TGLVWS GKDKP
T GL A WS K S GP
T GVVWNAKPTAVPS
TGLVWNAKGGDAVQ
TGVAWNKTGPK
TGVEWKDSNPNAEEAT
TGVSWSKTGKKATAA
TGLVWS GKGSATT
TGLSWNAKGEDAT
TGLTWNPK
TGLVWS GK
T GL NWKKTGPKAS
TGLVWNPKGCDVTAV
TGLVWSGKGSA
TGVQWNVKGVSAEDA
TGLVWAKTGSAP
TGLVWNARGV
TGLVWAGKGSAA
T GLVWS GKNKS
GGLSWNPQGASAVQV
TGLVWAKAG
TGGLWNPNGVDASSV
T GGLTTWSK T GPVAT T A
TGLTWNPN

NGIPWNPKGKSAKEA
T GLVWSKT
GGI PWNPRGPPATEV
TGLDWAGK
TGLSWNKAGAPATAGT
TGGVWAAKGGVA
TGLVWGGTNPP
TGLAWNPKGGDAASF
SGVTWNAKGKPAGDV

TGGLSWNPQGGEASAV
$T G L V W N P Q G S D P E T A$
$T G L T W S K T G P V A S T A S$
TGLVWNNRGVDASTF
TGGTWSKTGPTASTAS

NG P WNPKGQPAQEV | $T G G L K W N S N G D P A A Q Y$ |
| :--- | :--- |
| $S G V A W N P R G E P A E E V$ |
| $N$ |

 $T G L V W N V K G V S V E Q Y$
T GLTWNAQGSPAKP


NGLS WNPKGEPVQQV
T GLA WNPRGGDAKSA

$\begin{array}{lll}T G G L A W N P K G G D A T Q F \\ N G V & \text { PFNPQGQPAAEV }\end{array}$

SGVVWNAQGGPALD
TGLVWNPKG 1 SVEEY
NGIPWNPKG
TGLVWNPKGEDATSF
NGIPWNPQGAPTEQV
GGGI PWNSKGQSA QEV
TGLL
SWSKTGPVASTMS LGGVWNARGIDAKE
Q GVPWNPKGVSLAEA TGLVWNSRGTPATAS $N G G V W N P N G K S Y K E V$
$T G L T W N P K G I D D A K Y$ TGPSWNPKGEPLANV KGVTWNSAGIDAAQA RGVT WNNKGVDVIDA
T GPSWNAQGGSFEE
T G LA WN P K GlP VN Q F S $T G L A W N A K G U P V A N Y$ TGLVWNPKGADPTTY TGLVWNPAGKEATAAS
$K G P S W N A N G K T L S E S$


DGLPWNPKGVPAVEA

## UniRef90_U4LN66

 UniRef90-J41AX8UniRet90 W6MXY UniRef90-A0A016WOE8 UniRef90_C1L5C1 UniRef90-S2JGZ3
UniRef90- UPIOOO455E173 UniRef90-C1HA05 UniRef90-G7DSB3 UniRef90- ${ }^{\text {B6JYT5 }}$
UniRef90 G3AHT7 UniRef90-V3ZFQ1 UniRef90-G4LVI8 UniRef90-P36621 UniRef90 H2BOZ2 UniRef90-W2S479 UniRef90-V5IIG5 UniRef90-G3BF49 UniRef90-S9PRM2 UniRef90-B0D3M7 UniRef90-TOQVB9
UniRef90 A5BW83 UniRef90-G1XK13 UniRef90-L8HMG4 UniRef90_G8YOU3 UniRef90-M3IQG2 UniRef90-M5EDI3
UniRef90-F7DT09 UniRef90-E9BYD2 UniRef90-F1KXD 6 UniRef90-D3B6D7 UniRef90-I1BZX1
UniRef90 G8BV95 UniRef90-। 3 T3J4 UniRef90 M2LPU2 UniRef90-E5AGK
UniRef90
I3LJT3 UniRef90-AзМ087 UniRef90_B9RBE7
UniRef90_O65902 UniRef90_D8PWN9 UniRef90_R1EMK5 UniRef90-K4DOTG
UniRef9O_A5DAM8 UniRef90_A0A017S724 UniRef90-Q6FMAO UniRef90-Q5BEN1 1 UniRef90-L7LUC2 UniRef90-F4QAN4 UniRef90-C5FHD7 UniRef90-T2MFW9 UniRef90 W4GBD4
UniRet90 $~=8 G 719$ UniRef90_B5RUK6 UniRef90-A9T3S4
UniRef90-T1GMU6 UniRef90-UPI0002C2F5FE UniRef90_P17555 UniRef90-B4DNA3 UniRef90-G8ZPS7 UniRef90-O60195 UniRef90-H2VWR2
UniRef90-A8XNT3 UniRef90-Q6CF38 UniRef90-S6EDJ5 UniRef90-B8M2E3
UniRef90-Q6CX33 UniRef90-Q4SJO3 UniRef90-A8NH62 UniRef90-A8Q1A9 UniRef90-V2XCJ4
UniRef90 U6PFA9 UniRef90-MOS3G6 UniRef90- W4KHYO UniRef90-N1PX98 UniRe990-R7TUB5 UniRef90_UPIo002B49D29 UniRet90-G8JUHO UniRef90-MOSMU3 UniRef90_UPIo003F4992E UniRef90-F1PL71 UniRef90-C5DZN6 UniRef90-WOT7W9
UniRef90
B9WLM1 UniRef90_UPIO0046240EB UniRef90_A0A044SSF2 SVQAFDDVIDGQLKPFLELVRSFASSVVEQTALLEKEFAD
 SVKHDAAVNASLEKYFNLSQELGGPIGAEQATLVKQAVAA SVTAFDEAVEGKLKPFVELTKGFAPSVLEQVFLFAEELNV SVDEFQDVLQGPLDKFVTLSQAIGGVVDQQSAFVKAGFTS SVSDYDAYCKTHLTPYLQLSKKI GGLI EKQSEHVDSAFQK SVVVFEQFISDHVVPFADTSKSI DSVIGDAAQLLVEAFKS VLUFDEVLSGPLSKFVSLSDKLDSDIKHMVSLVEKSFKS SVKEFHEVVNGPLSEYLLNSFE: GDDVGNHASMVKKCFLM

## SVVEFQKFTSDNVDSLLQLSNE

 STVDFDSLIKEDVGGFVEVGQTLGGLVAEQSKAVLQAFQA S VVFEEYIKANVVPLIEESSQGDPVVAESANAFGQAFKD SIVAYDEFCSKYLNEYVQLSKKLGGLVQQQSEHVENAFKL I EAYDEYTAAYLAPFLAACTKLGTEVEKYGEIVKRAFDA AIVAFDDLMAEFVARVSAAAGKIGGKVLEATKLLEEAFSV SIVNYDEDVLTLLDKFEELSRDIDPLLAEQAKFVRQGFQA A V Si Ef inllvi Y VDEYVNVSAKIDPLVK KQADLVKKQAVLJ SIVAFEEFIQNSVTPFVETSKKIDQTVGDAAQFLKEAFTQ ALVAWKEDVVPALSHFQSLSAQVAPLVSQQAELVHQALQE VQAFDSLLAGPVAEYMRISKEI GGDVQKHAEMVHTGLKT VVEAYDEEVASALKTFFALSAEVGGEVKTQADKAQVAFNE CVRQYDDMVEEPLQRFLKLSCDVGGDVKTMSEKVSSAFMQ VTEFQSLLDQHITPLVTLSKKLDGTLAQQDDELVQALQA VEKHDSAI YPSLEKFLSLSSELGELV SSQALKQAVEA
 I EAMDELLNGEVKAFVEASRGIDPLIEEQAESVQKAFID AปEAFDDLVNSELKTWLDLSHQLGDVIEGQSKAVQQAFAA
SVVAFEAFTKSSTGPLVEKSNQTDPLVGEAASLLQAAFSE SIVAFDDFI GQYLGRLWNAAEKI GGQVLDVTKIVQEAFSA SILAYEDLISQCVGRALTAAEKIGGPVLDVTKVVAEAFAS SVTAYDELIQGKIKPFVELTKSFAPAVVEAVTLVEKQFTD AFDALLDNELKEFTDLSKK円GGPVAEQASALSEAFGA
S TVAFDDLRSRFVGRVCTAAEK: GGQVLDVTKVVEEAFEA SDDFDALIKNEVMTFVDLGGKIGGLVEEQSKAVLQAFQA S: EKFDKF:|KERVEPFVELSEKI DPVVFQDTELFKGAFDA SVIDFDELLNKTIHPFVELSEKI DPVVCDAAKSLELGFKT SVQGFEALLRGPVQAYLALSRTI GGDVQTHASMVEKALMT VVEFQNLVDQHIVPFVALSKQLAPELAQQVDELIAALES SILAFERLIHEFVVPFVNASNQIDSVVGESAKLFADTFVD DFKEYNAKTLTGFVNSTDALGGDLEHLGKLVDDAFRS STTAYDEYTASYLTPFLAAADKLGEEGKAFGALVKSAFDG
 SVEAFDELVQARVGRVLAAADKI GGGVLQTSQVLQRAFDA SVLGYQDVVNPLAQFLGLSHKI GGDVAQQSEFVRKAFDA CITAFQSYI GENI DPLVELSGKIDTVVLDALQLLKGGFQS $V Q A F D S L A G P V A E Y L K I S K E I G G D V Q$
STTKFEELIRDDVVPLVELSDK\DPVVSKAAKLFKEAFDG SVVVFDEVI DGKVKPFVKLTKSFGASVVEIVGLVEKQFKE VRAYDDAI EEPLARWGQLSDELGGDLAAVKPKVLAAFDS VRAYDDAVEEPLNNWAKLTDQUGGDLAAVKPKVLADFDS SVAQFSHLI QDDLAPLINLSAKTDASVAATVQVFKEAFDR SIEDFDAL:KSDVQAFVDLGKQMGGLVGDQAEAVLIAFQAA LERAVTRLEKLSQESGGV AEMVSEALQT SVTAFDEVLEGKVKPFVKLSKELGDEVSELADLIEKQYAA SVRAWDNEVMSVYQELAEKTHALGPVMGEQVGLVGKALDE VRAYDVALGDTIENWSSISDQTGGDVKUMREKVTAVLND AVVAFDELVERSLGRLSAAADKIGGKVQEATKILAEAFAV SVIAFEQI MQGKVKPFITKLDALAPSVDEQAKKTGDLFNT SISDMDDI IDKEVKAFTDSSKGIDPLVEEQAAAVAKAFAD $V V A Y D A Q V N P E L E K F V S L C Q Q G G D G N A L G D L V K K A F N V$


## UniRef90_U4LN66

 UniRef90 J4IAX8 UniRef90_W6MXY0 UniRef90_A0A016W0E8 UniRef90_C1L5C1 UniRef90-S2JGZ3 UniRef90_UPI000455E173 UniRef90_C1HA05 UniRef90-G7DSB3 UniRef90_B6JYT5 UniRef90_G3AHT7 UniRef90_V3ZFQ1 UniRef90_G4LVI8 UniRef90-P36621 UniRef90_V5EWC7 UniRef90_H2B0Z2UniRef90 W2S479 UniRef90_V5I1G5 UniRef90_G3BF49 UniRef90_A5E156 UniRef90-S9PRM2 UniRef90_B0D3M7 UniRef90_T0QVB9
UniRef90 A5BW83 UniRef90-G1XK13 UniRef90_L8HMG4 UniRef90_G8Y0U3 UniRef90_M3IQG2 UniRef90_M5EDI3 UniRef90_F7DT09 UniRef90_E9BYD2
UniRef90 F1KXD6 UniRef90_D3B6D7 UniRef90_I1BZX1
UniRef90_G8BV95 UniRef90 I3T3J4 UniRef90_M2LPU2 UniRef90_E5A6K3 UniRef90-I3LJT3 UniRef90_A3M087 UniRef90_B9RBE7
UniRef90_O65902 UniRef90_D8PWN9 UniRef90_R1EMK5 UniRef90-K4D0T6
UniRef90-A5DAM8 UniRef90_A0A017S724 UniRef90_Q6FMA0 UniRef90_Q5BEN1 UniRef90_L7LUC2 UniRef90-F4QAN4 UniRef90_C5FHD7 UniRef90-T2MFW9 UniRef90_W4GBD4 UniRef90_L8G7I9 UniRef90_B5RUK6 UniRef90_A9T3S4
UniRef90-T1GMU6 UniRef90-UPI0002C2F5FE UniRef90 P17555 UniRef90_B4DNA3 UniRef90_G8ZPS7 UniRef90_O60195 UniRef90_H2VWR2 UniRef90-A8XNT3 UniRef90_S6EDJ5 UniRef90_B8M2E3 UniRef90-Q6CX33 UniRef90_Q4SJ03 UniRef90_A8NH62
UniRef90_A8Q1A9 UniRef90-V2XCJ4 UniRef90_U6PFA9 UniRef90-MOS3G6 UniRef90-W4KHY0 UniRef90-N1PX98 UniRef90_R7TUB5
UniRef90_U6HVD0 UniRef90_UPI0002B49D29 UniRef90_G8JUH0 UniRef90_MOSMU3 UniRef90_UPI0003F4992E UniRef90_F1PL71 UniRef90_C5DZN6 UniRef90-W0T7W9
UniRef90- B9WLM1 UniRef90_UPI00046240EB UniRef90_A0A044SSF2
UniRef90_C5DCT7

QRKFLIIITLKAKKPESNLLMQLLISGMQAELITKVVNDRENN LRAFLLLTTSCSKPDQSVFAALLAPLQKDIEDITRAKESN ERKF L L A A S L S K QP T D P V FG E AL A P I ST LI GETVVK DK DE N LK NF L WIA A S RLLEPSPDEVQK LVAP MVNLDTDDISSFKDS K






 QRDLILLAASSSQKPSSPAFAELLKPLQTALTQVIETRDKN
 ERTYIVYVATKAKRPESHP PELMTDDLHKASSTINNLRESN QAKFLEI ASKSKKPEMTDFADAVNPTNTQDQKISSVVKSN
 LRAFL LVAGSCQKPDQKTVDGLLSPLQASSIEADSRAKEAN QRTYLV A A S V S K K P A G P V V M T L L A P I Q E C M K E I N K L R D N


 Q S K F L ERALLVMASQCQQPS GNKLSDLLGPISEQDQGVQNFREKN

 ER DUI Y I S A L S Q K P D M S T F M K L L E P I Q R A L S E I V N I K D A N Q L E FLKAAVKK K K K P D S P EFAA N A L K P V S E K I M K I G E I K D T N QK QLL DKVK Q S Q K P N N A G L A E F L K P L N DVI T K S S A MT E G R QRRFLVVTTRAKKPDMNAFNDLLKDLQQDIGSVGD■RDSH $\begin{array}{lllllllllllllllllllll}\text { Q R Q F } & \text { L } \\ \text { S Q } & \text { A } & \text { A } & \text { N K A K K P D D }\end{array}$
 L K QLLI QAK Q T Q K P E LA G LAA EFL K PL NEVI MKATAMTEGR

 Q V H F L R V V A Q A K K P D M A D F L A L L K P I N E A IVEQIN QL K D T N


 QRQFLKVVAKSRX EKN




 QLQ FL S V VA K S K K P E M S D FM E V L K P I N E K I E QLIN QVVK D S N EKA V V R A I S QCK R P D P A A LQ KVVVQPLVDALTKABGLTEGK
 QRAFLLMASQYQQPRENDVA ALLIKPISEKI QEI QTFRERN

 $\stackrel{H}{F}$ R N S L WA A A G K V V E P S A E E A A K M L


 L R S F L L I A A T C Q K P D Q K A L E GL L

 $L$ K E LL L VK A K Q C Q K P D L A G L Q E F F L K P L



 L R E LLLV K A K R S Q K P D L A G L A A F L K P L N N V M V K A N S L T E G K

 QLT FI K A AV Q S K K P D M S EF S K A I AP I N E SVVSAIVELLKDEN QGKFLE LVLKS QKPDMADLA KAL E P MNAKCTKII NELLK D S N


## UniRef90_U4LN66

 UniRef90 J4IAX8 UniRef90_W6MXY0 UniRef90-A0A016W0E8 UniRef90_C1L5C1 UniRef90-S2JGZ3 UniRef90_UPI000455E173 UniRef90-C1HA05 UniRef90_G7DSB3 UniRef90-B6JYT5 UniRef90-VBZFQ1 UniRef90-G4LVI8 UniRef90-P36621 UniRef90-V5EWC7UniRef90 H2B0Z2 UniRef90-W2S479 UniRef90-V5I1G5 UniRef90_G3BF49 UniRef90_A5E156 UniRef90-S9PRM2 UniRef90-B0D3M7 UniRef90-A5BW83 UniRef90-G1XK13 UniRef90_L8HMG4 UniRef90-G8Y0U3 UniRef90-M3IQG2 UniRef90-M5EDI3
UniRef90-F7DT09 UniRef90-E9BYD2 UniRef90-F1KXD6 UniRef90-D3B6D7 UniRef90_IBZX1
UniRef90_G8BV95 UniRef90-І3Т3J4 UniRef90_M2LPU2 UniRef90-E5A6K3
UniRef90-13LJT3 UniRef90-A3M087 UniRef90-B9RBE7 UniRef90_O65902
UniRef90-D8PWN9 UniRef90-R1EMK5 UniRef90-K4D0T6 UniRef90-A5DAM8 UniRef90_A0A017S724 UniRef90_Q6FMAO UniRef90-Q5BEN1 UniRef90-L7LUC2 UniRef90-F4QAN4 UniRef90-C5FHD7 UniRef90-G8BFD8
UniRef90 T2MFWW9 UniRef90-TMMFW9 UniRef90-L8G719 UniRef90-B5RUK6 UniRef90-A9T3S4
UniRef90-T1GMU6 UniRef90-UPI0002C2F5FE UniRef90_P17555 UniRef90-B4DNA3 UniRef90_G8ZPS7 UniRef90-O60195 UniRef90-H2VWR2 UniRef90-A8XNT3 UniRef90-S6EDJ5 UniRef90-B8M2E3 UniRef90_Q6CX33 UniRef90_Q4SJ03 UniRef90-A8NH62 UniRef90-A8Q1A9 UniRef90-U6PFA9 UniRef90-M0S3G6 UniRef9-W4KHYO UniRef90-N1PX98 UniRef90-R7TUB5
UniRef90-U6HVDD UniRef90_UPIO002B49D29 UniRef90_G8JUH0 UniRef90-MOSMU3 UniRef90_UPIO003F4992E UniRef90-F1PL71 UniRef90-C5DZN6 UniRef90-W0T7W9 UniRef90-B9WLM1
UniRef90-UPI00046240EB UniRef90_A0A044SSF2
UniRef90_C5DCT7

RASPLFNQ\| SAIVISEGMPALLA WVVTFDTKPADDVIKEMRSAAE RKDRWFNHLSMVAEGATCAGWVTVEPKPGPFVAEDKDSAQ
 RNTPQFNHLCAVAEGIPAVGWVLVKKTPAPYVKEMLDSAM RSNRFFNHLSAVAESVAAALGWLSVSPAPAPYIKTMKEAAE
 RKRDWF NHLTVVSEGAPCVGWVT DEPKPGPYVNDMKDSTM RQSPLFNHLSAVAEGVMALGWF L E P R P PAEFVRESDAGAE

 RSSKFFNHLSABVAESVTALLGWLSDTPAPSTYVKTMQEAGE RTAPEFNQLSTVMSSGVSULGGWVTVEPTPDSFMSEMKDSSQ RQSKFFGYFNSIAEGAPLI SWFAVD TPGSVISDFKDAAQ RASPLFTHLSAVAEGLLALAWDVVERPADFVGETLGGAQ RASPLFNHLSAVAEGUVALGWFFGESPADFVMEMQGGQE RSSKFFNHLNTLAEGAPVLGWIGLSPTPVSYIPDFKDSAQ
 RRDRWLNHLTLI GEGGPSVGWV VIPMPGPYVGDMKDSVD

 RASKVFGHLSTISEGUTALGWVASPPTPGPFVDEARASSE RKSEFSNHLST ISEGSPMLGWI VSETPVSLIPEFKGSAQ RKSPYFNHLNTFSESTAVFYWI GFP TPVSYI SDSKDTAK RGSRLINHLSAVSESIPALGWVAMAPKPGPYVKEMNDAA RKSKDFNQLSAI SEGLPAVGWVAVEPKPVPYIVEMDNAAQ RNTPHFNHLSAVSEGVQALGWLTVKPTPAPFVKDMNDASM R
 RASPMKDQLAMDGEGIGALQWLIMEGKPSDYVTEVIGGAQ


 RKRDWLNHLTVLAEGAPCI GWV GVQVKPGPYVGEIKDSVA RTPELKNHLTMVGDGVGVLGWVTMDTKPGDVAAELFGGAQ R S DLFNHLKAAVDSLTALA WI CGMSMPIAHVEESWQMAE RGTKTANHLATVSEGASVLGWI VSDTPVSLI PEFKDSAQ RDSPYFSHLSAVAEG IVALGWFF QPKPADFVNEMDSGDE RQSKYFAFLNAVTEGAPLFSWDTVE TPVSLVGDFKEAAQ
 RTSKLFNHLSAISESIA ALGWVTVAPAPAPFIMKEMDACQ
 RKSSYFNHLNSLSESGAVFFWIGVDTPVSYI SDDKDSAK

 RGSEAFNHQKAVAESLLALGWVCYAGKPGPHVEESWQSAE RASPFFNHLSAISESVPALGWVCVAPTPGPY
RGSKMFNHLSAVSESIPALGWIAVSPKPGPYVKEMNDAAT RQSKYFAYLSALSEGAPLFSWVAVD TPVSMVTDFKDAAQ RGSK LF NHLSAVSES DQALGWVAMAPKPGPYVKEMNDAAM RQSKSFPYLNAVAEGAPLFSWITVETPMAVITDFKDAAQ RKDRWFTHLMVI SEASSFVAWV LNSKPGPHIAETKDQAD KNTTFWNHLNSIVEALPALGWLTVKKTPAPYVKEYDDAAQ RKTTQWNHLNSI SEALPALGWVVVKKTPAPHVKDYIEAAQ RDPKVSSHLATVAEGAPLVGWVAGDDPLPLI GDFKDSAQ RQSKYFPYLNSVAEGAALFSWVAVDTPVSLI GDFKEAAQ RSSPFFDHLSAVAEGUVALGWFFELKPANFVNDMLGGDQ RNSKYFAHLNAI SEGSPLFSWIAGS TPVSTITDFKDAAQ RGCGLFNHLSAVSES $\square P A L G W V A V N Q K P G P Y V K E M K D A A T$ RSRDFAQHLTFMAEGAPAI GWV VSPTPAPYVGDVKESTE RGEKFFNHLSTLSEGDSSLGWVAVEPTPGPYISEMKDSAQ RKDTWFSHVMVI GEGAPFVAWV L NPKPGPYLGE KKDQVL RQAPQFNQLCAVAEG円PAVGWVLVKKTPAAHVKEMLDSSM R SEFFNHLKTVADSLTALA WVCGMNMPTSHVEESWQMAE
 RGSPVYVHMMSVSECIPALGWVSVAPTPAPYIKEMLDAGT QKSAYFNHLSAI A GSVAALGWVAVPDSPAKFIDEMVESGK R SEFFNHLKTVADALSALA WI C GMSMPIAAHVEESWQTAE RQHKYFAHLNSVAEGAPLVSWVAVDTPVSQISDFKDASQ R SDYFNHLKTVADSLTALA WI CGMSMPIA HVEESWQMAE KGREWGTCLSTVSEGVSAWGWVQVEPAPAPFVTEMKSAAQ RGSRLFSHLSAVGESIUQALGGWVAMAPKPGPCVKEMK AADLD RQSKFFPYLNSVAEGAALFSWVAVE TPVSLVADFKDASQ RKNKYFVHLNALSEGSPLFSWI AVV TPVSTITDFKDAAQ RKSPFFNHLNTFSESTTVFYWIGIPTPVSYIVDTKDTVK RKDRWVSHFSTVSTAAPCVGWVTISPKPAPYVADHKESAE RNTPFFNHDSAASEGDQALGWLTVKPTPAPFIKDMSEASM

## UniRef90_U4LN66

 UniRef90 J4IAX8 UniRef90_W6MXY0 UniRef90_A0A016W0E8 UniRef90 C1L5C1 UniRef90- S2JGZ3 UniRef90_UPI000455E173 UniRef90 C1HA05 UniRef90 ${ }^{-}$G7DSB3 UniRef90 B6JYT5 UniRef90_G3AHT7 UniRef90_V3ZFQ1 UniRef90_G4LVI8 UniRef90-P36621 UniRef90_V5EWC7 UniRef90-H2B0Z2UniRef90 W2S479 UniRef90_V5I1G5 UniRef90_G3BF49 UniRef90_A5E156 UniRef90-S9PRM2 UniRef90_B0D3M7 UniRef90-T0QVB9
UniRef90 A5BW83 UniRef90-G1XK13 UniRef90_L8HMG4 UniRef90_G8Y0U3 UniRef90_M3IQG2 UniRef90-M5EDI3
UniRef90 F7DT09 UniRef90_E9BYD2 UniRef90_F1KXD6 UniRef90_D3B6D7 UniRef90_I1BZX1
UniRef90_G8BV95 UniRef90 ${ }^{-}$IЗТЗЈ4 UniRef90_M2LPU2 UniRef90_E5A6K3
UniRef90_I3LJT3 UniRef90_A3M087 UniRef90_B9RBE7
UniRef90-O65902 UniRef90_D8PWN9 UniRef90_R1EMK5 UniRef90-K4D0T6
UniRef90-A5DAM8 UniRef90_A0A017S724 UniRef90_Q6FMA0 UniRef90_Q5BEN1 UniRef90_L7LUC2 UniRef90-F4QAN4 UniRef90_C5FHD7 UniRef90_T2MFW9 UniRef90_W4GBD4 UniRef90_L8G7I9 UniRef90_B5RUK6 UniRef90-A9T3S4 UniRef90-T1GMU6 UniRef90_UPI0002C2F5FE UniRef90_P17555 UniRef90_B4DNA3
UniRef90_G8ZPS7 UniRef90_O60195 UniRef90_H2VWR2 UniRef90_A8XNT3 UniRef90_Q6CF38 UniRef90_S6EDJ5 UniRef90_B8M2E3
UniRef90_Q6CX33 UniRef90_Q4SJ03 UniRef90_A8NH62 UniRef90_A8Q1A9 UniRef90_V2XCJ4 UniRef90_U6PFA9 UniRef90_M0S3G6
UniRef90_W4KHY0 UniRef90_N1PX98 UniRef90_R7TUB5
UniRef90_U6HVD0 UniRef90_UPI0002B49D29 UniRef90_G8JUH0 UniRef90-M0SMU3 UniRef90_UPI0003F4992E UniRef90_F1PL71 UniRef90_C5DZN6 UniRef90-W0T7W9
UniRef90-B9WLM1 UniRef90_UPI00046240EB UniRef90_A0A044SSF2
UniRef90_C5DCT7

130
140
150
160
FYGNR|VLIKEHNQKDDVHNKWI QSFYDVLIKADEAY|V|KQHHLL

 FFTNRVI KEYE EKDTVVLLAWKKALDMSVLTALELYVVKKHHT F Y S N R V V K E WK EK E P K HVA WCOQ S F L A FL E DLAAVYVVKENFP F Y V V R V L K E F K E K D A R H A D WV R GY I A I L D EMKR Y V M E Y H T
 FYTNRII KEFKETDAEQIEWARSFLALLDSLRQYVIKHHT Y Y A N R V L T E V K N K D Q T Q V E WVR S Y L K L L S E L Q V Y V K E H F K F WS D R V L K E Y K Q K D E K HVVDWV N K F M A I F D E L K N Y V K E Y H A
 FFMNRILMEYK DNDTVVRA WKKSLMS VWTALQVYVNKHHT FYANRVMKEFKGKD DLQDEWVRSYLTTLLTELITYVGTHFK F Y A NRVIK DFKDTDKTHVEWTRSFTKLLETLKTYVLLKTHT FWTNRVLKEFKENDPNSVDWTQKFLNI FDQLKAYVKEYHT Y Y G N K I L K E Y K D K D K S HVVEY IQ A Y Y KVV R S LV T Y V K E H F A Y Y G N KVLKK Y Y K E K D A T HVVKYI Q GYY RIIFKAL A A Y L K K Y Y P FWSNRI MKEFRDKDQSQVDWVKEFLGIFEPLKDYVKEYHT

 Y Y G NKVI KEYKEKNPKHVDWVRSFTGILDEMRKYVTEYHT FWGNKI RVVFKTSNPDQIEFVASFKTLLVQLMAYVKEHHT FYNNK L V V E Y K T K D P N HVVEWAKALK E L Y P G L R D Y V K R F Y P F Y G N RVI K E Y K E K D K K H V E WV R S WY Nil C K T L E E Y V R K Y H V FYSNKLLMQYRKE GK T QVAWVTA WNTFLKELRAFI KTYHT FWSNRILKK YKEKD QKHVDWVNSFLQIIDNLRSYVKEFHA F WS D R I L K E F K D K D P V H V D WV K Q IL S I FD DL K S Y V K E Y H T FYANRVI K DMKNKDTKHVEWARSFMDLLEALARAYVMEHHR F Y T N RVLK E Y K DV Y V Q P FR P $\quad$ V K $\square R M G$ F YTNRVVLKDFKETQPKQVEWARAWVAASLKDLQAYVVKAHT

 F Y S N N R V I K E E F K E K D P P K H V
 F Y C N KV L VE Y R NK D P N HVVEWAKALK ELLPGLRDYVKGFHP MYGNRVLRTYKETDPNQVKFVQSYYTLLKSLLAYILKKHYA MYGNKVLKKEHRDKGKANVEWVQQAYYKL FKALSEYAKKHHF F Y T N RVLKK Y K H S D L R HVVDWVKS Y L NI WSELQQAYDKEHHT FWSDRVLKKEFREKD QKHVQWVQSFLAI FDDLKTYIKEFHT F Y N N KVLVEYK S K D P NHVEWAKAMKELYPGLRDYVVSHYP F Y N N KV LVVE YRNK DA D HVVEWAKALLKELLPGGLREYVVKSHYP Y Y GNRI MKEFKDKDPKHVDWVRGFTGGLDELRKYVMEYHT MYGNKVLKEAKEKDDKQVQWVQAFYKLEKSLILYIIKNNHT
 F WA N RVVVKEYK T E P Q H Q E WT R S F L Y Y G NKV MKEYK DK D R T HVVEYIQAYSKI FKALAA Y L K K H Y A FWTNRVLKDFKDTNPDASTWVQNFMSIFDKLKEYVKEYHT Y Y G N K V L K E Y K E K D R T H Y D Y I Q A Y Y Qi F K S L S S Y L R K H Y P
 FYTNRVLVDYKEKDKTHVDWARSWLTVLDELQAFVKEHHLL FYTNRRILKEFKGVNQQQVDWVQQYNAFLGDLQKYIM QYHT
 F WS D R V L K E Y K D K D K V NVVE WV N Q L T N I F DELVK S Y V K E Y H T F Y T NKLLK K F RESDPKQANWATSFIQLLKSFSGYVKDHHQ
 YFGNRVLKEFKDKDPQQVQWI QSYYQI FKDLSAYVKSTFP FWSNRVMKEYKEKDQRHVTWVSQFLN I FEALLKVYVVEFHT Y Y N N KVLVE Y K GK DANHVEWARALKELLPGLRDYVK QFHT FYTNRVLKDYK K
F WT NRI LKEYRESDPNAVEWVKKFLASFDNLKAYDKEYHT F Y T N R V L K E Y K DVD K K HVVDWV KA Y L S I WT E L Q A Y I K E F H T FWTNRVLKEFKESDPNAAAWVKAFLGGFEDLGKYVKKYHT Y Y GNRVI KEFKEKDPRHAEWVRSFAAALEETRKYVLEYHT F Y IIN PI L REHKEKDPRHVEWTKAWKGIVEEMQKFVRQTHT
 FWTNRVLKEFKDTDPNAAAWVKSFLSSIFDHLKAYVKEYHP Y Y G N K V L K Q Y K D K E P L H V Q Y I Q A Y Y K V F R S L S A Y L N N H Y R F WT NR L K EFRRSTDPKSVEWVQQFLSVGDSLKLYVKEYHT
 FWGNRII KEWKEKNPKHVEFVRAFMAIFDAMRAFAKEHHT FYANRVI K DFK GVSETHVDWVRSFMALLDTMKSYVMTHYR Y Y GNRI I K EFKE K D P K H AE WVRRLFTALLDELRKYVVEHHT F Y $\square$ N RVLKE FKE GDQKNVEWARLWRSLLEAMQLFVRQTHT F Y N N KI L V E Y R N K D A N HVVEWAKALDK EL L P S L W D Y V K S F Y P F Y G N R I I Q N F K E K D P K HVVEWVRA Y M E I L D E L K K Y I M E H H T MYGNRVLKTYKE GDPAHIVKVRSYYAILEALKSYI KKHYP FYTNKVLKECKEKDEAHTSWVRSLSSTIVKTLQDFVKQEFT F Y TN N I L K E F K GMDD K HVVE WVVHALL LDDVWN QFK DF TVVT Y Y P F Y S N KIL VEFK S K D Q N HVVEWTKAMKELFTGGRDYVVSFHP FWTNRILKEFKDSEPNSIEWVKLFLGVFDDLKTYVKKYHT F Y S N K I L VE Y R N K N P D HI E WV K A L K E L Y P G L R D Y V K R F Y P FWGDRVIVKQFKETNPDAVAWSKSFSDDLDQQQKYVKQWHT FHADRVPKEYRDVGKKHVDWVKAYLSLWTELQASSKEFHT


 F Y S NRVI KE WREKDPKHVEWARGYIAI IEALRKYVMEYHT


| UniRef90_U4LN66 | M G\|VIT WN Y H Gl| ${ }^{170}{ }^{\text {d }}$ |
| :---: | :---: |
| UniRef90-J4IAX8 | TGLVVWNAKGI SVEQY |
| UniRef90-W6MXY0 | T GPTWNPQGGSLADA |
| UniRef90-A0A016W0E8 | T GLVWNSAGCSAPS S |
| UniRef90-C1L5C1 | T GLVWNARGKPATAS |
| UniRef90-S2JGZ3 | T GLPWNPK G |
| UniRef90-UPI000455E173 | T GLT WNANGVSVSEF |
| UniRef90-C1HA05 | T GLT WNNRGVDVMEA |
| UniRef90-G7DSB3 | T GVSWNAKGVDP |
| UniRef90-B6JYT5 | T GLQ WS T D A S A A L A T |
| UniRef90-G3AHT7 | T GPS WN S K G S HLLE EV |
| UniRef90-V3ZFQ1 | T GLTTWNPK |
| UniRef90-G4LVI8 | T GLVWNARGKPAVAS |
| UniRef90-P36621 | T GLTTWS TKQDAVP |
| UniRef90-V5EWC7 | T GLVWNPKGGD |
| UniRef90-H2B0Z2 | T GLT TNPNGLDLSEVVS |
| UniRef90-W2S479 | T GLT T WNKNGI D CLE A |
| UniRef90-V511G5 | K GLT WNQNGVNALDA |
| UniRef90-G3BF49 | K GPKWNPNGKPLLSEV |
| UniRef90-A5E156 | T GPS WNPNGTSFAAA |
| UniRef90-S9PRM2 | T GLGWSNK PD |
| UniRef90-B0D3M7 | T GLS WNSKGVTVEQF |
| UniRef90-T0QVB9 | TGVTWNAQGGDVANYS |
| UniRef90-A5BW83 | LG PVWNPTSKT T A S A |
| UniRef90-G1XK13 | H G I S WNRDGGDA |
| UniRef90_L8HMG4 | T DLT WNPQGGDVSKV |
| UniRef90-G8Y0U3 | T GPSWNAHGMPLEEA |
| UniRef90-M3IQG2 | T GPSWNPKGEPFAEV |
| UniRef90-M5EDI3 | T GLLT WNA Q G Q DL A A Y |
| UniRef90-F7DT09 | K GLRMCPS G G |
| UniRef90-E9BYD2 | T GLTWNANGG |
| UniRef90-F1KXD6 | T GLVWNSNPGACAPVS |
| UniRef90-D3B6D7 | T GLTTWNPRGGD |
| UniRef90-I1BZX1 | T GLT WNAKGESADS F |
| UniRef90-G8BV95 | SGVSWA S NGLDLDS K A |
| UniRef90-13T3J4 | LGPVWS P T G |
| UniRef90-M2LPU2 | NGMTWNANGDDAGQA |
| UniRef90-E5A6K3 | G GVA WNPNGID |
| UniRef90-I3LJT3 | T GLT WS K T GSICCVGVS |
| UniRef90-A3M087 | TGPAWNASGVSFEEA |
| UniRef90-B9RBE7 | LG P T WG $\square$ T G K A P T S A |
| UniRef90-O65902 | L GPVWNAS GKP |
| UniRef90-D8PWN9 | T GLA WNPKGI |
| UniRef90-R1EMK5 | KGVQWNPS GI DASEA |
| UniRef90_K4D0T6 | LGPA WS A T GKVA |
| UniRef90-A5DAM8 | TGPSWNPS GKLLSEV |
| UniRef90-A0A017S724 | NGLT WNEKGGDAQDA |
| UniRef90-Q6FMA0 | T GVSWDAKGSDFETV |
| UniRef90-Q5BEN1 | K GLTWNKDGIDA QEA |
| UniRef90-A7TNC1 | T GIVWK T DGI DFSEA |
| UniRef90-L7LUC2 | T GLVWNPKGGDAMA |
| UniRef90-F4QAN4 | T GLT T W P K G GN |
| UniRef90-C5FHD7 |  |
| UniRef90-G8BFD8 | K GPAWNPNGKSFAQA |
| UniRef90-T2MFW9 | A GLT WNKEKPAATPA |
| UniRef90-W4GBD4 | T GVTWNPRGGSVDDFS |
| UniRef90-L8G719 | HGLT WNANGVSPKEA |
| UniRef90-B5RUK6 | T GPSWNNNGKPLGDV |
| UniRef90-A9T3S4 | T GPSWNTTGVDLS T WS |
| UniRef90-T1GMU6 | T GLVWS GK G |
| UniRef90-UPI0002C2F5FE |  |
| UniRef90-P17555 | T GVS WKKD G M DFA D |
| UniRef90-B4DNA3 | T GLA WS K T GPVAKELS |
| UniRef90-G8ZPS7 | A GVA WDKNGAEFGKAT |
| UniRef90-O60195 | T GLSWNSKG】PVGQY |
| UniRef90-H2VWR2 | T GLVWNSAPGSVPPA |
| UniRef90-A8XNT3 | T GLVWNSAPGAVPD |
| UniRef90-Q6CF38 | T GPTWKVGG ${ }^{\text {P }}$ PVVEEA |
| UniRef90-S6EDJ5 | TGVSWNANGEDFAAA |
| UniRef90-B8M2E3 | T GLT WNNQ |
| UniRef90-Q6CX33 | T GVTWNTTGEDFETV |
| UniRef90-Q4SJ03 | T GLVWSKS GPDAPPF |
| UniRef90_A8NH62 | A GLVWNAKGIPYDQY |
| UniRef90-A8Q1A9 | T GLSWNPQGQNLS TY |
| UniRef90-V2XCJ4 | T GVSWNAKG■S I A E Y |
| UniRef90-U6PFA9 | TGLVWNSSPG |
| UniRef90-M0S3G6 | LGLTTWGSAGSAVSSAS |
| UniRef90-W4KHY0 | TGLVWNAKGDTISSQY |
| UniRef90-N1PX98 | QGVTWNASGKDASEA |
| UniRef90-R7TUB5 | T GLT WNAK |
| UniRef90-U6HVD0 | A GLTWGSRG |
| UniRef90-UPI0002B49D29 | LGPVWNPAGKMTPATS |
| UniRef90-G8JUH0 | TGPSYNVDG\DFAEA |
| UniRef90-M0SMU3 | T GLA WA P |
| UniRef90_UPI0003F4992E | T GVA WNPK G P |
| UniRef90-F1PL71 | T GLA WGQT GPVA Q E L S |
| UniRef90-C5DZN6 | T GVT WSKDGEDFGTA |
| UniRef90-W0T7W9 | QGPAWNASGEDFGTV |
| UniRef90-B9WLM1 | A GVS WNPKGKP |
| UniRef90-UPI00046240EB | T GLA W F K G A T Le Q Y |
| UniRef90-A0A044SSF2 | TGLVWNSCPGTKPPTS |
| UniRef90_C5DCT7 | TGPSWNASGIIEFAEA |

UniRefi90 A7S004 UniRef90-GOVI80
UniRef90_KOKEY5 UniRef90-H2TGT1 UniRef90_U5D7U3 UniRef90-K5WZJ6
UniRef90-H0Z6E6 UniRef90-12GXV4 UniRef90_G5AUP5 UniRef90_Q0UQG7 UniRef90_K3XC52
UniRef90-L1K1A5 UniRef90-B0ETB8 UniRef90_GOWCV7 UniRef90_C4R2Z1 UniRef90_M5G5I9
UniRef90-I
IGNV7 UniRef90-A0A024FW40 UniRef90-UPI0003AEC3FC UniRef90-M7P4X3 UniRef90-U6IC50 UniRef90 K1VCJ5 UniRef90_A9V1C6 UniRef90-S8DFL8 UniRef90-B3S128 UniRef90-V9FTB0 UniRef90-C1EGX1 UniRef90_D8RZC6 UniRef90-Q754L UniRef90-UPIO003EAA6DF UniRef90-W2TSB8 UniRef90-J7S2H3 UniRef90_O02096 UniRef90-W4Y146 UniRef90-H2XY10 UniRef90-E3MGH8 UniRef90-H2YWX0 UniRef90-K5Y4R1 UniRef90_R9A9M6 UniRef90-G9MT43
UniRef90 W7TVS0 UniRef90_C5YLQ9 UniRef90-J3MTH4 UniRef90-H1V6M2 UniRef90 A0A010REZ5 UniRef90-UPIO0044176B2 UniRef90-A8XEJ6 UniRef90_A0A024UUT4 UniRef90-F7HBT5 UniRef90-S0B1R9 UniRef90_U1GTM8 UniRef90_UPI000440C7FA UniRef90_C1MP27 UniRef90-GONJR7 UniRef90-G5APC4 UniRef90_D2V1W7 UniRef90_UPIOO03EC52C3 UniRef90-F2UBLO UniRef90-A6QTR5 UniRef90-D7FIY2 UniRef90-B8AQQ8 UniRef90_KOTR62 UniRef90-G4TSA7 UniRef90-UPI0001D368F0 UniRef90-F2RPB3 UniRef90-UPIO0046E1BDE UniRef90_R7QRQ8 UniRef90-R7QRQ8
UniRef90 R7QRQ8 UniRef90-R7QRQ8 UniRef90-E6RCS6 UniRef90-C5JG85 UniRef90_L1IM17 UniRef90_G4LXY8 UniRef90-IOZ4B8
UniRef90 U6IMF6 UniRef90-E1ZTS9 UniRef90_G1U519 UniRef90-B8C5F5
UniRef90 B7ZXM2 UniRef90-H2TGT0 UniRef90-14YES5
UniRef90 G5A3R7 UniRef90-G5A3R7
UniRef90- W3WGA0 UniRef90_G3SD18 UniRef90_A2F422 UniRef90-D8TLU8 UniRef90-D2VO84 UniRef90-D8M9H7

VGFD QVLNDKLAKFFQLCYE GGDVKDQAALMKEAFTA
 S I K A F ND FLELLY I DPFVVLLSVETNPLVGEQASNFAKAF QF


##   V EAF DKLMNSMMAKFLKNNRSLAAGDEARAERVPGAF <br>  $\checkmark$ V $A V F$ Q Q 

SVGAFKEYLNTNVKPLVDTCTT\GAECAKGGEFDNNAFNE V E GF DE I TK GP LA EYL S LIS QKI G GDVQKHAEMMKQGFAT
 SVAAAFDE YCS KCCLEPFMAACGTVLGGGAAAGGAVI KKA WAA



VTAF Q VID GPDSAFVEASNKDGGEDAEQATAFAAA E



 $V \mathrm{~L} E F E E D L$ ESVAA RLEAT EVVVKA STVVVDRAKA




A MEAFD LI LN GP LTE Y LK IS Q A $\square$ G DEVEKHAEMVSNA LHT ED Y N S L I D T LVVK P FVVELS G QYN S ELLLK SK A H SLLEALL V

 QSFEEAFQG VVA Y E E Y Y N D N IVP LLEETMTKDGGETAQMKDAVEQGFK G


|  |  |
| :---: | :---: |
| UniRef90_A75004 | SE |
| UniRef90-GOVI80 | QLKLLKVASKSKKPDFSAFSDSVKPISATILDI |
| UniRe | QAKLITAASKSSKPDFSLPQNLLKPLQDDVQ |
| UniRef90 H2TGT1 Uni |  |
| UniRef90-K5WZJ6 | L |
|  | QRSFLL |
| UniRef90-12G | QLKVIKLSESCKKPDFNEFMDV |
| UniRet90-G5AL | ASQCQQPAGNKDSDL |
| UniRef90-Q0UQG7 | QRHYLFIM SKAKKPDDRTHMELLKDL |
| UniRef90-K3XC52 | QRAYVMASKCKKPASPN PEHLKDL |
| UniRef90 L1K1A5 | KFLVIASKCVKPNAN |
|  |  |
| UniRef90-C4R221 | S |
| UniRef90-M5G519 | D |
| UniRef90-I1GNV7 | DLLIQAKQLIK S SANAQDFFKPLND |
| UniRef90-A0A024 | QRDFIVMASECRKPSQLT SELLSGIQ |
| Ref90-UPIOO |  |
| UniRef90-M7P4 ${ }^{\text {den }}$ | VSDFIQSAASMSKPSDSQLPSVLNPCAAAGQKVV |
| UniRef90_U6IC | SD QSAASMSKSDSQLPSVNPCAA QKV |
| UniRet90-J9V | 边 |
| $\begin{aligned} & \text { UniRe90_KIVCJ50 } \\ & \text { UniRef90A9V1C6 } \end{aligned}$ | RMA |
| S8DF |  |
| UniRef90_B3S128 | VVVTASKCKLPEAAALQNLLKPLSNAISE |
| C1 | A A |
| UniRef90 D8RZC6 | ERKLVAISOCKEPSMEE |
|  | QGTLLRAAALARKPEMEGFMRALGPLNERLMTLGALKDAQ |
| UniRef90 W2TSB8 |  |
| UniRef90- J7S2 | LQVIIEASHLAKKPDFQSFFSMLSPINDVVNKIDKLKKAH |
|  |  |
|  | QRAFIAVVAESKTPTAAVLTELLKPTSEKMCEIQQEYRDKR |
| UniRef90-R1CZS5 |  |
|  |  |
|  | - |
| UniRer90- ${ }^{\text {U2Y }}$ | N |
|  |  |
| UniRef90-G9MT | A SWADQLSPMNEAAARVLELQENS |
|  | EFLAMACCVKAPANADVAKLS |
| UniRef90- ЈЗМТН4 | GKDLLVRTKETPKPTMDSMAAFMGPLNEAILEANA |
| UniRef90-H1V6M2 | QRNFLLDTTKAKKPDMAVYQDLLKPINEA |
|  |  |
| UniRef90 UPIOOO44176B2 | ACQRPDAATLQPLLRPLAES |
| UniRef90-A0AO24UUT4 | LIA SGSQKPSTGPVKGLLAPI QEA |
| UniRef90-F7HBT5 | WGot LMASHYQQPQENVTTFLKPISGKIQKAQTFREKT |
|  | VGAAKSKKPTQEGLQKLIQPIGDK |
| UniRerg-U1GM8 | SADIVKTAGSCKKPDDKALQALIASELNEITK |
| UniRef90-C1M | DVLAVVAACKRPDVDA |
|  | HRNFIWTACGRKQPETIVLVELISDLSKAVN |
| UniRef90-D2V1W |  |
| UniRef90- UPIO003EC52C3 | ERQLLITTASTSQKPSDAPFGKLSGLAKLLKDSGDYRFKN |
| UniRef90-F2UBLO | 㖪 |
| niRet90-A60 | YI ALKAKKPDQQS PDLLGDL |
|  | DFLLMASTCKKPDQTVLGSKMAPLQACLKE |
| UniRef90-B8AQ UniRef90 Kote U | SKDRLVQ |
|  |  |
| UniRef90-UPI0001D368F0 |  |
| UniRef90-F2RPB3 | L |
| f90 |  |
| UniRef90-R7 | FLAKAYKTPKPD DFQDMLTPIASKMGEVSAVANKP |
| UniRef90-R7 | EAEFLAKAYKTPKPD DFQDMLTP:ASKMGEVSAVANKP |
| UniRef90-R7QRQ8 |  |
| UniRef90 E6RCS6 | QHAFLQLASTHAKPPTPTGAPLLQS |
| UniRef90-C5 | DQQS P |
| iRef90-L111 |  |
|  |  |
|  | R |
| UniRefofo-U6IMF6 | KPSSVQMSKIMQPLSLKLSEDAHVANRN |
|  | DNG |
| UniRet90- B8C5F5 |  |
| UniRef90-B7ZXM2 |  |
| UniRef90-H2 | QRRFLKMVTTHQEPAQMELHDLLKPG |
|  |  |
| ef90-W3WGAO | QRN $\square \mathrm{E}$ K $\square \mathrm{SK} \square \mathrm{SSPDSNT} \mathrm{\square DS} \mathrm{\square CQP} \mathrm{\square TQAMA}$ |
|  |  |
| UniRef90- D8TLU8 | RVLEVAAVAKKPDDAEQQRLLAPVAEAMGAVTA A A |
| D2 | N |
| UniRef90-D8M9H7 |  |
|  |  |

UniRef90_A7S004 UniRef90_GOVI80
UniRef90_K0KEY5 UniRef90-H2TGT1 UniRef90_U5D7U3 UniRef90-K5WZJ6
UniRef90 H0Z6E6 UniRef90_H0Z6E6
UniRef90_I2GXV4 UniRef90-G5AUP5 UniRef90-Q0UQG7 UniRef90_K3XC52 UniRef90 L1K1A5 UniRef9O-B0ETB8 UniRef90_GOWCV7
UniRef90-C4R271 UniRef90-M5G519 UniRef90-I1GNV7 UniRef90-A0A024FW40 UniRef90 UPI0003AEC3FC UniRef90-M7P4X3 UniRef90-U6IC50 UniRef90-J9VJT0 UniRef90-K1VCJ5 UniRef90-A9V1C6 UniRef90_S8DFL8 UniRef90-B3S128 UniRef90_V9FTB0 UniRef90_C1EGX1 UniRef90_D8RZC6 UniRet90-Q75L1 UniRef90-W2TSB8 UniRef90-J7S2H3 UniRef90-O02096 UniRef90-W4Y146 UniRef90-R1CZS5 UniRef90-H2XY10
UniRef90-E3MGH8 UniRef90-H2YWX0 UniRef90-K5Y4R1 UniRef90-R9A9M6 UniRef90-G9MT43 UniRef90-C5YLQ9 UniRef90-J3MTH4 UniRef90_H1V6M2 UniRef90 A0A010REZ5 UniRef90_UPIO0044176B2 UniRef90-A8XEJ6 UniRef90-A0A024UUT4 UniRef90-F7HBT5 UniRef90-S0B1R9 UniRef90_U1GTM8 UniRef90-UPI000440C7FA UniRef90_C1MP27 UniRef90-GONJR7
UniRef90 G5APC4 UniRef90-D2V1W7 UniRef90_UPI0003EC52C3 UniRef90-F2UBL0 UniRef90-A6QTR5 UniRef90_D7FIY2 UniRef90-B8AQQ8 UniRef90_KOTR62 UniRef90-G4TSA7 UniRef90_UPI0001D368F0 UniRef90-F2RPB3 UniRef90-UPIO0046E1BDE UniRef90-R7QRQ8 UniRef90-R7QRQ8
UniRef90
R7QRQ8 UniRef90_R7QRQ8
UniRef90_R7QRQ8 UniRef90-E6RCS6 UniRef90-C5JG85 UniRef90-L1IM17 UniRef90_G4LXY8 UniRef90-IOZ4B8
UniRef90 U6IMF6 UniRef90 E1ZTS9 UniRef90-G1U519 UniRef90-B8C5F5 UniRef90-B7ZXM2 UniRef90-H2TGT0 UniRef90-14YES5
UniRef90 G5A3R7 UniRef90_G5A3R7
UniRef90-W3WGA0 UniRef90-G3SD18 UniRef90-A2F422 UniRef90-D8TLU8 UniRef90-D2V084 UniRef90_D8M9H7
UniRef90_E9FAG44

RGSKQFNHLLSGIVISEGVAALIAWVVAAPGKPSSFIVKEKCDAAQ RQSKYSAYLNSITEGAPLFSWI AVE TPVSLITDFKDAAQ RQSEVFSHLNAADEGSGVLSWFATE TPVVSFIQDVKDSAQ


 QGK READKDPDTMVADGVGCLGWVTDPGKPHEY TKEMNDAAM
 RRSSRFNHGAMVAEGAACLGWIAIDLABPYGGDVIGGSD FKSPY DNYLSALGEAVPVFGWI CVVETPAPYVADLIPGSE
 KGKPLLDHVLGVDQGDDVFAWVTYDSKPAPYVAE
 RGSKDFNHLSAVSESI QALGWVAMAPKPGPYVKEMNDAAM RGSEMFNHLSMVSEGVVALGWITVEPTPVLYI GDMKDSAQ RGSEMFNHLSMASEGSVALGGWIAMEGKPVTYY GEMMSEAGK SRSKWGVCFNVLGEGVPAWGWVQVEPTPAPYVGEMKNAAQ EGREWGAAFSVLSEGAPAWGWVQVEPAPAPYVGEMKNAAQ

 R SEFTNHQNMVYEAVQALGWLCVERTPKPAVDSFVEGLD RTDA FNHQKALAEAAQCLSFVTGMSLPGPHVTETWQSAE R


R

 RKS D Q K N H ML A A C E GV S V F G Wi G Y P K A P K K F V K E S K E S V K R N S K F S N H L S A V E A AVVGGLLG WV A Q P NTPPAP F I N D A L D M S M R K S D Q K S H M M A A C E G V


 $R \quad S \square Y A N H L K A A A G S D G Y T G K G C G M P D P I A Q V E E S W Q M A E$ R S S H G N H L K A A A G S L S A LA W I C G M P L P I A H V E E S WQ M A E





 RTDA F N H L L KVIA ESVVQCLAF V A AGMSUPMP HVAEAWQSAE R D S K Y F D N I C A F E A G V

 $R P S P$ S F N H L S A V A E G V V S L G W

RD DFENHTKAI GEAMGCVSWVMMYPPPKDMVEP T DGGSD R P D $\quad$ Y F F N H I I K S S V A D $\square D R R K$ F D WH L K A I M E MLLAA S V S W V T P P P T P A N F V K D S I G A S D R D R N WS L H L Q TVVA D GAP SVVGWL LLP SNPVGHUQVQKEAAE


 $R$ R S LA Q H CN A V G E S V A A L G W V A V D E K A T S Y V G D M A GA G Q

 S R S K WAVVC F NVLA E GV P A W G WV QV N
 E S D N R H H L T L V S S G M P C L A A W V
 R SA A F N Y S K A V A E A L P P A L S W V C G M D P P P K H V E


 RPD Y YF NHLLK SVVA D S L P ALAA WV CGMS FP TA HVVE E S WQ MA E R G S S LF N HL S Al S E S I P A L G WV A VT








UniRef90_A7S004 UniRef90_GOVI80
UniRef90_KOKEY5 UniRef90-H2TGT1 UniRef90_U5D7U3 UniRef90-K5WZJ6
UniRef90-H0Z6E6 UniRef90-I2GXV4 UniRef90-G5AUP5 UniRef90-Q0UQG7 UniRef90-K3XC52 UniRef90_B0ETB8 UniRef90-GOWCV7 UniRef90_C4R2Z1 UniRef90-IIGNV7 UniRef90-AOA024FW40 UniRef90-UPI0003AEC3FC UniRef90-M7P4X3 UniRef90-U6IC50
UniRef90-J9VJT0 UniRef90_K1VCJ5 UniRef90-A9V1C6 UniRef90_S8DFL8 UniRef90-B3S128 UniRef90-V9FTB0 UniRef90_C1EGX1 UniRef90_D8RZC6 UniRet90-Q75L1 UniRef90-W2TSB8 UniRef90-J7S2H3 UniRef90-O02096 UniRef90-W4Y146 UniRef90-R1CZS5
UniRef90 H2XY10 UniRef90-E3MGH8 UniRef90-H2YWX0 UniRef90-K5Y4R1 UniRef90-R9A9M6 UniRef90-G9MT43
UniRef90-W7TVS0 UniRef90-C5YLQ9 UniRef90-J3MTH4 UniRef90_H1V6M2 UniRef90 A0A010REZ5 UniRef90_UPIO0044176B2 UniRef90-A8XEJ6 UniRef90-A0A024UUT4 UniRef90-F7HBT5 UniRef90-S0B1R9 UniRef90_U1GTM8 UniRef90_UPI000440C7FA UniRef90_C1MP27 UniRef90-GONJR7
UniRefgo G5APC4 UniRef90-G5APC4 UniRef90_UPI0003EC52C3 UniRef90-F2UBL0 UniRef90-A6QTR5 UniRef90-D7FIY2 UniRef90-B8AQQ8 UniRef90-KOTR62 UniRef90-G4TSA7 UniRef90-UPI0001D368F0 UniRef90-F2RPB3 UniRef90_UPI00046E1BDE UniRef90-R7QRQ8 UniRef90-R7QRQ8 UniRef90-R7QRQ8 UniRef90-R7QRQ8 UniRef90-E6RCS6 UniRef90-C5JG85 UniRef90-L1IM17 UniRef90_G4LXY8 UniRef90-IOZ4B8
UniRef90 U6IMF6 UniRef90-E1ZTS9 UniRef90-G1U519 UniRef90-B8C5F5 UniRef90-B7ZXM2 UniRef90-14YES5 UniRef90_G5A3R7 UniRef90-W3WGA0 UniRef90_G3SD18 UniRef90-A2F422 UniRef90-D8TLU8 UniRef90-D8M9H7 UniRef90_E9FAG4

FYTNRVLIKDFKDKEPKHAEWARGLI GADKQ|LIEEYVVDHHS FWTNRVLKDFKETDPNSVEWVKSFLALEDDLKAYVKEYQT FWTNKVLKQFKD DNQSHVEWVKQFLGI FDGLKDYVKQHHT FYTNRVLKDYKETDRRHVDWVSSYLSVWTELQAFIKEHHT FYNNKVLVAYRNKDADHVEWAKALKELLPGLRDYVKSFYP FYGNRVIKDYKEKDPKHVEWVRAWYALLDELRKYVVEYHK FYTNRVLKDYKNSDTRHVDWVKSYLNIWSELQAYIKEHHT FWTDRVLKDFRKTDENSVQWVTKLLSMFDDLKAYVKKYHF FYTNRVLKEYKDVDKKHVDWVKA YLNDWTELQACIKEFHT MYGNKVLKEYRDKNRTFVDWVRAYYKLFEAQTEYAKKNFP FWGNKI RVQFKTSNPDQIEFVTSFKALLTELMAYVKVHHT MYGNKI MMEFRGKDENHVNFAKSFKQFLLELQKYVKAHHT FYTNKVLVATKGKEQNKYDWALNFIKFLKEMVVYIKQYHT FWTNRVLKEFKDSDPNSVVWVKLFLQMFDDLKTYVKEYQT FWTNKVLKKFRDTDSRQVEWVKQFLGMFDALRDYAKEYHT FY N R LKK K K DKEPDHKEWVKAFSELLEELRKYVQEYHT FYNNKVLVEYRNKDPDHVEWAKADKELLYPGLREXVKKYYP F WGNKVRIEYKA
FYANRILKEKGSDDTK WVYSFDNLLTELQSYVKLYYN FYSNRILKDFKDKDEKRVQWVHALTDLDNQLKAYTSTNYP F WS D RVI K QYKETNASAVA WAKSFIALLIAALESYVKQWHT FWVDRVI KQFKETNPDALAWARSFSSLVDTLQKYVKQWHT FYLVRVAKECP DEGNRAWAQSYKQLLTALAQYVKAHHA FYCNKI LIE YRNKDANHVAWAKAVKELIPGLRDYVKTHYP

 FYANKILVQHRNSEDAHVTWVNSLKRLVSATRDYAKEHHT FYNNKVLIEFRAKNPDQAEWAKAIKELGPGLRDYVKQFHA FWTNRVLKEFREKDANAAEWVRLFLGTFDALRGYVKAHHA FYTNRVLKDYKDSDKRHVDWVKSYLNDWTELQAYIKEHHT FY IDNRI FKEFKDGDQTHVEWARVWKELDEAMQTFVRQTHT Y WTNKVLKDFRDSDPVSVEWVRKFLAI FDQLKDYVKEYFA FYLNRI LMEHKGKNDFHSEWAKS IKELMLSLHEYVRQHHT FYTNRILKEYRET
FNQQKIVMANKGKDETQVEFAKS DKADYTALEAFVKAHHR FYTNKVLTETKTGDKEHKNWVNAFVNVIFDGHDYI HEYHT FY YNRIVMAHKDKTDHNFEWAKTLKELLTKLHGYVAENHV FYTNKVLTETKNKSTEHKNWVNAYLEVEDGFYNYIHEHHT YYGNRVIKDYKEKDPRHVEWCRGLSSILDAVRDHANEFYK FYANRVIKKFKGGDERMVQWVKLFMGLLEELRVYVHKHHT YFGNKVLKEHKGRNQKQVDWVMSYYQIFRDLSDIVREHFP FWGNKVRVQHKKTAPEHVAFVDNYKRMIVDLAAYVKAQHV FYSNKVLVEYKNKDPDHVEWVKALKELYPNLRDYVKRYYP FYSNKVLVEYKNKDSDHVEWAKALKELFPTLRDYVKKFYP FFGNRVLKEQKDK
FFGNRVLKEQKDKDAQQTEWVNAFYQVFRDLADYVKQNFA YSGDKI LREHKDKEPKHGEWVRAFFASLDALRKYVAEHHT
 VWGTKIRAQYKASNADQVRFAATFKALVTELMAYVEDFHP FYTNKI LVATKGKEQDKFDWAINFVKFLKEMVVYi KQYHT YYGNTILKNYRDKDKSHVEYIQAYYRVFNALIAYIKKHFP FYGNRLIKTFKEKPEKHVEWVRAYMGI FPALLKSYIKEFHM FYANKI LVEHKGKDPAHAAFVKAMKQLLTDFKGYVKEFHA FYTNRILMSHKDEDATNRDWAKLLKNLLNKDHSYVLKNHT FYTNRVLKEYKDVDKKHVYWVKAYFSIWTELRAYI KEFHT FYNNKI LMGYKNTDKVHRGFVSQFKTAIEELSVYVKEYHM
 FYANRVIKEYKDT

D D R HVAF $\square$ Q S Y Y Q $\square F K$ S LVT Y $I K E H Y P$ Y WANKVRMQYRKTNPEQVAFCDTLKALLTGLLAYVQANHK FYNNKVLVEYRNKDADHVEWAKALKELMPGLLRDFVKKHYP FWANKVRKEYKGKGDKHVKFCDTMKGLIT DLSAYLKEHQT FYGNRVIDKEYKEKNTAHVDWVRSYFGLIDELLGKYVGEYYK
FYGNRVLNQYKDKDKTHVEY DQAYYQ TYKS L DDY $\square K E Y Y P$ FYNNKILVEYKTKDPNHLEWAKALKELLPGLRDYVKSFYP FFMDKVKMGAKKTQDVHREWAKALETVFVDLKAYVKEHHT FFMDKVKMGAKKTQDVHREWAKALETVVVDLKAYVKEHHT FFMDKVKMGAKKTQDVHREWAKAGLETVFVVDLKAYVKEHHT FWCDRV 1 KGYKKTNAAAVAWAKSLEALVAALIESYVKQWHT FYGDRVLREYKGK ALSEW
VYGDKIVKSTSENAEDHVEFVKTFRDMLRGLNDYVKTYHN LNANKVFQYCRESLPEHVEWLRSWLSCLDELC IVVGEHFP FWTNK LLENRTAP HADWVKALKDLLKGLCTYLKTHHF
 YTNQVFKEYKDVDRKMLN DSMWTELQAYVKEDHT F WANKI RKEYRTNEPAHLKFCDDMKA LVNDLAAYLKEYHD FYNNKVLVEYRNKDPDHVE WAKALLKDLMPGLRDYVKKHYP

FYTNRLIKD KNELNLLWVQGLLRLLDELSKYVKKHHF FWGNKIRVSFKASNPDHVTFVVTLECLLTELSEYIKDYRL YFGNKVQAEHKQK
FYTNRVLKGYKH DLDHRVDWVRSYVNDWSEFQACVKEHHT CYTN K L S M Q Y R G V D E K Q M N WV T G F V A A C K A $\quad$ TP T FYSNKLLMEFRGKD DNQVA WV RALLKVLI QQLEQFVVVRHCP F Y TMKVLTTSTKTNSEVHKA YVNQWKTLIGEAMSVYV KE F H M F W D D

| UniRef | VT W w 170 |
| :---: | :---: |
| UniRef90-G0V180 | TGLK WND |
| UniRef90-KOKEY5 | QGLTWNNKGG |
| UniRef90-H2TGT1 | TGLMWSKTGP |
| UniRef90-U5D7U3 | QGPVWGV |
|  | T GLA WNP S |
| UniRef90-HOZ6E | TGLT WS K |
| $\begin{aligned} & \text { UniRef90-I2GXV4 } \\ & \text { UniRefoc } \end{aligned}$ | NGGLS SNPKGMTVSEATS |
| UniRef90-Q0UQG7 | SGVTWNPNGIDAREA |
| UniRef90-K3XC52 | T GV' WNPK |
| UniRef90-L1K1A5 | T GVA WN |
| UniRef90-B0ET | TGLT WNPK |
| UniRef90 Gow | NGLDWNAT |
| UniRet90_C4R2Z1 | GAS WDANG |
| UniRet90 M5G519 | TGLAWNLKGGDYATFT |
| Unire 90 - | KGLQWNVHG |
| Ref90-UPI0003AEC3FC |  |
| iRef90-M7 | L |
| UniR | S GLI WGSAGSPPPPLS |
| UniRet90-J9VJT | T GVVWNPKGSPAPPS |
| UniRet90-K1VC | T GVVWNPKG |
| UniRef90-A9V1C6 |  |
| UniRef90-S8DFL8 | $\square \mathrm{G}$ |
| UniRef90-B3S128 | 1 G NWNA |
| UniRef90-V9FTB0 | $\underline{V} \mathrm{GV}$ TWNP |
| UniRef90 C1EG | TGPAWN |
| UniRef90-D8RZC6 | T GPSWNPK |
| UniRef90-UPIooo3EAA6DF | TGVAWSK |
| UniRef90-W2TSB8 | TGLAWNSA |
| UniRef90-J7S2H3 | TGLTWNEN |
| UniRe990 002 | TGLVWNSDPG |
| ef90 ${ }^{\text {R1C }}$ | TGLE WNPKGGAVGDA |
| UniRef90-H2XY10 | S WN |
| UniRef90-E3MGHE | TGLVW |
| UniRet90-H2Y | T |
| UniRef90 K5Y4R1 | SGGIF WNESGPTVDEF |
| UniRef90 G9MT43 |  |
| UniRet90-W7TVS0 | TGVTWNPQ |
| UniRef90_C5Y | GPVW |
| UniRef90_\3MTH4 | LGPVWLPPGSSTSKA |
|  | S Gll P WN P |
| UniRef90-UPIO0044176B2 | TGLSWNPKGI |
| Ref90-A8X | WN |
| UniRef90-A0AO24UUT4 | TGVVWNPEGGDV |
|  | VGLTWSRTGPAA |
| UniRef90 U1GT | GGLT WNNKGIDAMDA |
| UniRef90-UPIo00440C7FA | T GLT WN |
| UniRef90-C1MP27 | TGPGWNPRGVDV |
| UniRef90-GON | TGGISNSKMGPKTAKEDS |
| UniRef90-D2V1W7 | T GLS WN |
| UniRef90-UPIO003EC52C3 | TGLT WSKTGAVAS |
| iRet90-A60TR |  |
| Ref90 A6QT | NGLT WNN |
| UniRef90 D7 | TGLEWNPKGGDCAAFS |
| UniRef90 - B8AQQ8 | P |
| niRee90-K0TR6 | MGLVTNP |
| UniRef90-UPI0001D368F0 |  |
| UniRef90-F2RPE | RGVTWNK |
| UniRef90-UP100046E | LGPVWS |
| UniRef90 R7C | QKLV |
| UniRef90-R70R | QKLVWN |
| UniRet90-R70R | QKLVWNP |
| UniRee90-R7 | QK |
| UniRee90 - E6 | T GVVWNPKGSPAPSS |
| UniRef90-C5JG85 |  |
| UniRet90-L11M17 UniRef90 G4LXY8 | KGLS WNMDGEDFATV |
|  | SGPAWNAS |
| UniRef90-U6IMF6 | VGLIWCSEGANVPS |
| UniRef90-E1ZTS9 | AGPQWN |
| UniRef90-G1U519 |  |
| UniRef90-B8C5F5 UniRef90 B7ZXM2 | SGLAWNPHGKDFSE |
| UniRef90-B7ZXM2 | LGPVWGPAGGAVVS |
| iRef90-14YE | NGLA WNNK |
| UniRee90-G5A3F | TGGVTWNPKGGDV |
| UniRet90_W3 |  |
| UniRef90_G33D18 | T GLTWSR |
| UniRef90-A2F422 | GG\|KFN |
| UniRef90_D8TLU8 UniRef90 D2V084 | T GLRFDPNGVPVA |
| UniRet90 | GLTFN K |
| iRef90-E9FAG4 | TGU TWNARGGLAESV |

UniRef90_LIITN6 UniRef90 L1ITN6 UniRef90 U6HIA8 UniRef90-UPIO0006CA55C UniRef90-UPI00006CA550 UniRef90 UPI00006CA55C UniRef90 ${ }^{-} \mathrm{FOY} 819$ UniRef90-A0A059LG34 UniRef90- M8AT82 UniRef90 M3WRY8 UniRef90-L8X3L9 UniRef90-W2QPU8 UniRef90 LOPD39 UniRef90 C5M2U4 UniRef90-C5L6G8 UniRef90 H2KTN2 UniRef90- J9FLW9 UniRef90-R7QNW4 UniRef90-R7QNW4 UniRef90 A0BQ80 UniRef90-H3FP08 UniRef90-X6P754 UniRef90-F6UAM8 UniRef90 V6LGF7 UniRef90-E9AGV5 UniRef90-X6NFLO UniRef90-E4X5P0



F LDVSER DGGEVLASSRVFFQAFET
VQAFDSLFNSPVAE KETSKETGGDVQKHVKMVHTGLRD SVKAFDELITGKLEPFLKVAGEIGGPVKEQSDIVGNLFQN IRAYNE YVDEYLSPFLSACKQLGDSALE LDDRLLEKAF IDA


VEAFDKLMNSMMAKFLKNNRSLAGDLEARAERVPGAF IT A $\square Q K L \square T G F T K D F \square T L S V R V G T T V G K T T E V V C Q A D E \square$ A A S RVQDRDVEALSKVVLRVAQA


|  | $50$ |
| :---: | :---: |
| UniRef90_L1ITN6 |  |
| UniRef90-L1ITN6 | QRVLLDNVCKVSNPSSATVHEWIVPI DRALQEIE GIIREGC |
| UniRef90-U6HIA8 | CLNI MQLSRKYAKPSANEMSKIMQPLSFKLYEIAEVANRN |
| UniRef90-UPI00006CA55C | MKMIMEQAATTKKPFQNQVQSVNQILNNKI QSI S |
| UniRef90-UPI00006CA55C | MKMIMEQAATTKKPFQNQVQSVNQILNNKI QSISK |
| UniRef90-UPI00006CA55C | MKMIMEQAATTKKPFQNQVQSVNQILNNKIQSISK |
| UniRef90-F0Y819 | MRAFLVAASQSKKPANADCMPLLKPAQEAMAKASK AV |
| UniRef90-A0A059LG34 | EAALLETFDQCKAPSSDALQEMVSATAEALAAVQAVADAG |
| UniRef90-M8AT82 | MANAQDFLKPLNDTI AKATAMTEGR |
| UniRef90-M3WRY8 | E ASQCQQTAGNKLSDLLACISEQI QEVVTFWEKN |
| UniRef90_L8X3L9 | LRGLLIQCAAASAKPSDATFMSMLGPLQSQI T AVNSVKDKY |
| UniRef90-W2QPU8 | QRSFLFQASQCRRPQPADFDSLLE VQSCIEEISKIRDN |
| UniRef90-LOPD39 | VS |
| UniRef90-C5M2U4 | VSNATAKADASTK EALTNTLK EKGISKIFELKEAT |
| UniRef90-C5L6G8 |  |
| UniRef90-H2KTN2 | VRNLVKLS |
| UniRef90-J9FLW9 | QRDILQTMSQANKPADFKFLIL PVSKAKNDVRALKK N |
| UniRef90-R7QNW4 | EAQVISKASRMAKPANP AIILKKECAELVDASADAAELK |
| UniRef90-R7QNW4 | EAQVI SKASRMAKPANP A L L K K ECAELVVDASADAAELK |
| UniRef90_A0BQ80 | MENAILHSTNTKKPSPDQMKQ\\|QKAlT DQVNKIAK F |
| UniRef90-H3FP08 | RS FLWTAAGRAEASAAEFPALLAPIS GAMEKLS S WRETR |
| UniRef90-X6P754 | YKDLVAFLGRAGDA |
| UniRef90_F6UAM8 |  |
| UniRef90-V6LGF7 |  |
| UniRef90-E9AGV5 | HTQCLVRATSERPRDRSNLAK\FAPLNTSLNGLTATCEDR |
| UniRef90-X6NFL0 | VLELVQKLLP NAKKPEQVQLVAFLGRASDAI AKADNARYRG |
| UniRef90_E4X5P0 | LQP QVN【VGE 1 S N L V R Q T |

[^0]

UniRef90_L1ITN6 UniRef90 L1ITN6 UniRef90 U6HIA\& UniRef90-UPI00006CA550 UniRef90_UPI00006CA55C UniRef90 UPIO0006CA55 UniRef90- F0Y819 UniRef90-A0A059LG3 UniRef90 M8AT82 UniRef90 M3WRY8 UniRef90-L8X3L9 UniRef90-W2QPU8 UniRef90 LOPD39 UniRef90 C5M2U4 UniRef90_C5L6G8 UniRef90 H2KTN2 UniRef90 J9FLW9 UniRef90-R7QNW4 UniRef90-R7QNW4 UniRef90 A0BQ80 UniRef90 H3FP08 UniRef90-X6P754 UniRef90-F6UAM8 UniRef90 V6LGF7 UniRef90-E9AGV5 UniRef90-X6NFLO UniRef90_E4X5P0


[^1]


[^2]

|  | 70 |
| :---: | :---: |
| UniRef90_L1ITN6 | Q G L |
| UniRef90-L1ITN6 | Q G L |
| UniRef90-U6HIA8 | VGLIW |
| UniRef90_UPI00006CA55C | HGLI WNSKGGDFSE |
| UniRef90-UPI00006CA55C | HGLI WNSKGGDFSE |
| UniRef90-UPI00006CA55C | HGLIWNSKGGDFSE |
| UniRef90-FOY819 | A GVTFNPKGGD |
| UniRef90_A0A059LG34 |  |
| UniRef90_M8AT82 | L G P V W |
| UniRef90-M3WRY8 |  |
| UniRef90_L8X3L9 |  |
| UniRef90-W2QPU8 |  |
| UniRef90-LOPD39 | E GFTRSSK |
| UniRef90_C5M2U4 | AKGGPFSE |
| UniRef90-C5L6G8 | M G 1 M WKK D G A P P K |
| UniRef90-H2KTN2 | Y G L T W |
| UniRef90_J9FLW9 | K AVQWT GSNDNAEEV |
| UniRef90-R7QNW4 | A GL R WN |
| UniRef90_R7QNW4 | A GL R WN |
| UniRef90_A0BQ80 | M GLEWNGK G |
| UniRef90-H3FP08 |  |
| UniRef90-X6P754 | T G LT WN P K |
| UniRef90-F6UAM8 |  |
| UniRef90-V6LGF7 |  |
| UniRef90-E9AGV5 | R A V P W |
| UniRef90-X6NFL0 |  |
| UniRef90_E4X5P0 |  |
| lupas_21 |  |
| lupas_14 |  |
| lupas_28 |  |
| jnet |  |
| conf | 7774146677777889 |
| sol25 | B B B B B |
| sol5 | B B B |

hmm
jhmm
jpssm


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

[^1]:    lupas 21
    lupas_14
    lupas_28
    jnet
    conf
    sol25
    sol5
    sol0
    jhmm
    jpssm

[^2]:    lupas_21
    lupas_14
    lupas_28
    jnet
    conf sol25
    sol5
    sol0
    jhmm
    jpssm

