query
UniRefe9 - AokMQ2 UniRef $90-$-U3AON3
UniRe $90-\cup 1 A A U 2$ UniRef90 UPI00037F715E UniRe90-O2SHU1 UniRefo-TorLJ1 UniRef90-O6FUJ8 UniRef90--80591 UniRefi90- 056507 UniRet90-X8JUN3 Uniferi90-UPIOOO4408546 UniRe90-C5P552 UniRef90_W0TCY1 UniRef90_K5V9X8 UniRef90_S7RXF0 UniRef90_H2AVT8 UniRef90_B0CYU7 UniRef90_M7TNM9
UniRef90 Q0U6L1 UniRef90-A8N925 UniRef90_E3QQU9 UniRef90_U2SK25 UniRef90-S8AJ32 UniRef90_C9SD89 UniRef90_A0A010RTG4 UniRef90_B8MDS6 UniRef90_A8N1W0 UniRef90_U1FXF5
UniRef90_C4QWD7 UniRef90-UPI0004410756 UniRef90 V5E8J4 UniRef90_UPI0004730240 UniRef90-E3QNS1 UniRef90_C4JH70 UniRef90-M4G783
UniRef90 W715H6 UniRef90-UPI0004560C84 UniRef90-UPI0004410FEF UniRef90-W5X2Y7 UniRef90-G9NRV1 UniRef90-H2BU08 UniRef90_UPIO0040C9779 UniRef90_G1XCJ0 UniRef90- M5FRI7 UniRef90-UPIO0040EB7A1 UniRef90-H1GWE9 UniRef90_A0A010S861 UniRef90-A2TPN8 UniRef90-F6GGB2 UniRef90_UPI000248E7AA UniRef90_UPIO002D53069 UniRef90-I7HN25
UniRef90 UniRef90-J3CBQ7 UniRef90-B3QVT1 UniRef90-S7QFD7 UniRef90_V6KHV8 UniRef90_V2XDR5
UniRef90_UPIO0035D0E19 UniRef90-K5XA04
UniRef90_UPI00037C0B75
UniRef90_C4JHZ6
UniRef90-ROE6D2
UniRef90_UPI0003778787
UniRef90_C6XNT2
UniRef90_K5X534
UniRef90 Q01P45
UniRef90_UPI00036C93F9
UniRef90_UPIO0047D867B
UniRef90-X1QMV5
UniRef90_V6KFR7
UniRef90-A6LCV0
UniRef90_U2JDJ5
UniRef90_UP1000440833C
UniRef90_UPI00035C1CD2
UniRef90-A5FAV9
UniRef90-E4URG0
UniRef90_B8CV47
UniRef90_Q4P851
UniRef90_R7EFY5
UniRef90_UPI00037B7131
UniRef90-N6WMJO
UniRef90_UPIO0036115BE
UniRef90_UP100047EF8FD
UniRef90-F8EGS7
UniRef90-I2GT86
UniRef90-I3CA49
UniRef90_E4W1N9

TVQATVAWLQVDASQDTGTIDSLESFTNRFYTTT $P$ P L T Q G A S V N R L L P Y L D Q G N I V G T I S QLA S WRNRYY T T T


I D N Q A AVVNQL L P QL Q D S N I L G T I Q S L S N Y Q NRFY T T S $I$ D NADVVSALUQGKI SEANI R S TII ETGLSSFTNRYYTTT
 MH QR D TVVHGVLD K ID KESMYADLSKKLTS FYTRYYK SA

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

Q NKETVESLTKNIDKQSMHDNLAKFSSFFTRYYKSE
KPNASSLVLPVLEKLSTDGPKENLKQFTSTRTRYYRS D


VVK K I LKTLSTKGPKENLEKFSSFRTRYYRSD
VT HADDVNALLSSLDKANLETTLKTYSDFETRYYDSD
 PEPSFQNELQPI LTNVSDPAMRDNLETLTSFKNRWYLSA

Q D KVK K L L K DLD K S E I Q K NLEEKFTSFHTRYYKS D
 FPDKFHQKT IDELI PKLDMERIERLLTKFSSFHNRYY LSN FPTMNQTCHVNALIPKLNKDNMRAHLECFSSFHNRYYLSK A HNDTINSLSKNLNKTNMRNNLEHFTSFHTRYYKSE
A R R P EVVAL LA QV S Q S Q S Q S Y L N S LTA Y N NRYYRTQ FPSAAYNSTVKSLAKSLEKKHMRKHLETFTAFYTRYYK S S FP K P N Q T E F V V
 $L S H V D E A N S L I$ A KVVSTTQPQSWLTKTLTDFYNRYYRST
MQQEDKVKAMVANLSAQRDQRDLTMFSSYHNRYYTSR
 DKQLKPVFKGISDKGPRENLKAFTGFHTRYYKSE PNATKYPELAGMFAQVSADGLGWTIGNLSAFTTRYYRST KV S F S E D D I A K S L ENADVMEYANTI TAQEDSDHLYTFASFEGRETGEP P Q N EA II I R P LL LA KL D S K N M K A N L E K F T S F Y T R Y Y K S S PDAARYPELADMFARVDAERLGWTVGNLSAFPTRYYGSP PS P DK Q S LV N A V I A NLTVD GMISNLLQKFTSTRTRYYRSE
 VSDETEA VTD S T LI VK Y S K T

EASDPTSYANT
TEKEFEKLLTDFASMEGRETGES
 P K I S S K A E F Q A A Y Q T I S A E D L K K N L Y VI A SMGGR D T G S P

 L A S QQPDAELTQMLSQI DPQRI QAII EKLVSFGTRNTGS


ETYSATIT SAELK DMLYTYASFE GRKTGEP
 VA SAERI ERDI QTLVDFGTRHTLSD
 K P S P T P EL R AI L R EI D P K RI EA TIIR KLVV F G T R H TLL S R


 EDPEIT K MI TEVKAESLENTVKKLVSFGTRHTLSD NSDPSKYVKLI SEKDLKTMLYVVASMEGRETGSA P S K D L K K I L S Ql S P K R I E A T I R KL V S F GT R H T L S T PSEEDMRLYDIVATAPSATRLRSDVEKLVSFGTRHTLSD SAFHPERIKKDVRILTTWHSRHSSTY


## QUERY

UniRef90_AOKMQ2 UniRef90-U3AQN3
UniRef90 U1AAU2 UniRef90-UPI00037F715E UniRef90-Q2SHU1 UniRef90-T0RLJ1 UniRef90-Q6FUJ8 UniRef90_F8Q591 UniRef90-D5G507 UniRef90-X8JUN3
UniRef90 UniRef90_UPIOO04408546 UniRef90-C5P552 UniRef90-WOTCY1 UniRef90-K5V9X8 UniRef90-S7RXF0 UniRef90-H2AVT8 UniRef90_B0CYU7 UniRet90_M7TNM9 UniRef90-A8N925 UniRef90-E3QQU9 UniRef90_U2SK25
UniRef90-S8AJ32
UniRef90_C9SD89
UniRef90-A0A010RTG4
UniRef90-B8MDS6
UniRef90-A8N1W0
UniRef90_U1FXF5
UniRef90_C4QWD7
UniRef90_UPIO004410756
UniRef90-V5E8J4
UniRef90_UPI0004730240
UniRef90-E3QNS1
UniRef90_C4JH70
UniRef90-M4G783
UniRef90-W715H6
UniRef90_UPI0004560C84
UniRef90-UPIO004410FEF
UniRef90-W5X2Y7
UniRef90-G9NRV1
UniRef90-H2BU08
UniRef90_UPIO0040C9779
UniRef90-G1XCJ0
UniRef90_UPI0004414F77
UniRef90_M5FRI7
UniRef90_UPIO0040EB7A1
UniRef90-H1GWE9
UniRef90-A0A010S861
UniRef90-A2TPN8
UniRef90-F6GGB2
UniRef90_UPI000248E7AA
UniRef90_UPI0002D53069
UniRef90-I7HN25
UniRef90-J3CBQ7
UniRef90-M2QWX3
UniRef90-B3QVT1
UniRef90-S7QFD7
UniRef90_V6KHV8
UniRef90-V2XDR5
UniRef90_UPIO0035D0E19
UniRef90-K5XA04
UniRef90_UPIO0037C0B75
UniRef90_C4JHZ6
UniRef90-R0E6D2
UniRef90_UPI0003778787
UniRef90_C6XNT2
UniRef90-K5X534
UniRef90 Q01P45
UniRef90_UPI00036C93F9
UniRef90-UPIO0047D867B
UniRef90-X1QMV5
UniRef90-V6KFR7
UniRef90-A6LCV0
UniRef90_U2JDJ5
UniRef90_UPIO00440833C
UniRef90_UPI00035C1CD2
UniRef90_A5FAV9
UniRef90_E4URG0
UniRef90-B8CV47
UniRef90_Q4P851
UniRef90-R7EFY5
UniRef90_UPI00037B7131
UniRef90-N6WMJO
UniRef90-UPIO0036115BE
UniRef90-UPIo0047EF8
UniRef90-UP100047EF8FD
UniRef90-F8EGS7
UniRef90-l2GT86
UniRef90-_I3CA49
UniRef90_I3CA49
UniRef90_E4W1N9
 RTG4
$\qquad$ 730240 NS 1


560C84




414F77
20EB7A1 S861
$\qquad$ A

S GAQASDWПASEWQALSASMPNASVKQVSHSGYNQKSVVMM




TGKQSQQWLKGKIKFASPSLKSLDSISEFPHSWGQNS:I L


## T

T

## $T$



 EIA NSLDELQQAEID RTGKPLSFQ V VID DQKE LLKTENVCA GVRTAAA WL S D R F E D T GA T C E L R P F L A GF
G GAARDWI LGEMKKYAARSYI QEPASRDPVATRDTNVVA GIGAARDWIAS QMRTFAMNVTVQTFTGGSGGGVPRSNVFA






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



| $D$ | $D$ | $P$ | $V$ | $L$ | $G$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $T$ | $P$ | $N$ | $l$ | 1 | $C$ |

 GQKKA G LYYMID QYKK S G IS F P K GA S DFYQH IPASYE N I WA GIIGAA R D W I E S E F Q R Y A V G Y D Q Q P D G R R I P F P V R


 N E E
ENAKAANY LIKQFKK LK LTP L GTDGYRQPFTA KVRRVVVN G $\square G A A R Q W Q L G K F Q Q Y A K Q W T L Q P D G R R \square D K P A D M G N V M A$

## QUERY

UniRef90_A0KMQ2
UniRef90_U3AQN3 UniRef90 U1AAU2 UniRef90 UPI00037F715E UniRef90_Q2SHU1 UniRef90_T0RLJ1
UniRef90_Q6FUJ8 UniRef90_F8Q591 UniRef90-D5G507 UniRef90 X8JUN3 UniRef90_UPI0004408546 UniRef90_C5P552 UniRef90_W0TCY1 UniRef90_K5V9X8 UniRef90_S7RXF0 UniRef90_H2AVT8 UniRef90_B0CYU7 UniRef90-Q0U6L1 UniRef90_A8N925 UniRef90_E3QQU9 UniRef90_U2SK25
UniRef90 S8AJ32 UniRef90_E3FEY6 UniRef90_C9SD89 UniRef90_A0A010RTG4 UniRef90_B8MDS6 UniRef90_A8N1W0 UniRef90_U1FXF5 UniRef90_C4QWD7 UniRef90_UPI0004410756 UniRef90 V5E8J4 UniRef90_UPI0004730240 UniRef90_E3QNS1 UniRef90_C4JH70 UniRef90_M4G783
UniRef90 W7I5H6 UniRef90_UPI0004560C84 UniRef90_UPI0004410FEF UniRef90_W5X2Y7 UniRef90_G9NRV1 UniRef90_UPIO0040C9779 UniRef90_G1XCJ0 UniRef90_UPI0004414F77 UniRef90_M5FRI7 UniRef90_UPI00040EB7A1 UniRef90_H1GWE9 UniRef90_A0A010S861 UniRef90_A2TPN8 UniRef90_F6GGB2 UniRef90_UPI000248E7AA UniRef90_UPI0002D53069 UniRef90_17HN25
UniRef90-J3CBQ7 UniRef90_J3CBQ7 UniRef90_B3QVT1
UniRef90_S7QFD7
UniRef90_V6KHV8
UniRef90_V2XDR5
UniRef90_UPI00035D0E19
UniRef90_K5XA04
UniRef90_UPI00037C0B75
UniRef90_C4JHZ6
UniRef90_R0E6D2 UniRef90_UPI0003778787 UniRef90_C6XNT2 UniRef90_K5X534
UniRef90_Q01P45 UniRef90_UPI00036C93F9 UniRef90_UPI00047D867B UniRef90-X1QMV5 UniRef90_V6KFR7 UniRef90_A6LCV0 UniRef90_U2JDJ5 UniRef90 UPI00035C1CD UniRef90_A5FAV9 UniRef90_E4URG0 UniRef90_B8CV47 UniRef90_Q4P851 UniRef90_R7EFY5
UniRef90_UPI00037B7131 UniRef90_N6WMJ0 UniRef90_UPI00036115BE UniRef90_UPI00047EF8FD UniRef90_F8EGS7 UniRef90_I2GT86 UniRef90-I3CA49
UniRef90_E4W1N9

90
100
100
110
120
TIT GSEAP DEWWVIGGHLDS GSHTNEQSVAPGADDDAS TLKGSRYPDEVVVLGGHLDSTAGSAPNSRTLAPGADDDAS



 H
 RIIKGSDPSAGTVII SAHQDS HI DG ES DGPLTI L GAHMDS KI A GTLPD DEEIIVGABCD T I PGR SLR GQTTPENVIVMGAHQDS $T \square N$ NMWP F $\square N$
S $N M$ A APGADDDGS

 $R \| N G S S T D D D V V I$ I GAHQDST
 $K I P G K$ A A STVVVGAHLDSVNGADETGRSPGGAADDNGS


 $T L Q G T T T S N E V I V L G G H L D S I N G S S S S A S A P G B A D D D A S$ $T I P G R N Q \quad R T V I L G S H L D D V I S G D \quad R G T G R A P G A D D N G S$
 TI PGTNPSLPRI I LGAHLDD I NSSNPTNGRAPGADDDGS

 TI Y G S K GK G D VVVVGCHQDS INLL | $R$ | $N$ | $G$ | $S$ |
| :--- | :--- | :--- | :--- |
| $R$ | $N$ | $G$ | $S$ |
| $K$ | $K$ | $A$ | $V$ |
| $V$ | $V$ | $V$ | $S$ |

 T PGGK SANTVVV K PGE $\square N S$ S $V$ V $V$ R T I P GRLSS GK TVVVGA HLD S VVNQFS Q S S G HVPGRNQSEGVTILGAHQDSTNFFPFF
 A PRAENSDE V D G GHFDSDNQRSSNVNARAPGADD DAS
 FI E GSEKPEEILVI SSHYDHVGDDD EGNDYNGADDDGS FI P GSEFPDEIVVI SAHYDHVGTKN
 A I P RA D GS D E VVVI GA H LDD S IVNSRSSLFPTAPPAPGADDDDAS
 FIE GSEKPE EVVVI SAHFDDMGG I
 F I K G E E K P D E VV I I V S G HLLD H L G I E N FLE GTEYPDELIVI SAHYDHLGGNANG TKEPNNRSGQKLIVGAHHDTVP DSPGANDNGS TVIGKE LK TPAAVI GAPMDTM D GHMPGADESSGAAA D
 $R Y P S T V N T T A T V L L S A H Y D S R G S \quad F G S T R A P G G D D D G S$ TLRGSVAPDRVYVVAGHYDSRVTDVMDATSAAPGADDDAS TLKGSENSNRVYVVSGHYDSRNSNGNDPDGDAPGANDDAS

 TLK GTEEPERIVLI SGHYDSRVTDVNDYTSFAPGANDDAS
 $1 Q R G V T D P D R V V I M S G D I D S R I S D V M N F T D D S P G A N D N A S$
 $T L R G G V T P S R V Y V V T G H Y D S R V T D V M N A T S D A P G A D D D G S$

 K I E GKN PN E IVVIVGAHYDHLG IDDPMDGDQDYNGADDNAS

 YI E GSEKPDEVLVI SAHYDHVGIKDGEVYNGADDDGSGTV

 TIP G ERPDEYVIVGAHFDHLGVDETANDRDYNGADDNAS DQRGTRYPDRYVI MS GDDDSRDSDP LNGTDDSPGANDNAS TLHGGSDPSSNAII MSAHYDCTPGS LGADDDGSGVAAV Y L E G G S K K E EVI VIT SHYD HIGGVS GDE IN NGADDD G S





QUERY
UniRef90 AOKMQ2 UniRef90_U3AQN3 UniRef90-U1AAU2 UniRef90_UPI00037F715E UniRef90-Q2SHU1 UniRef90-T0RLJ1 UniRef90-Q6FUJ8 UniRef90_F8Q591 UniRef90_D5G507 UniRef90 X8JUN3
UniRef90 UniRef90_UPI0004408546 UniRef90-C5P552 UniRef90-WOTCY1 UniRef90-K5V9X8 UniRef90-S7RXF0 UniRef90-H2AVT8 UniRef90_B0CYU7 UniRef90-M7TNM9
UniRef90 Q0U6L1 UniRef90-Q0U6L1
UniRef90 A8N925 UniRef90-E3QQU9 UniRef90_U2SK25 UniRef90-S8AJ32 UniRef90-E3FEY6 UniRef90_C9SD89
UniRef90_A0A010RTG4 UniRef90-B8MDS6 UniRef90-A8N1W0 UniRef90-U1FXF5 UniRef90_C4QWD7 UniRef90_UPIO004410756 UniRef90_V5E8J4 UniRef90_UPI0004730240 UniRef90-E3QNS1 UniRef90_C4JH70 UniRef90-M4G783 UniRef90-W715H6 UniRef90-UPI0004560C84 UniRef90-UPI0004410FEF UniRef90-W5X2Y7 UniRef90-G9NRV1 UniRef90-H2BU08 UniRef90_UPIO0040C9779 UniRef90-G1XCJ0 UniRef90_UPIO004414F77 UniRef90-M5FRI7 UniRef90_UPIO0040EB7A1 UniRef90-H1GWE9 UniRef90-A0A010S861 UniRef90-A2TPN8 UniRef90-F6GGB2 UniRef90_UPI000248E7AA UniRef90_UPIO002D53069 UniRef90-17HN25
UniRef90 ${ }^{\text {J3CBQ }}$ UniRef90-J3CBQ7 UniRef90_M2QWX3
UniRef90-B3QVT1 UniRef90-B3QVT1
UniRef90-S7QFD7 UniRef90_V6KHV8 UniRef90_V2XDR5 UniRef90-UPIO0035D0E19 UniRef90_K5XA04 UniRef90_UPI00037C0B75 UniRef90_C4JHZ6 UniRef90-R0E6D2 UniRef90_UPI0003778787 UniRef90_C6XNT2 UniRef90_K5X534
UniRef90_Q01P45 UniRef90_UPI00036C93F9 UniRef90-UPIO0047D867B UniRef90-X1QMV5 UniRef90-V6KFR7 UniRef90-A6LCV0 UniRef90_U2JDJ5 UniRef90_UPI000440833C UniRef90 UPI00035C1CD2 UniRef90_A5FAV9 UniRef90-E4URG0 UniRef90 Q4P851 UniRef90-R7EFY5 UniRef90_UPI00037B7131 UniRef90-N6WMJO UniRef90-UPIO0036115BE UniRef90-UPI00047EF8FD UniRef90-F8EGS7 UniRef90-I2GT86 UniRef90-I3CA49
UniRef90_E4W1N9


## ouery

UniRef90 AOKMQ2 UniRef90-U3AQN3 UniRef90 UPI00037F715E UniRef90-Q2SHU1 UniRef90-TORLJ1 UniRef90_Q6FUJ8 UniRef90-F8Q591
UniRef90-D5G507 UniRef90 X8JUN3 UniRef90 D8PMQ6 UniRef90-UPIOOO4408546 UniRef90-C5P552 UniRet90-WOTCY1 UniRef90 ${ }^{-}$K5V9x8 UniRef90-S7RXF0 UniRef90-H2AVT8 8 UniRef90 BoCYU7 UniRef90_MOUKL UniRef90-A8N925 UniRef90_E3QQU9 UniRef90-U2SK25
UniRef90 S8AJ32 UniRef90-E3FEY6 UniRef90-C9SD89 UniRef90-A0A010RTG4 UniRef90_B8MDS6 UniRef90-A8N1W0 UniRef90-U1FXF5
UniRef90 C4WWD7 UniRef90-C4QWD7
UniRef90_UPIO004410756 UniRef90 V5E8J4 UniRef90-UPIOOO4730240 UniRef90-E3QNS1 UniRef90_C4JH770 UniRef90-M4G783
UniRef90
W715H6 UniRef90-UPI0004560C84 UniRef90-UPIIO004410FEF UniRef90-W5X2Y7 UniRet90-G9NRV1 UniRef90-H2BU08 UniRef90-UPIOOO40C9779 UniRef90-G1XCJo UniRef90_UPIO004414F77 UniRef90-M5FR17 UniRef90-UPIOOO40EB7A1 UniRef90-H1GWE9 UniRef90-A0A010S861 UniRet90-A2TPN8 UniRef90-F6GGB2 UniRef90-UPI000248E7AA UniRef90-UPIo002D53069 UniRef90 - 17 HN 25
UniRef90 $13 C B O 7$ UniRef90-J3CBQ7
UniRef90-M2QWX UniRef90-B3QVT1 UniRef90-S7QFD7 UniRef90-V6KHV8 UniRef90_V2XDR5
UniRet90 UPIOOO35D0E19 UniRef90-K5XA04 UniRef90_UPIO0037C0B75 UniRef90-C4JHZ6 UniRef90-RoE6D2 UniRef90_UPIOOO3778787 UniRef90_C6XNT2 UniRef90-K5X534
UniRef90 O01P45 UniRef90-UPI00036C93F9 UniRef90-UP100047D867B UniRef90-×1QMV5 UniRef90-V6KFR7 UniRet90_A6LCVO UniRef90_U2JDJ5 UniRef90-UPIO00440833C UniRef90-A5FAV9 UniRef90-E4URG0 UniRef90 B8CV47 UniRef90_Q4P851 UniRef90-R7EFY5 UniRef90-UPI00037B7131 UniRef90-N6WMJo UniRef90 UPIO0036115BE UniRef90-UPIOOO47EF8FD UniRet90-F8EGS7 UniRef90-12GT86 UniRef90_13CA49
UniRef90_E4W1N9

$\qquad$ 10756
. 60C84
$\qquad$


210
220
230
FTQYLTQLMDEYपPSLTYGFDTCGYACSDHASWHNAGYPA LTGYLAQLLDAYLPQRRGGDSCGYGCSDHASWHNQGYPA QNTFLANLAKVYLPSLKVGYSQCGYACSDHASWNAQGYAA QNTFLKDLVQTYQGGLSVGTTNCGYACSDHASWHDQGYAV QNDFLADLVSTYQPTVTLGYSECGYGCSDHASWTNQGYAA QNAFVGSLIDTYLPGLKWGYDKCGYGCSDHASWHLQGFPA


LH QMS E Q S A N S V VN N
LH QMSEQSANSVNDDLLNYTYNDQDYY LHNDSSSAVNAKYFDNLDDYRYN N R FYYRSSDHYN FAKHNVVPV



 LARFVSDVGDNEATGMNVRVVYRRDRYGDHDPFDEQGYPA



 LVRFTQEVASNS GTGMSVRVIYRADRFGDHEPFDSAGFPA



 L H N A V VA Q N E K Y I K DL D FK F N D P F Y E R S D HYNFAK H G DP A
 AT QLVWA I THLYAPELQQQGYTPA CCSDHQSFWQQNFPA

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

 VNKKVWKKANDAGYGRYF $\square$ NE $\backslash G G Q \square T D D H D F \square N R A G \| P$

UniRef90_G9NRV1
UniRef90_H2BU08
UniRef90_UPIOOO40C9779
UniRef90_G1XCJO
UniRef90-UPI0004414F77
UniRef90- M5FRI7
UniRef90_UPIO0040EB7A1
UniRef90-H1GWE9
UniRef90 A0A010S861
UniRef90-A2TPN8
UniRef90-F6GGB2
UniRef90_UPI000248E7AA
UniRef90-UPI0002D53069
UniRef90-I7HN25
UniRef90_J3CBQ7
UniRef90 M2QWX3
UniRef90_B3QVT1
UniRef90_STQFD7
UniRef90_V6KHV8
UniRef90_V2XDR5
UniRef90-UPI00035D0E19
UniRef90-K5XA04
UniRef90_UPI00037C0B75
UniRef90-C4JHZ6
UniRef90_R0E6D2
UniRef90-UPI0003778787
UniRef90_C6XNT2
UniRef90-K5X534
UniRef90-Q01P45
UniRef90-UPI00036C93F9
UniRef90-UPI00047D867B
UniRef90-X1QMV5
UniRef90-V6KFR7
UniRef90_A6LCV0
UniRef90_U2JDJ5
UniRef90_UPI000440833C
UniRef90_UPI00035C1CD2
UniRef90-A5FAV9
UniRef90_E4URG0
UniRef90_B8CV47
UniRef90 Q4P851
UniRef90-R7EFY5
UniRef90_UPI00037B7131
UniRef90 N6WMJ0
UniRef90-UPI00036115BE
UniRef90_UPI00047EF8FD
UniRef90-F8EGS7
UniRef90-I2GT86
UniRef90-I3CA49
UniRef90-E4W1N9

A Y A I EMGSATG
SFA EMGK

| $A$ | $Y$ | $L$ |
| :--- | :--- | :--- |
| $A$ | $E$ | $E$ |
| $A$ | $A$ | $E$ |




GTVI ELGQWLG
AFAIELAGWT
GLA YELGQA
AFAlELGGW
SY IVEL
AFA ELGQW
AFAYELAFA



GFVYELAFAT
ALAYELAFA
$A F!Y E L A A S S$
GLVYELGF
A Y L A ELAKGS
GFVYELGFAQG
AYVAELAKGT
A YMYELA A YWA
GYVYELAYWP
AAAYELA
AYAYEGGMA
GYVVELG
AFAlELAG
AFVVELAGWS
GF LVE
GFMTELAF
GYMTELA
GYLVE $G$ GFATA
AFAVELGGWA
AFVVEL
VMAMDLGNSA
GF IVE
LT A WETA N
ADAWE IAN
A F V V EL
GYII ESAGWA
VTAWE LANA
ATAWTI LTN A
GF L VE
ATAWELAN
ATAWELA A
YTAWELAN
A A VYHAA
AFSIELGGS
TTAWDIANSP
AAILHAAG
SLLWRVAN
ATLLTAAG
A VLWTLA QAPG
A ALWSLAQAPG
HTAWEVAN
ATLLHVAG
HTAWEI A N
AA L WSLANSPG
1 A MASLASAP
VTMASMAWAP ATLANLAAAP AA WSLAQAPG
AVL A S L A L A P
SALWSLSQAPG VSLAAMA WAP
A A VA $\square \mathrm{MA}$
A Y A M
LN M WY MA N
YTAWE $\square A N$
ATLLHAAG
a TLIANLA WAP
VLAWDLA N
AALWWLAAMSPG
$\square \mathrm{S}$ LAS MA WAPA
ATLLHVA
L N AWNL A N
VTLAS SLASAP
AI MAEI A
NTAWEI AN
Y MTWELAN
ACLANDAKSP QTAWEVAN $\square \mathrm{Y}$

D K R $\square$ YE E ID A V S E D R L R A DVK K LA DFGTR H T L S D P D I P LDA A V K A H LT QL Q S $\square G N R A H G R P$ IVRDMSTTEMDNKI SAD SLLRAYVVRLTEFKTRHSTS E $P V T K$ QP DI Q QVLARVSADSIAEANIRRLAAFGTRHTLSP $M P K A S P D Q U A Q D V A F F L A S S K G R D T G S E$


PAPSRQSAVENI QTPNLKKHITYLASLEGRLVGSK

 P D S D LQ A A LA E I SAS N I K S Y I S D LVV F GT R H T L S T

SFAQSTDSKDLLKHLEFLSSLAGRKPLTA YDPG $\square$ A A MLDAE IDESELRDTTYDLQNFSTRAYGTD
 APEFNADSAYQYIQVQADFGPRVPNTQ AATAKPAGPRFDADSAYSYTAAQCQFGPRTMNSA

PTAP D DDVEKVKA HLSALQQTDGNRRAGSS

STQEA ILVQAPNFDSSSAYMFVQRQVAFGPRVPNTA

LKK LIKFDPVVAS VNNTS DPQMRNDI RFLTD VVSRHSFTP
P E R ELLRE L L R Q V D P R R I E A IV R R L A A FGTR H T L S S
P QPAEPEVQAYTPTVNADSALAS IVKQCSFGPRVPASE


PTAGSTSAADAPD $\square D V A K V Q A H L T E L N N \square G N R K S S G Q$ $A Q Q F N E A T \square R K H L K \square L A S L Q G R G T G T E$
$P D \square S E Q A Q \square R K \square V A E \square S P K R \prod E A Y V R K L V G F G T R H T M S E$ A ATTTVKPVGPTFSEDSAYNFMGAQCNFGERDMNSA E ETPPKPGPAFSPDSSAYTY IGQQQVDFGPRRVPESP A A PVTSDVVDRLDGERY LGGHAKMLTTDKTRMSTSTS AKVNPVGPSFNADSAYAFTKAQCDFGPRDMNSR LP $\square$ T L N N T H Y E A Y $\quad$ T T $\square D K$ S QL L N H A H Y L S S L Q Q G R K S G T E AKEAGAVADIEKFNVPSVPWQL V SNFFLNRT QLTLL $P G A P D \square P V A N V T A H L N Q L Q S I G N R A S A T S$ AETETMTMVGPTFNADSAYAFCAKQCEFGPRTMNSE PEFNADSAYA Y $\square Q K Q$ V $V$ F GPRDPN TE

S L S P D A L A A HVA WLS S LA GREPGTE S VA Q N T A VK E S VT E AT E V D I K K I V S F L A S L Q G R M S G S D
 VDLLRVLLD DVRTLSSFEGR APA A A

NPD D S R LT S S LS LD K M Q D N $\square$ R WLT G $\square$ S R HS F S P
$\square S P$ T QK IV TP K A T L N A S A VK E E LE F LT S LMM R NT GT D T PADSVALAGPEFNADSAYSFVAKQCSFGPRTMNSK


A E R L K K HVQ L LT S LMGRMA G T P
AVPD DS LT NTKAHLQQFQTUGNRRATSA
A A PAFSSDSAYAF $\quad$ S Q Q Q $A F G P R \square P N T P$ S Q GGEQAAAAPD IPVENVQQHLEELES IGNRAHGEP


LT S $\square$ G D DVVR A D E LR A T $\square$ S K LVGFGTR H T L S D
TSVANVQAHTSQLNTIGNRRAGSA PS QEDMR LYT $\square$ ASAPSAGR】EQD IKTLVGFGTRHTLSQ PDFNADSAYAFTARQVAFGPRVPNT L PSFNADSAYVFVENQVKFGPRVPNTD
$\square \mathrm{D}$ S T MVRKH V Y T LASMEGRKSGTA

GUGAARRWIKNEFEKTS QNCNNCLDVFYQSNDVMVVNVLA GYLAS A N Y V K K G R LDDA A GYT TDNDARRWIKRTLERYGGGRMEVFFDRFWYGPDGRRNVIA G $\square E K A A D Y$ I SERFQEMGVNPFKGSYDDFQAK GTEAFNVVG
 GUGAAR R W I K T E F E K $\quad$ G K D C N S C LDDVVF Y QK D D T WI V N V V A

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

 GSMEARSYILNELTSLEQALYPDFIQRFSFTGRNKAQLVA GNREAGAYLSARLAAI PGDEVESM DGELNNIVA QHVACGNYLAAKLEEFGAKVTNQYADLLRYDGVKARNI I G
 GNRMAQDYI TSRFQE\|GLKPYQNNLDRTFRTVEEAVNLI G A HKECGEYLAGQLEKFGAKVYNQYADLIAYDGTKSRNI I G A HEACRKWNVGKFK QF GCEVVQEQNADDLKGY DGTKSTN I I A GYTASVAYVKDKLTAAGFTVTLQRCTSCTYPSDN I I I I A Y S M K A S R WLYTKI NQTASNATGVAVEVFDRAGWDQPSIIV GHRRARDYLLAQLAE LGVPAEVQRTWGLPYDAARVENVVA A HVAC GNYL A E KL R R Y Y GLEVTVEQKFSPTTYDGTKARNII G G $\|$ GAARRWFGGELAK $\square$ TGTACGGC】ETSRAPNGVR\|VDVLG
 QD DPARD WTHA QLQA YAA QS Y VQQPASRDPTATRDTNVVA GYTASVAYVKGKLQAAGYTVAEQSCTTCTYVSNN LVAB A HVHCGDYLVS QFRSYGLEVKEQTTT\|KGWDDKNLPCRNI
 A ELLSSELLQQEQSDLKVF LKSEGEMKGEVESYNVIGG $G Y R D S V A Y V K N K L Q A A G Y T V T E Q P C T S G C A S G A G B P N V I A A$ GERMAATYLENEFKK LIKLYLQTFEFKSGAHGPGTAHNIVA TE $\square K N V I G$ ERREEEVQTENVVGG
 T GSEARRWDKA ELERCGAGTPDQPVSPRDSRPTEIVNVVA A H DKCGAWIVKKFKEYGCTVQEQKANLKGYDGTKSNNI I A
 D N A L A A D F L A A H C S A L G L QVVE F Q T L L K

 GYTASLNYI KGRLDAAGYT TAVQNFTYNGQTHSNLIA A HDKC GEWI A A KFREYGCTVTEQKADLKAFDGTKSTNI I A A HEACA QWLTNKMKE LGANVVVQEVTAFDNSVLDDKNIIA
GDKDTTAYLVSQFRALGAVPLAAPDYRQSFETVQTANVVA
 GNQAARDFI QKRFETLGUHPFTATPDTEGDSSVNGANVVG GYKASVDYLKAKLDAAGBTTVVQQFTSSGATGYNLIAA $\square S T N G A E Y L S T W L K L K P N L K F Y F K Q N C K T W D D V A S Y N V I G$ GSRKA QA YL QARFRA $\square G L L P F$ THSVGNDFVPGRPFRNIVG NVLG
GARVAADW■QGKFEAAGGKCKQKP FDEGF
 AHDECGEWI ASKFEAYGMEVERQRADLKGYDGTTLRSCNI GYRAS LD YVKA QLDAAGFTTTVQSFTARGATGYN GYDASLA YVK GKLLQAAGYTVTEQTCTSGCSAGAGNNLIAE

GEKKASLY ITHDEFTKFDRNGQQFSFLSTFGDT@SSQNTIG GYTASVTYVYNK LVAA GFTVTRQNCTSGCTSGAGMPNVIA A A $K T T A E T T T A Q Q A T L S Q Q Q L W E D E R T T E N V L G G$

 G $\square E K A A G F I E N D F S E N N \square R P Y F Q T Y R D E L S N D Q P A F N V V G$ ERRPA G V S G N V I A
FTADP L N T Q L N T WAK NELLR R D K S N N I I A $G \square G A A R R W A K S R F E E I G R Q C H G C L Q D E T P E Q S A T G E R V L A$ IS T N GA QLLSSSMLS LNADLDFY L K QDCRNFPDVPSHNVVG


 A HKACGNYLASELKRFGAKVYEQELTAYDNTGLEAKNIIG K A DFEA $\square$ PMNLLKASASME VEATYNTSKNVV A FDVKP L K S MNVV G G $\square$ E K A A K Y $\square$ E T E F K R $\square$ GY R Q T F S F L P R K GKE E I T S A N I I

FK P F S L N S T VS VS $\square$ D LT F D R Q Q S P NV I G Y Q K IT S Y NVLG


## UniRef90 E4TTS8 UniRef90-F4B358 UniRef90-UPIOOO: UniRef90-UPIO0035DD29E UniRef90_G2SG40 UniRef90-L7WAH9 UniRef90-T2KRZ5 UniRef90-UPI000368EC09 UniRef90-UPIo00426ACFE UniRef90-H8XVC6 UniRef90-M5C2C4 UniRef90-UPI00035CAD9E UniRef90-F8ELX2 UniRef90 NoCTO <br> UniRef90-NoCTO5 UniRef90_U1G8U3 UniRef90-C9S7L2 UniRef90-A6LFZ3 UniRef90_UPIOO040086C5 UniRef90-A3CXW2 UniRef90-UPIOO041E26B4

 UniRef90-A9E614 UniRef90_UPI0003640564 UniRef90-R6IKG3 UniRef90-FOF3HO UniRef90-Q2U7E1 UniRef90-S4Y2R7 UniRef90_UPIo004722924 UniRef90-UPI0002E86D07 UniRef90-BoCNN6 UniRef90-10L391 UniRef90_UPIo004156B18 UniRef90-J9GX10 UniRef90-UPIO00472ABB6 UniRef90-A4A8D5 UniRef90_UPIO0045EB221 UniRef90_A0A021 W4VO UniRef90-UPIOOO3690B5C UniRef90-A0A011 M2F5 UniRef90_A6C4K3 UniRef90 ${ }^{-12 G S K 7}$ UniRef90-UPIO0029B191D UniRef90-UPIO0038267B7 UniRef90_D1XY66 UniRef90-A3HYY2Unirefto S4AA53
UniRef90-D1QV96 UniRef90_10W9F9
UniRef90-UPIO00420E56B UniRet90 D2AUVO
UniRef90-R6XFU4 UniRef90_R7ZUZ9 UniRef90-M2TCX4 UniRef90-FOREB9 UniRef90-A0A059G3U9 UniRef90_UPIO003608E9A UniRef90-I3YSA3
UniRef90-UPIoo0346617B UniRet90_K1M2K7
UniRef90_L8X6S1
UniRef90_V7Z946
UniRef90-UP100029A0AD9
UniRef90-R5PC25
UniRef90 UPIOOO4788877
UniRef90 S1SY5
UniRef90-S1SY53
UniRef90-U5QA17
UniRef90-F4FE65
UniRef90-UPI00047ACDBC UniRef90_10KFT3 UniRef90-UPIO004775864 UniRef90-GOL264 UniRef90-UP1000373AA4A UniRef90-UPIOOO361E8B7
UniRef90-C0BKC2 UniRef90-K1Z338 UniRef90-UP10003624DAB UniRef90_Q12143
UniRef90 W8FC87 UniRef90-N2AS78 UniRef90-C9SW50 UniRef90-UPIO004788F45 UniRef90-H8MR30 UniRef90-UPIOOO35D0828
UniRef90-V40116 UniRef90-V4Q116
UniRef90
U5LLQL UniRef90-F8ETC6 UniRef90-H2BSQO
UniRef90_UPIO0047B04C6



|  |  |
| :---: | :---: |
|  |  |
|  |  |
|  |  |
|  |  |
| MAAVFNEANEDVTVTLEKAAEFNLFMRSDNYPFQEFNVPS |  |
|  |  |
| ef90-UPIO00368EC09 |  |
| UniRef90 UPI000426ACFE LAR R M HKT |  |
|  |  |
|  |  |
| UniRef90-UPIO0035CAD9E |  |
| UniRef90-NoCT05 FKDYFAGL |  |
| iRef90-U1G8U3 |  |
| LTDF:KKVIVEYC DiP PYVETKCGYACSDHASASKAGYP |  |
|  |  |
| ALLMADHNTGYSTNFTLT ENVHTCTSDHVSFRERGYPA |  |
|  |  |
|  |  |
|  |  |
| UniRef90_UPIO003640564 |  |
| UniRef90 R6IKG3 ${ }^{\text {a }}$ ( MKK WKKAHELGGYGKYFVKEDGGETVDDHIYVNKAR1PC |  |
|  | SRVWEAARSAGCGSYFPDAVGGMVTDDHV |
| UniRef90-Q2U7E1 LTEFVRMIDT TVSD |  |
|  | PVRELARAAPPIASSLFPAVARRDGHSTDFSVFKRAGTPG |
| VVKSVWNTAGQLGYSNYFIDHRGPADTDDHLPVNRAK\PM |  |
| UniRef90-UPIO002E |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  | LTDKI WQIUAAGLGYQNQFISQGKYRMEDDHTPFLQKGI TA |
|  |  |
|  |  |
|  |  |
|  |  |
| UniRef90-A6C4K3 WEKLVKETAKTY DLKLSLKPEGFGPSDHSSFYGKQIPV |  |
|  | LHKISEEANQKYAQELDYKYNDPTYYRSDHYNFAKHKIPI |
| UniRef90 UPIO0029B191D L EDYA A A AKKQGRVVDPVPSSGLYYRSDHFNLAKVGVPS |  |
|  |  |
| UniRef90-D1XY66 VVNRVWA AKMAGYGSYFPDDMGGMDTDDHDPVNQAG\\|PT |  |
|  |  |
|  |  |
| D1QV96 | K9WUF7 RGDFLAGVSSQWLPAPNKGLIVPQTRLSDHAPFWDAGYPA |
|  |  |
| UniRef90 UPIoout20E56B F K LIE EAVKEFGAVADPSPEQGLLYDRSDNVNFARKGIPA |  |
|  |  |
| T |  |
|  |  |
|  | D |
|  |  |
|  |  |
|  |  |
| RSWEPLFRPYL |  |
|  | APLEQAAGRSAPVLAAGLVERWDDSSDHAVFNEAGIPF |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
| UniRef90-C6X5D4 $\quad$ GRWMNAVPKELTKDIKTTFPGFPGGGSDHASFVAAGVPA |  |
|  |  |
| UniRef90-U5QA17UniRef90 F4FE65 |  |
|  |  |
|  |  |
| UniRef90-UP10004775864 VEAVFTEWFEAQGVETEPAEETAGR SDHASFEDAGVTVV |  |
| UniRef90-B7RUL7 ${ }^{\text {a }}$, VAQALGSVVRSMGAGPGSNAATGGP |  |
|  |  |
| 俍90-UP1000373AA4A MDDLAETEAKAQGRYVDPEPEKGYFYRSDHFNFAKAGDPG |  |
| ef90 | LARFISGLIADTYLKAFSVRMVYRTDRYSDQVPMLAAGYPA |
| Ref90-C0BKC2 QVSSWKTYFEPYLAN NFKLGGSGADIGPL RNGKIV |  |
|  |  |
|  |  |
|  |  |
| UniRef90-N2AS78 |  |
| Ref90-UP10004788F45 MEDLLDVELEKLGRYSAPEPNPGYYFRSDHFNFAKVGVPA |  |
|  |  |
|  |  |
| 隹ef90-H8MR30 ${ }^{\text {a }}$ AVPL ${ }^{\text {a }}$ |  |
|  |  |
| UniRef90 R5ILQ5 |  |
|  |  |
|  |  |
|  |  |

## UniRef90_E4TTS8 UniRef90-F4B358 UniRef90_UPI00035DD29E UniRef90-17A3H5 UniRef90_G2SG40 UniRef90-L7WAH9 UniRef90-T2KRZ5 UniRef90_UPI000368EC09 UniRef90_UPIO00426ACFE UniRef90-H8XVC6 UniRef90-M5C2C4 UniRef90_UPI00035CAD9E

 UniRef90-F8ELX2UniRef90-NOCT05
UniRef90-U1G8U3
UniRef90_C9S7L2
UniRef90-A6LFZ3
UniRef90_UPI00040086C5 UniRef90 A3CXW2 UniRef90_UPI00041E26B4 UniRef90-A9E614 UniRef90_UPI0003640564 UniRef90_R6IKG3 UniRef90-FOF3H0 UniRef90-E6S9D2
UniRet90_Q2U7E1 UniRef90_UPI0004722924 UniRef90_UPIO002E86D07 UniRef90-B0CNN6 UniRef90_10L391
UniRef90_UPI0004156B18 UniRef90_J9GX10 UniRef90_UPI000472ABB6 UniRef90-A4A8D5 UniRef90-UPI00045EB221 UniRef90 A0A021W4V0 UniRef90-UPIO003690B5C UniRef90-A0A011M2F5 UniRef90_A6C4K3 UniRef90-I2GSK7 UniRef90_UPIO0029B191D UniRef90-UPI00038267B7 UniRef90_D1XY66 UniRef90-A3HYY2 UniRef90-S4AA53 UniRef90-D1QV96 UniRet90_K9WUF7
UniRef90_10W9F9 UniRef90_UPI000420E56B UniRef90-D2AUV0 UniRef90-R6XFU4
UniRef90_UPI000255CC7D UniRef90_R7ZUZ9 UniRef90_M2TCX4 UniRef90-FOREB9 UniRef90-A0A059G3U9 UniRef90_UPI0003608E9A UniRef90-I3YSA3
UniRef90-UPIO00346617B UniRef90-K1M2K7 UniRef90_L8X6S1
UniRef90_V7Z946
UniRef90_UPI00029A0AD9 UniRef90_R5PC25 UniRef90-UPIO004788877 UniRef90_S1SY53 UniRef90_C6X5D4 UniRef90_U5QA17
UniRef90 F4FE65
UniRef90-UPIO0047ACDBC UniRef90_IOKFT3 UniRef90-UPIO004775864 UniRef90_G0L264 UniRef90-B7RUL7 UniRef90_UPIO00373AA4A UniRef90_UPIO00361E8B7 UniRef90-C0BKC2 UniRef90-K1Z338 UniRef90_UPIO003624DAB UniRef90-Q12143 UniRef90-W8FC87 UniRet90-N2ASW8 UniRef90_UPI0004788F45 UniRef90-H8MR30
 $V R I T E M$ NENFNNQHQDGRTVEYGDYDFEYLRKNTCLGNLL GGLFTGAGQAFDRCYHSSCDTTANNDNDTALDDARNS DAAA
 LYF GVEDHVDD V T THCEE H GPAHSPDDTVDQV S S L GYAKRNA QL GLL

 V DII N Y D Q S SF GS F WH TVNNDTMENI DRNTLKAVGQTVMDV
 AMTFESKFGDHSRF IHTSSLDRADTIN INHVLQHVVTVI LN F $V$ RFSVGVVENY DA QHQDVVGGDTVDRMD F P Y L A K V T A L N I

 VPYHK GAESST GPT WHTVNDDTPEND S VATMKAVGQTMVEV VDIDDFDY


LHFFT GAHGDY





I DII DCQQSSSF GP T WH T LA DNMENI DKNTLKAVGQT LVQV

PTFFTAFDDEDQKYYHKAGDHVSNFD LDYAQVYWKS Y GGVFTGAGLAFDRCYHSACDTTSNINSTALDRNADAIANA




 LA GLQPDSSQRYFD DHHSENDTFDQVNKRELELGAATMAS L













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



| UniRef90_E4TTS8 | 290 |
| :---: | :---: |
| UniRef90-F4B358 | $\square \mathrm{NLLASIA}$ WA P |
| UniRef90-UPI00035DD29E |  |
| UniRef90-17A3H5 | AVIA NLA S A P |
| UniRef90_G2SG40 | A ALA NLA |
| UniRef90-L7WAH9 |  |
| UniRef90-T2KRZ5 | GYMATKAGLVG |
| UniRef90-UPI000368EC09 | AVIRELA S APA |
| UniRef90_UPIO00426ACFE | LSLA S La WA P |
| UniRef90-H8XVC6 |  |
| UniRef90-M5C2C4 |  |
| UniRef90_UPI00035CAD9E | LY |
| UniRef90-F8ELX2 | A SLIANLA K A |
| UniRef90-N0CT05 | HAVWTLA GS T G |
| UniRef90-U1G8U3 | A AMWSLSEAPA |
| UniRef90-C9S7L2 | GLVY E |
| UniRef90-A6LFZ3 | DLGYKLA Q T G |
| UniRef90_UPI00040086C5 | A L DAEL |
| UniRef90-A3CXW2 | SVLA EVAG |
| UniRef90_UPI00041E26B4 | 1 Y |
| UniRef90-A9E614 | $\square N \square A S L A$ WS P |
| UniRef90-UPIO003640564 |  |
| UniRef90-R6IKG3 | $\square$ |
| UniRef90-F0F3H0 | L Y |
| UniRef90-E6S9D2 | A WA QAVGTD T |
| UniRef90_Q2U7E1 | GFA Y ELGFAP |
| UniRef90_S4Y2R7 |  |
| UniRef90-UPI0004722924 |  |
| UniRef90_UPI0002E86D07 | A T L R R L A S A P A |
| UniRef90-B0CNN6 |  |
| UniRef90-10L391 | A ALWSLA QA P G |
| UniRef90_UPI0004156B18 | A Y I WKLA V S S |
| UniRef90-J9GX10 |  |
| UniRef90_UPI000472ABB6 |  |
| UniRef90_A4A8D5 | VT $L$ A G $\square$ A G A P |
| UniRef90_UPI00045EB221 | $\mathrm{V} Y \mathrm{~L}$ |
| UniRef90_A0A021W4V0 | A Y A A S A D |
| UniRef90_UPI0003690B5C | Y TLWNLANS T |
| UniRef90-A0A011M2F5 |  |
| UniRef90-A6C4K3 | GF LEE $\boldsymbol{\square}$ A $\square$ A T A |
| UniRef90_I2GSK7 | YTAWDIAN |
| UniRef90_UPI00029B191D | D M G Y RLS N |
| UniRef90_UPI00038267B7 |  |
| UniRef90_D1XY66 | 1 |
| UniRef90-A3HYY2 | V Y |
| UniRef90-S4AA53 |  |
| UniRef90-D1QV96 | $\square \mathrm{Y}$ |
| UniRef90-K9WUF7 |  |
| UniRef90-I0W9F9 |  |
| UniRef90_UPI000420E56B | LA A Q K ${ }^{\text {a }}$ NWS |
| UniRef90-D2AUV0 |  |
| UniRef90-R6XFU4 |  |
| UniRef90_UPI000255CC7D |  |
| UniRef90-R7ZUZ9 | HTA WDLAN |
| UniRef90-M2TCX4 | E $\square$ A ALVA D A |
| UniRef90-FOREB9 |  |
| UniRef90-A0A059G3U9 | AMAA |
| UniRef90-UPI0003608E9A | VWALL A G S T |
| UniRef90-I3YSA3 | MYLID M |
| UniRef90_UPIO00346617B | A |
| UniRef90-K1M2K7 | HLLS WD $\square$ A N |
| UniRef90_L8X6S1 |  |
| UniRef90_V7Z946 | A Y L A A E D G |
| UniRef90-UPI00029A0AD9 |  |
| UniRef90-R5PC25 | $\square Y$ |
| UniRef90-UPIO004788877 | HAVWT L A G T G G |
| UniRef90-S1SY53 | A Y T $\square$ |
| UniRef90-C6X5D4 | T Y M A |
| UniRef90-U5QA17 | T L VR D |
| UniRef90-F4FE65 | Y ALWTLA A G T |
| UniRef90-UPI00047ACDBC | HTAWEIAN |
| UniRef90-IOKFT3 | A |
| UniRef90_UPI0004775864 | VWELS S |
| UniRef90_G0L264 |  |
| UniRef90-B7RUL7 | $\square Y$ LA |
| UniRef90_UPI000373AA4A | KLGLGLANGE G |
| UniRef90_UPI000361E8B7 |  |
| UniRef90-C0BKC2 | V Y L V D |
| UniRef90-K1Z338 | EVGYLIS N A |
| UniRef90_UPI0003624DAB | A YTI |
| UniRef90-Q12143 | LN Al S |
| UniRef90-W8FC87 | L Y |
| UniRef90-N2AS78 | $\checkmark \mathrm{Y}$ |
| UniRef90-C9SW50 | GF L VE |
| UniRef90_UPI0004788F45 | NIGQNLSNS |
| UniRef90-H8MR30 | ALT NAVADAPG |
| UniRef90-UPI00035D0828 |  |
| UniRef90-V4Q1I6 | R\GY A L A N S |
| UniRef90-R5ILQ5 | DLGYRLA Q ${ }^{\text {C G }}$ |
| UniRef90-F8ETC6 | KLGYDLAFS |
| UniRef90_H2BSQ0 | IYLVD |
|  |  |

# 2030 <br> 40 <br>  

 PDVDVTKVKAHLTELHS $\square$ GTRRSTGQKPVGPVFNADSAYLFTKAQCDFGPRDMNSS


DQARLLAHVKTLSSFAGRKTGTD
VDKQGQAQRTFPDLKAAAVLSDSTARSDFTGTAKSFE VPVFQTDSAYAYTAKQVSFGPRDPNTP
 A 1 I S $\square \mathrm{PA} \mathrm{A}$ N $\square \mathrm{S}$ S N

PVVTES TSGTTKVDEENVAKTLKFLASDDNRDSGSK NQKDYDVIDAVSEERLESDVKTLVEFGTRHTGSD
$\square N P V G P \square F N A D S A Y A F \square A A Q C A F G P R A P A N A$ 1 TVS S LKALVQTLASFQGRLSGTK $\square Q T T T A Q T F \square Q A Y A D K A N Q T N I T T N L T E Y E A \square G V K Y R G T P$

$$
\text { Y G D } \square \mathrm{K} \text { D M E K } \square \mathrm{P} \text { A A A } \square \mathrm{S} \text { T N }
$$


TAAPESPLAAPD $\square$ S $\square A N I K T H L T Q L Q A \square G T R S P R G G$
N L E T H L K E $\quad$ VRERDPF $\square$ A T Q
FEADSAYNFVAKQVAFGPR $\square P G S S$
$P \square V D \square K E T Q R \square L K T L A S M R G R N V L V P$
PVTPTPGPSPTARPFDRAAAGATVAHLADYGPREARSA

PKGQAQRTYPQLKVIASMGDSTARTD
PPVS LITPLDPQDNEESAMED\DALEDYGMVYRLAE E F S T LRA A L H HVKGUE ESHYLGS P
 MPKALMRSDEASHPNSFUAQRAEDTLIELTRIGPRVVGSA

AAEAPD TDVSAVQQDLRDLQSVGNRAHGSP ATAVAASPD $\operatorname{A} V A N T Q A H L N Q L Q S L G N R Y T G R A$

QAKPVTAPLTDFSAGRAMQYVWQTAR QPHSTGTP YQEDSSTAASAFSTDRALKHVKKLSQ EPHAVGFP

 KDRLQGHLAEVARERDPYFAAA

 K QNLENHLKQUVRPRDPFLATQ

PTRLKASVSALVGFGTRHTLS S A QEVSRERVKTVLSTLASMKGREIGTQ PKTLQDSEEQQHPNEFIGQRAEQQLDTLADDGVKDSGTE $P D \| S V T N A K A H L D Q F Q S I G N R Y T G R P$

EAEKVKPVGPAFNADSAYAFCAAQCNFGPRVMNSP RTLRTFGNVPMVHT E $\square D A P L D R F S E A R A \square Q H V A V L T K D G$ RQEGRP EEALADFSTERAFNQV KI $\quad$ AHSPHYVGST


EPNTNDSLTEFSTSRAFKHVEADAK EPHYLGSP EF $\square$ AERAYKNLYYLSN $\square G T K M V G S K$

UniRef90 R7HPH9 UniRef90- 51 17811 UniRef90_Q6GQ29 UniRef90-A0A059EBA6 UniRef90 S3Y2A1 UniRef90-UP100046D6CB6 UniRef90-G1XJZ2 UniRef90-UPI000288EDOD UniRef90 АЗОAA6 UniRef90_UPIO0041F84FE UniRef90-I2GFZ5 UniRef90-C7PK13 UniRef90-W6UF70
UniRef90-E1KR60
UniRef90-UPI000472BB82 UniRef90-UPI0003B4258C UniRef90-W5X5F0 UniRef90-UPIO00426CFFB UniRef90-UPI00047A78C3 UniRet90_K6ZCD7 UniRef90-F4AWI8 UniRef90-C9PW19 UniRef90-G8TMH4 UniRef90-V6SLH9 UniRef90-U1J6L7 UniRef90-A0A023BSD1 UniRef90-UPIOOO36815D5 UniRef90-UPI0003646C9E UniRef90-UPIO002E13681 UniRef90-W9BTQ8
UniRef90-UPI000374C1CE UniRef90-UPI00041FDF90 UniRef90-Q4BZ43
UniRef90_UPIOOO372BB52 UniRef90-F4KLK2 UniRef90-UPI00037D4874 UniRef90-FOSAN8 UniRef90_UPIO0047B79F1 UniRef90_H6LAP4 UniRef90 ${ }^{-}$M7MJB5 UniRef90-UP100037A4D2A UniRef90-H2BVH2 UniRef90-W0EFH4 UniRef90-UPI00046EC580 UniRef90_N9WCY9 UniRef90-13C0P1 UniRef90-li3ZEB9 UniRef90-12N452 UniRef90- B5EOR3
UniRef90 B6IPJ4 UniRef90-UPIOOO2D5EC0D UniRef90-A3TLDO UniRef90 UPLOO047809C8 UniRef90-13C3N9 UniRef90-W8F404 UniRef90-B4RDW3 UniRef90-UPI00037CE237 UniRef90-G0L5C4 UniRef90-B0C5T8 UniRef90-A4CH62 UniRee90-UPI0003B537F4 UniRef90-W4TET7 UniRef90-K9S6A8 UniRef90-W4G548 UniRef90-H6L3L2 UniRef90-X8JFW6 UniRef90_UPI00031D79B0 UniRef90_0024Z2 UniRef90-J9G154 UniRef90-B1WU50 UniRef90-E3FKF6 UniRef90_11DWS6 UniRef90-A0A013VBT3 UniRef90-A0Ао3110А0 UniRef90 D7VVL1 UniRef90-A0A034VC49
 GYRDSVAYVKGKLQAAGYTVTEQPCTSGCSSGAGPNLIA AEMLSRMASRGLKIVIQLKMGAVNHPDADSYNTVA GHERCAAWDIAKFKQYGCTVNTQKVDGKGYDGTLLKSTNI GLAEAAEWIARRMAEAGLEPGGDDGVWFQEAEVRLRNVVG SGREAS $\square W V F N R L K S \square G D V V N V N A S V E L F N H S W V Q P S V I A$ GAA乌ARDYTTNQMQLAGLTPWQGHFDHDFEYDYQFTNTIG DSTNGAELLSASLKLNPNIKFFFRQNSKNLPNVDSYNVIG EAMAVAHRSMPQGFPLNSSVRTRT QTELNDDLIGENVMG AQQKCADWLI AQLLKPLADTVY QRTTVKGPKKVPGPCV NI
 GPLE

HNVLG
GПEKAS TF DENMMKENDTKVEDGAENHWYKGPVA DHNVVA GIGAARRWVKKEFESDSSDCNNCDDNSRISRDVMVVNVVA DSTKGA DSTKGAELLSTSGKपNPDTKFFYKMSCKNDGDVESHNVIA SHDDCGEWIAKKFESYGCKITTNQRADRGYDGTRSRNIIA KATEAATFVSEEFKNAGGMPAQPVFNFQPPTQLVAYNVIG ALENAYQWLVNKYTSYGYTASQTTTDSFSYSGSTCKNVVV VANPDADQLARLFKSGHKVQVKLNDQTEDGGEGTSYNVIG
G ADLLSSMLTLNPKTKFHTNMNCRTWKDVQSYNVIG ADLLSSMLTLNPKIKKHENMNCRTWKDVQSYNVI G AELLSSLLKDDKNLKFYFETHCEMKEDELSYNVIG GMEKAADYLEQFFKTNNVKPYFSSYRDTLSNKGTAYNIVG GDGAARRWAAAEFAKDGKACGGCDTVEQIDRRFTGPRVLG
 GHFYVKEY GHTACLAWMKERपTQYGATVVEQSFEATAHDGTK पPLTNA FKAVPMGVTFSTAFDSKTNHTNSRNVAG EDTNAAMFTAKEFAK\GLKYYQEFEKRYKGRRLNLKNV!G A YRKAAEWVRTRFESYGYTVSSQEFPDPAGKSWGDHNVIA G $\square Q S A D K L S A L L A Q E P K A K V L L E D N C Q D L G K R K T Y N V I G$
QARTAATQSKPQAFPLNLSVRART QTELNDGLVGENTVG SGNKPKLRIVAESKELGAVPAFNT GENNASSYLAKQMSTLGLKPMGDQGESFTHVFTDPPVTKK GHEKVQLY IINELKKLGLHPEDQKGVSVSKSGTNTQN|L|A ■STNGAEMDSTVLADNKDVKПYFRQTCKVFPDVQSYNVIGG TDTDAAEWIKSQFESYSLQVQYDEFDEQPQAGFNNRNVYA GYRASLDYVKAKLDAAGYTTTIQQFTSGGATGYN ANEVAVDFLRAEVAKVEAEMYEIETDVQQASGAYMHWVVK FKPVPGKLLTASAAVSNKVRTFDSYNVIG GYRASRDHRRTKDAAGFRTTVQEFTSGGETGYN GYTASITYVKGKLDAAGYT TVVNFSTSAGTSSNLIA LKSHSRE $\square A G V Q \square H \square Q S K N S S T R A A T T Y N V A G A$ TRTKFQSQDRKYNVVA DHABVRAYLVNTDRVIGDOTFSTDYADDAQKVVSKNVVG QPQQEATVTGPVTGYVYNVMA GHKKVQDYIVSELEKMGLQTSLQTDYADWGNMSKPENI IA GHFFVKEYUYQELSQWGTVRRHSFRTLKKVAKSDHENLIL位 ANTNADNWTKNKYTSYGYTASQMVESSFTYGSKTSKNLII GHLYVETYVRQQLEQWG TVSAHRFRANGREHRNWVL

GHEDCANWLDQKFESYGTKAHTQTAEMNNGQGKTYPNTVA NARAPATWI QSQF ASWLGSSQAKLVENSFSQPNVIG KDVGEKLAKKLQDGETVNAEVTVEGSKLETRTSHNVIA AHRQCGDWIVARFKSLGLEVQRADFKAWDGTVLKARNI G GYFYVKEY VQELQQWG RETVESFEFNYDGKIHENLI QHEDUSSPNVVA G $\square$ GAARTWAAQQFAATGRDCGGC TTVERDNRRFDGPRVLG ENENAAHYTAKLFKNLEYCTGNSYLVPFDYNGKTVYNVCG NEVLADNFLDGEIEKVKAQARLDELWQMATSYRNVSNVVV GYLASANWVKSKLDAAGYTTVLQSFSTSAGTSYN NVIVA LMGRLAARGPLSMHLTTSTPQLIPDADSFNVIA AHDRCGEWIVGKFKEYGCTVTTQRANDKGYDGTVLKSTNI RVVDAMDMVRK

GACKARMVLKGRTEERTSHNVVA GLRKAAVYI KEQLEMLGTFNMMVLGHSMSFSYRNHITNIVA NHELVANYLKLELNRIGLETSVQEGFTLNDKGVKSKNILA EELIVANYLQQRMENIGLYFQTFTFKPKTEPHTKAQFVDG
 AHSKVRNY VDELQNMGLEVQTQEGYNLNKNGVKPQNLLS QNEDAVQYLLKELNQDKSEVSGQFVYENVNSLYLHVQNIA
GHDATKEWLVAELKATGAKVIEQDFQATVYTGYKATNI IA

## UniRef90 R7HPH9 UniRef90 S 1 T 811 UniRef90_Q6GQ29 UniRet90_A0A059EBA6 <br> UniRef90 S3Y2A1

 UniRef90-UP100046D6CB6 UniRef90-G1XJZ2 UniRef90-UPIO00288EDOD UniRef90 A3QAA6 UniRef90_UPIO0041F84FE UniRef90-I2GFZ5 UniRef90-C7PK13 UniRef90-W6UF70
## UniRef90-E1KR60

UniRef90_UPI000472BB82 UniRef90-UPIO003B4258C UniRef90-W5X5F0
UniRef90-UPIO00426CFFB
UniRef90-UPIO0047A78C3
UniRef90-K6ZCD7
UniRef90-F4AWI8
UniRef90-C9PW19
UniRef90-G8TMH4
UniRef90_V6SLH9
UniRef90 V1J6L7
UniRef90-U1J6L7
UniRef90-E0XZ13
UniRef90 ${ }^{-}$A0A023BSD1
UniRef90_UPIO0036815D5
UniRef90-UPI0003646C9E UniRef90-UPIO002E13681
UniRef90-W9BTQ8
UniRef90-UPIO00374C1CE UniRef90-UPIO0041FDF90 UniRef90-Q4BZ43
UniRef90-UPIooo372BB52 UniRet90_F4KLK2
UniRef90_UPIO0037D4874 UniRef90-FOSAN8
UniRef90-UPI00047B79F1
UniRef90_H6LAP4
UniRef90-M7MJB5
UniRef90-UP100037A4D2A
UniRef90 H2BVH2
UniRee90-WOEFH4
UniRef90_NowCY9
UniRef90-13COP1
UniRef90-13ZEB9
UniRef90-12N452
UniRef90
B5FOR3
UniRef90-B5EOR3
UniRef90
B6IP J4
UniRef90-UPIOOO2D5EC0D
UniRef90-A3TLD0
UniRef90-UPI00047809C8
UniRef90_13C3N9
UniRef90 W8F404
UniRef90

- 4 RDW
UniRef90-UPI00037CE237
UniRef90-GOL5C4
UniRef90_BOC5T8
UniRef90-UPI0003B537F4
UniRef90-W4TET7
UniRef90-K9S6A8
UniRet90_W4G548
UniRef90-X8JFW6
UniRef90-UPI00031D79B0
UniRef90_0024Z2
UniRef90-J9G154
UniRef90 B 1 W 450
UniRef90_E3FKF6
UniRef90_l1DWS6 UniRef90-A0A013VBT3 UniRef90-A0A03110A0
UniRef90_D7VVL1 UniRef90-A0A034VC49
UniRef90 UPIIOOO3816AF4 UniRef90_UPIOо029в3279
UniRef90-J518H9
UniRef90-R6YD92
UniRefo-bySZ
UniRef90_UPI00047B9D78 UniRef90_K9TJR9 UniRef90_S2E8R2 UniRef90-AOM616
UniRef90 B4KRXO UniRef90-C1ACX3 UniRef90_UPIO0036EF781
UniRef90_K1KY63
 EWPHGDANDQVYMFGAHLDSV SWAGPGMNDNGS EIEGTDDKDELVLIGCHLD SWDLGTGALDDGA MASYNPQSTTRILLCAHWDSRPWADNDPDSTNWRANDGAS LVRGTDPSATAVVVGAHYDHLGRGWPDAHRVHPGADDNAS KVVGG SNTTVVLSSHDDSLGLHLPHFLPAPGANDDAS ELKGGEKADEYIVLSAHLD IILPANEPSDSWRLVVAHYDHDG KQGYKLYHGADDNAS VLPGSDPKNEYVVYVSHLDHDGVGPVKGDSIYNGAHDNAS I ASFNPAATQRVLLLSHWDTRPHADQDAFDRNDGADDGAS YVEGKPSKNVIVISAHYDHDG WADDNNEDYNGADDNAS IASTNPDAQRRILSAHWDSRPWADNDPDSPVMAANDGAS YIEGSDPKDEIVVIGAHLDHLG MRGDYIFNGADDNGS EI RGTEKPDEVVIVSGHLDSWNGPGSQG YIEGNDPKNEFVIIGAHYDH पGПAAVNGDDDANGANDNAS VQKGTKYPNRYIIMSGDTDSRVSDPNDFTSDAPGANDNAT KINGSKYPDEYVLVGAHWDHFGTKQTPGDIIYNGAVDNAS EITGSEYPDKYMVVGGHLD VIPGTSKAKEVI VLCAHDDHTGGNPEDTDSTNWRANDGAS
 QFNGTQYPEQYVLIGGHLD SWDGGTGALDDGA MLEGSDPKNEYVVFSAHSDHDGFAKTKKDNINNGAMDNAS EDTGSEDPKEYMVVGGHLD SWDLGDGSHDDGA


## 

 EVTGTEKPNEFIVVGGHLD GKGWDLGEGAHDDGT YVEGTDPKKEFLLISGHYDHПGKEGVNGDFINNGANDDAS VQAGTGNPDDVI SAAHDDSRVSDVADFTSDAPGANDDGS YIEGTDPKNEYIMLSAHYDHVGVGKPDGDSIVNGARDNAV NLPGNTKVKPPILI GAHFDTVIG SPGADDNGT EIKGTEKPDEYVILSAHFD SWDAGTGATDNGT IASYNPSASQRILLMAHWDTRPWADKDPNAANHTADDGGS YVEGSEHPDEVFIYMAHWDHTGTDPTEGDGПYNGADDNAS EDK G S VYP DEDIVVGGGHLLD SWDLDGEGAHDDGA

 VI NGRKA QD QVI LVVA HYDHLGVN EGKVYPGAN DNAS KI K G S D N T K SLVLMTHYDSSPHS SF GASDAGS
 LIKGTDPSKRMYLVTGHYDTRETDVMNTHDPAPGAND DSS DWPGGD TNNQVLMAGAHLDSVVTMVMNTHDAPGAND DSS LSERNSSNENFLLMNSHYDSVPG SNGGAGDDGS KLT GSKRPDEVVLISAHWDHLGRGPMDGDD■YNGAMDNAT
 LLPGSDPAAETLIVSGHHDHNGASEVEEQD DWHGADDNGS
 EV R GA ERPDERVI YTAHWDH LGGVGDARGDK $\square Y N G A L D N A S$ RLKGT QPGKAVLLMAHYDS QPNALGAGDDGAGVAAI RIK GTEN GKALLLLSHYDSHPHS A SHGGAS DAGS
 $R L P G S T H P E E T L I V S A H W D H L G V G K P R G D T D F N G A D D N A S$
 SARADTRTTCYGTAAPIVTRLLDHGS
 TKKASNQKKEIVVVGAHHDSVEGA PGANDDAS $E \square P G R E H P E E V V V M G G H \square D \quad S W D V G Q G A Q D D G A$ SYRP EAT D RIVLAA H WDCRPWCDADPDTPVGAANDGAS $N$ NPS QCNTKKP LI GAHYDTVIGSSGADDNATGDAVL EVVKGREKP QEVVLLGAHLD SWDVGTGAHDDGA VLEGSDPKDEYVVITAHSDHDGFSNDSEDKI NNGAMDNAA $M L P G S D P T D E Y V L L M A H L D H N G V S A K G D D K M Y N G A M D N A S$ I QRGRD PNRVI I I G GHIDDSRVTDVMDATSDAPGANDDAS
 EWPHGD ANHVVMAGSHLDSV

S S GP G I N D N GT $D L P G S D K A D E V V I V S G H L D \quad S W D L A T G A H D D A V$ FLE GTDPKKEVLVLTGHYDHDGPEVEGPDKINNGADDDGS MASYNPKATTTRILLLCAHWDSRPWADNDPDSPVMAAND GAAS $T V L G T Q R P Q E D L S F G A H Y D S V A F S K G V Y D \quad$ S $\quad$ V

 EKIG T K K P E E IIV I GAHYDSVVVGSQG AN DN GS EIPGT DKNLKPVLLGAHLD SWHAGTGGNDNAA
 ITP KASKS QSYLLVNSHFDSKP S WD ETSSAGDAGF
 UniRef90 S3Y2A1 UniRef90-UPIO0046D6CB6 UniRef90_G1XJZ2 UniRef90_UPI000288ED0D UniRef90_A3QAA6 UniRef90_UPI00041F84FE UniRef90_I2GFZ5 UniRef90_C7PK13 UniRef90_W6UF70 UniRef90_E1KR60 UniRef90_UPI000472BB82 UniRef90-UPI0003B4258C UniRef90-W5X5F0 UniRef90_UPI000426CFFB UniRef90_UPI00047A78C3 UniRef90_K6ZCD7 UniRef90_F4AWI8 UniRef90_C9PW19 UniRef90_G8TMH4 UniRef90_V6SLH9 UniRef90-U1J6L7 UniRef90_E0XZ13 UniRef90-A0A023BSD1 UniRef90_UPI00036815D5 UniRef90_UPI0003646C9E UniRef90-UPI0002E13681 UniRef90_W9BTQ8 UniRef90_UPI000374C1CE UniRef90_UPI00041FDF90 UniRef90_Q4BZ43
UniRef90_UPIO00372BB52 UniRef90_F4KLK2 UniRef90_UPI00037D4874 UniRef90_FOSAN8 UniRef90_UPI00047B79F1 UniRef90_H6LAP4 UniRef90_M7MJB5 UniRef90_UPI00037A4D2A UniRef90_H2BVH2 UniRef90_W0EFH4 UniRef90_UPIO0046EC580 UniRef90_N9WCY9
UniRef90_I3C0P1 UniRef90-I3ZEB9
UniRef90_I2N452
UniRef90 B5E0R3
UniRef90-B6IPJ4
UniRef90_UPI0002D5EC0D UniRef90_A3TLD0 UniRef90_UPI00047809C8 UniRef90_I3C3N9 UniRef90_W8F404
UniRef90 B4RDW3
UniRef90_UPI00037CE237
UniRef90_G0L5C4
UniRef90-B0C5T8
UniRef90-A4CH62
UniRef90_UPI0003B537F4
UniRef90_W4TET7
UniRef90-K9S6A8
UniRef90_W4G548
UniRef90_H6L3L2
UniRef90_X8JFW6
UniRef90_UPI00031D79B0
UniRef90_Q024Z2
UniRef90_J9GI54
UniRef90_B1WU50
UniRef90_E3FKF6
UniRef90_I1DWS6
UniRef90_A0A013VBT3
UniRef90-A0A031IOA0
UniRef90_D7VVL1
UniRef90_A0A034VC49
UniRef90_UPI0003816AF4
UniRef90_UPI0003486575
UniRef90_UPIO0029B3279
UniRef90_J5I8H9
UniRef90_R6YD92
UniRef90_B9HSZ1
UniRef90_J2IU11
UniRef90_UPIO0047B9D78
UniRef90_K9TJR9
UniRef90_S2E8R2
UniRef90_A0M616
UniRef90-B4KRX0
UniRef90_C1ACX3
UniRef90_UPI00036EF781
UniRef90_K1KY63


130
$G|V| G \mid V L I E M A R / L / K N N$
140


160 GSAALLENALTLARQNPTMQGRVRFAWWTDEEQGLDNGDF





GVABSNEVVLALLANETAGY

GI A TLLLKLA SHYIK N KPDHTLDIFAAFDAEAA GLLQGAKA

 GSTAVTEVVMKYFAKNKAN KRSVVIFTFFSAAEEKGLLGGSKH


 GISGLI HLARYFAQRPNR ERTILFIAASSGEEEGLLGSKE


 G CVQS I E V L R T L K S L G I K P R H S I R A V M F M N E E N G LR G GR K


 GTVAVMNAAKYFAKN PPKRSVLLALDWAAEEKGLLGS GY $G \square A V L L E L A R F F Y$ HYPSNYPI RLVVADLLEEYGLVGSDA | $G T$ | $I$ | $M M M$ | $V$ | $M$ | $R$ | $L$ | $K$ | $Q$ | $V$ | $Y$ | $P$ | $N$ | $P$ | $K$ | $R$ | $T$ | $L$ | $V$ | $G$ | $H$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | GTA GLI ELAARKYAHAAEKPKRSVLFLAVTAEEQGLLGGSAF


 GCVHAMQQLHSFKA L G $\square R P K H T D R C V L F A N E E S G L A G G R K$
 GTLVMME A M RILKK K M Y P NP K R T I I A G H W G S E E Q GLLNGSRS

 GTAVSMEAARILSK YKFPATIVFVTVAGEEQGLNGSGH $G S A A V L L E T A L A D V S R A G L Q P T K H L D R F G W W G A E E V G G V V G R Y$
 $G V A G L I D L A E A F A K$ GERPERTI AFLLSYTAEEQGLLLGSEY




 GVAVLLELABQHF HHHPARHPI HI I GFDLE EYGRLLGSQA
 GTAALLELAR GFAKGPRPQRSVVVLAVTAEEKGLLGSEF


 $G V A V T L E L A R V M A K A G T D T E L R F V T F G A E E N G L I G G S T K$

 $G V V M V M E A A R L L T T K Q K A A P R R T V R V V L F M N E E N G L R G A R A$



 GSAGVLETALAYAASGQVAKNRLRFGFWGAEELGLLGSKY GVA GAMAVLETMHRLKLQPRRTIVRMAWMNEENGGRGGRA GTTGVLLMAKAFT DAKKAGKGSKRSI LFMTEEKGLWGS D W
 CVASMLELARVTAESGWIPPRPIIFLFNGAEELFMLGAHG

 GVAVMMEA R L KALDYQPKRTDRIALWGEEEQGLFGSRG




## UniRef90 R7HPH9 UniRef90_S1T8I1 UniRef90_Q6GQ29 UniRef90_A0A059EBA6

 UniRef90 S3Y2A1 UniRef90_UPIO0046D6CB6 UniRef90_G1XJZ2 UniRef90_UPI000288ED0D UniRef90_A3QAA6 UniRef90_UPI00041F84FE UniRef90_I2GFZ5 UniRef90_C7PK13 UniRef90-W6UF70 UniRef90_E1KR60 UniRef90_UPI000472BB82 UniRef90_UPI0003B4258C UniRef90-W5X5F0 UniRef90_UPI000426CFFB UniRef90_UPI00047A78C3 UniRef90_K6ZCD7 UniRef90_F4AWI8 UniRef90_C9PW19 UniRef90_G8TMH4UniRef90_V6SLH9 UniRef90_V6SLH9
UniRef90 U1J6L7 UniRef90_E0XZ13 UniRef90_A0A023BSD1 UniRef90_UPI00036815D5 UniRef90_UPI0003646C9E UniRef90-UPI0002E13681 UniRef90_W9BTQ8 UniRef90_UPI000374C1CE UniRef90_UPI00041FDF90 UniRef90_-Q4BZ43
UniRef90_UPI000372BB52 UniRef90_F4KLK2 UniRef90_UPI00037D4874 UniRef90_FOSAN8 UniRef90_UPI00047B79F1 UniRef90_H6LAP4 UniRef90_M7MJB5 UniRef90_UPI00037A4D2A UniRef90-H2BVH2 UniRef90_W0EFH4 UniRef90_UPIO0046EC580 UniRef90-N9WCY9
UniRef90-I3C0P1 UniRef90-I3ZEB9 UniRef90-I2N452
UniRef90 B5E0R3 UniRef90 B6IPJ4 UniRef90_UPI0002D5EC0D UniRef90_A3TLD0 UniRef90_UPI00047809C8 UniRef90_I3C3N9 UniRef90-W8F404
UniRef90-B4RDW3
UniRef90_UPI00037CE237 UniRef90_GOL5C4
UniRef90_B0C5T8
UniRef90_UPI0003B537F4
UniRef90_W4TET7
UniRef90-K9S6A8
UniRef90_W4G548
UniRef90_H6L3L2
UniRef90_UPI00031D79B0
UniRef90_Q024Z2
UniRef90_J9GI54
UniRef90 B1WU50
UniRef90_E3FKF6
UniRef90_I1DWS6 UniRef90_A0A013VBT3 UniRef90_A0A031IOA0 UniRef90_D7VVL1 UniRef90_A0A034VC49 UniRef90-UPI0003816AF4 UniRef90_UPI0003486575 UniRef90_UPI00029B3279 UniRef90_J5I8H9 UniRef90_R6YD92 UniRef90_B9HSZ1 UniRef90-J2IU11 UniRef90_UPI00047B9D78 UniRef90_K9TJR9 UniRef90_S2E8R2 UniRef90_A0M616
UniRef90 B4KRX0 UniRef90_C1ACX3 UniRef90_UPI00036EF781
UniRef90_K1KY63

170
180

200

 Y WA A NLP Q GYEARYG LLLDMVGGQGARFFQESGSRQFAPA $F A A G R P F P V S R I V A M V N L D T V G R D G G G G R L L V L G G T G T A R E W$

 F V D G L M A P D A K L K A MVVNLD M $\quad \mathrm{L}$ G R P A R N S R DY LIE G R R GF G Q

 WAKNPHVRGYKANYGILLDMVGGRAS QFFMEGGSQQYAYG F $\square K N P P V Q L E N \square K L N$ NMDMVSHNDKGELYACGT FKYPQ $Y F S Q N L P L A V R P E F G V L L D M V G G E G A Q F Y K E G V S M Q F A S D$ $F$ VNELKK K I E K VS YMMNLDMTNN P YV THP $\quad$ YY PLEKTVACLNLDMDSRELTKDRLERMGDANSPE


 YA QEAKAKGENHVFAL ESDSGGFTPRGGFSSDDSDDRN QADSEDTWGYEARYGGLLDLVGGDGAKFYREGMSMAFAPN LVKRLD DTKADKAVI NMDMIGRPDAAKKYPY■TGDKHSN YVTNATNPKMNI RLVVNDDEVGTCERDTGTPTTNNALS ST YFKRHEKTMDNDVAAAESDFG ADVVYGFESNVAAD F A R NP TVPVTSMVANVNLDMP LLTYEFADVVAFGANHSD Y A KV V K DKGENHVFALESDAGGFTPRGBFSF Y F E V NKE K VE QHFA A I E S D N GA GR P F GF M Y A EL A K ENKE DHLAAALESSDSGGFTPKGFGD GSVRPS



 $F$ VEDHPE I VKKT QALLFNQDNGVANDS GQGF LIHA YD YM GR W WSKNPHVADY QAMGG|LLDMVGGRDASFYWEYFSKSYAPQ Y A A NP LFPLDKTVGGLNMDGLNYYGPTHDVTVIGLGNSE
 Y VA Q L G DTA R SVVKA MVAL D RVGAPPGPAVP DSF GGKGTA A V YAAEAERKGEKHDAA $A E S D G G G H A P R G F A M D A L P H V L K P A$ F VEDHPEVVKNTQAMFNQDNGGRVVNLSGAGFLHSYEY
 $F V Q S P T F P L G Q I$ QAMLNDDTVGNGMVGNFALWSESENNLA
 YAANPVFPDAQTVVGGVNMDALNPNGPAKDVVVVGRGKS Q YAEVAKEKGEYHVFALESDAGGFTPRG FSFDCDEANFA
 F I T QHKWA KNCKALINLDSAG SGGREILLFQSGPNHPW YAKNPVFPPARTVGGFNMDMLNPFGPMRDIVVTGAGKSE


 Y V K NHFA DPATMM L LP DHEYF NLDN GA GK I R G I Y A Q GNEA YADNPLYPLSKTVAVINMDGVNLLGRFKDVTMSGDAPMTL F LDRHP WAK DVGFVLNLEGRGN S GPSMTF EDSP QN GWU FVNRHEWA KDVGGVLNFEARGS GGPSYTF DETNRGNQH $Y A Q E L R Q T N T R I T T M M S L E M L G Y \square D H T Q R Y P P G L K Y Q Y P S$ $F V N Q H P W A Q D V G L V L N F E A R G S G G P G Y M L L E T N G G N S G$ YASKP LYPLEKTVAVVINMDGMSPFVPSRDF G I Y GTA K LIE
 IAA A E Y A K A D T A V Y A QL Q Q D M T G Y V R P GPD V N Li I SAF T N E N WS R NP H T P DYKAK F G L L L D MVGARAA R F PKE GVVSLK HA A F
 YRDF IGDKIKH QVAADEMDGGAEAPRGGFGAGVDAS SME WS QHPHKDGYKA RYGGLLDMVGGQDARYRYE GFSMRYAR D
 Y A ETHAAE LSRHVAALELDVGGGRPVGVALRAGPGA GDR

 I STEDSH $\square Y N K M T A L F N F E M V A T E S Q W G K N T L Y M T G D G F S D$ FI T Q HP WA Q Y CKAVIN LDSA G SGGRE IL FQSGPN HP W
 Y F DANKA QLERHVAAI ESDS GGGRPFGG $\quad 1 \quad L A S V G P R$
 Y WS R NL P Q GY EARYGGLLDDMVGGGGSRFYRE GMSMQYA E G Y VKA HKE ELS DHLLMMINVDVGGP ILLGHDGIAAT FMKTHKWRDS G GASINVEAS GTSGPDLVCQSGPGSWPS Q $F V N Q H P W A K D V G L V L N F E A R G S S G P S Y M L M E E T N K G N E A$ FCKNPTDDFDFANYMINMDMVGRDSEDKTMSDTGTGTAP MAKRCRDRQENVVGMLSSLETMGYYSDGNF TVVSNLDSGN YVQKYK A E WDKI SAYYNIDNGS GK IR G
 $D G G V F S P L G F G F T G S A$


## UniRef90 R7HPH9 UniRef90_S1T8l1 UniRef90_Q6GQ29 UniRef90_A0A059EBA6

 UniRef90_S3Y2A1 UniRef90_UPIO0046D6CB6 UniRef90_G1XJZ2 UniRef90_UPI000288ED0D UniRef90_A3QAA6 UniRef90_UPI00041F84FE UniRef90-I2GFZ5 UniRef90_C7PK13 UniRef90_W6UF70 UniRef90_E1KR60 UniRef90_UPI000472BB82 UniRef90_UPI0003B4258C UniRef90-W5X5F0 UniRef90_UPI000426CFFB UniRef90_UPI00047A78C3 UniRef90_K6ZCD7 UniRef90-F4AWI8 UniRef90_C9PW19UniRef90_G8TMH4 UniRef90_V6SLH9 UniRef90_U1J6L7 UniRef90_E0XZ13 UniRef90_A0A023BSD1 UniRef90_UPI00036815D5 UniRef90_UPI0003646C9E UniRef90_UPI0002E13681 UniRef90_W9BTQ8 UniRef90_UPI000374C1CE UniRef90_UPI00041FDF90 UniRef90_-Q4BZ43
UniRef90_UPIO00372BB52 UniRef90_F4KLK2 UniRef90_UPI00037D4874 UniRef90_FOSAN8 UniRef90_UPI00047B79F1 UniRef90_H6LAP4 UniRef90_M7MJB5 UniRef90_UPIO0037A4D2A UniRef90-H2BVH2 UniRef90_W0EFH4 UniRef90_UPIO0046EC580 UniRef90-N9WCY9 UniRef90-I3C0P1 UniRef90-I3ZEB9 UniRef90-I2N452
UniRef90 B5E0R3 UniRef90-B6IPJ4 UniRef90_UPI0002D5EC0D UniRef90_A3TLD0 UniRef90_UPI00047809C8 UniRef90_I3C3N9 UniRef90-W8F404
UniRef90-B4RDW3 UniRef90_UPIO0037CE237 UniRef90_G0L5C4 UniRef90_B0C5T8 UniRef90_UPI0003B537F4 UniRef90-W4TET7 UniRef90-K9S6A8 UniRef90_W4G548 UniRef90_H6L3L2
UniRef90_X8JFW6 UniRef90_UPI00031D79B0 UniRef90_Q024Z2 UniRef90_J9GI54
UniRef90_B1WU50
UniRef90_E3FKF6 UniRef90_I1DWS6 UniRef90_A0A013VBT3 UniRef90-A0A03110A0 UniRef90_D7VVL1 UniRef90_A0A034VC49 UniRef90_UPIO003816AF4 UniRef90-UPI0003486575 UniRef90_UPI00029B3279 UniRef90_J5I8H9 UniRef90_R6YD92 UniRef90_B9HSZ1 UniRef90-J2IU11 UniRef90_UPIO0047B9D78 UniRef90_K9TJR9 UniRef90_S2E8R2 UniRef90_A0M616
UniRef90 B4KRX0 UniRef90_C1ACX3 UniRef90_UPIO0036EF781
UniRef90_K1KY63

-

220
230
240 VVNRVWAAANRILGYGNFFVNANGGGDTDDHLAINNAGIPC MKAYWDSL GLQPEENTEGAGRSDDYSFEQYGIPA
 IVDKVWLAAEAIGYGSYFPKQEGGMDT DDHVPVNEAKI PT $\stackrel{V}{\mathrm{~V}}$ FKK K I KANGA GYVT GVVRVEPVARDEGGSDRVS FVVAGVPA $\square T$ D WL Y A V P E N Y K K D L

 LKP SVVFSKN S K I K I I L G H D GS N D WT N Q S D H S AF N D K D I P F

 FA P S V K A F P E MPMMK VVAV S G D R MP G G G S D H A P F N R V MASKMNEYAEKVIGYVPAETKYQLFRASDNYPFTEFEVPA LA RYVHKTTETYMPEMNYRLDRFGRGGH HRPFNDAGFS G ME DYLAK A A HKRKAK LDPRPQNGLLFFRSDHFSMAK QGVPS





 P S RA MMRAA QRVGKAFGVRRPDRFSRGGDHLPALELGYPA F DEYFASV A H IS EAVKEFGLEADPSPEQGLLYDRSDNVNFARKGIDA TGDFIAAL GNEWLTVP FRGE IVPDDTRRSDHAPFWDNNYQA









L N A V P K DVVSK HIGETHFPGTPSRGG




 VT DVA GDASERLN




\section*{| L |
| :--- |
| L |
| L |
| G |}

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


 $F L R E V I G S F R S H T$ QGAA MPGATP GAGWSDHWSFWQFDYPA
 $L L G Y Y N K Y A K P F G T T L N E E \backsim Y Q T G A L P S D S D F$
EARKLVEAVGT LLTTPDGAGRIGPNGGGAD』GPDMQTGVP
 UniRef90 S3Y2A1 UniRef90-UPIO0046D6CB6 UniRef90_G1XJZ2 UniRef90_UPI000288ED0D UniRef90 A3QAA6 UniRef90_UPI00041F84FE UniRef90-I2GFZ5 UniRef90_C7PK13 UniRef90_W6UF70

## UniRef90_E1KR60

UniRef90_UPI000472BB82 UniRef90_UPI0003B4258C UniRef90_W5X5F0 UniRef90_UPI000426CFFB UniRef90_UPI00047A78C3 UniRef90_K6ZCD7 UniRef90_F4AWI8 UniRef90_C9PW19 UniRef90_G8TMH4
UniRef90_V6SLH9 UniRef90_U1J6L7 UniRef90_E0XZ13 UniRef90-A0A023BSD1 UniRef90_UPI00036815D5 UniRef90_UPI0003646C9E UniRef90-UPI0002E13681 UniRef90_W9BTQ8
UniRef90_UPI000374C1CE UniRef90_UPI00041FDF90 UniRef90_Q4BZ43
UniRef90_UPIO00372BB52 UniRef90_F4KLK2
UniRef90_UPI00037D4874 UniRef90_FOSAN8 UniRef90_UPI00047B79F1 UniRef90_H6LAP4 UniRef90_M7MJB5 UniRef90_UPIO0037A4D2A UniRef90_H2BVH2 UniRef90_W0EFH4 UniRef90_UPIO0046EC580 UniRef90_N9WCY9 UniRef90_I3C0P1 UniRef90_I3ZEB9 UniRef90-I2N452
UniRef90 B5E0R3 UniRef90-B6IPJ4 UniRef90_UPIO002D5EC0D UniRef90_A3TLD0 UniRef90_UPI00047809C8 UniRef90_I3C3N9 UniRef90_W8F404
UniRef90 B4RDW3 UniRef90_UPI00037CE237 UniRef90_GOL5C4 UniRef90_B0C5T8 UniRef90-UPI0003B537F4 UniRef90_W4TET7 UniRef90-K9S6A8


| UniRef90_R7HPH9 | $\overline{L L} \quad 290$ |
| :---: | :---: |
| UniRef90-S1T811 | AY T 1 |
| UniRef90-Q6GQ29 | S Y V V |
| UniRef90-A0A059EBA6 | V Y A A |
| UniRef90-S3Y2A1 | 1 Y |
| UniRef90_UPI00046D6CB6 | E FVAY L |
| UniRef90-G1XJZ2 | A WGVGLGVVA |
| UniRef90_UPI000288ED0D | V Y |
| UniRef90_A3QAA6 |  |
| UniRef90-UPI00041F84FE | VY |
| UniRef90_I2GFZ5 | L I G Y LT A Q A |
| UniRef90-C7PK13 | LY |
| UniRef90-W6UF70 |  |
| UniRef90-E1KR60 | LY T |
| UniRef90_UPI000472BB82 | MY L Y ALS T A P |
| UniRef90-UPI0003B4258C | LTAFSLA |
| UniRef90-W5X5F0 | $\vee \mathrm{V}$ A Y NLACAP |
| UniRef90-UPI000426CFFB |  |
| UniRef90-UPI00047A78C3 |  |
| UniRef90-K6ZCD7 | D ${ }^{\text {T T E T L A N S }}$ |
| UniRef90-F4AWI8 | L Y L M D |
| UniRef90_C9PW19 | L Y |
| UniRef90-G8TMH4 | LA A EGLVNGS |
| UniRef90-V6SLH9 | GATLLHFAKANA |
| UniRef90-U1J6L7 | A MMAADAK |
| UniRef90-E0XZ13 | Q $\$ G WT L A N  \hline UniRef90-A0A023BSD1 & M YL  \hline UniRef90_UPI00036815D5 & S LTWYLA N  \hline UniRef90-UPI0003646C9E & Y 1 D  \hline UniRef90-UPI0002E13681 & PAVTTM T N S P  \hline UniRef90_W9BTQ8 & A VI R EL  \hline UniRef90-UPI000374C1CE & YAVWKLAVAAA  \hline UniRef90-UPI00041FDF90 & ILAAELAN  \hline UniRef90_Q4BZ43 &  \hline UniRef90_UPI000372BB52 & $\square \mathrm{L}$ ¢ |
| UniRef90-F4KLK2 |  |
| UniRef90_UPI00037D4874 | Y Y |
| UniRef90-FOSAN8 | 1 |
| UniRef90-UPI00047B79F1 |  |
| UniRef90-H6LAP4 | VY L I D |
| UniRef90-M7MJB5 | VYMA |
| UniRef90_UPI00037A4D2A | L I G Y LT A Q A |
| UniRef90-H2BVH2 | 1 LA Y |
| UniRef90_W0EFH4 |  |
| UniRef90_UPI00046EC580 |  |
| UniRef90-N9WCY9 | A A G R MLA S |
| UniRef90-13C0P1 | VY L D |
| UniRef90-I3ZEB9 | AVLGTLAKSPG |
| UniRef90_I2N452 | HAlWTL G |
| UniRef90-B5E0R3 | ARA L A A P |
| UniRef90-B6IPJ4 | VY D L D L A N G T |
| UniRef90_UPI0002D5EC0D | HAVWELS S |
| UniRef90-A3TLD0 |  |
| UniRef90-UPI00047809C8 | $\square \mathrm{L}$ LF A $\square$ A |
| UniRef90-I3C3N9 | TYMA |
| UniRef90-W8F404 | S F VYQ A A |
| UniRef90-B4RDW3 | Y Y QLE L A N S |
| UniRef90_UPI00037CE237 |  |
| UniRef90-G0L5C4 |  |
| UniRef90-B0C5T8 |  |
| UniRef90-A4CH62 |  |
| UniRef90_UPI0003B537F4 | LY ALDQLA D S |
| UniRef90-W4TET7 | GALQHFATAS |
| UniRef90-K9S6A8 |  |
| UniRef90-W4G548 | A Y V V ELG S A A |
| UniRef90-H6L3L2 | Y Q Y E |
| UniRef90-X8JFW6 | A WVVEVA |
| UniRef90_UPI00031D79B0 | A GVYDI AK |
| UniRef90-Q024Z2 | GYA LADMPG |
| UniRef90-J9G154 |  |
| UniRef90-B1WU50 |  |
| UniRef90-E3FKF6 | A Y A M |
| UniRef90-I1DWS6 | $N \nabla A \backslash D V A N$ |
| UniRef90-A0A013VBT3 | A I A R Q 1 A D A P |
| UniRef90-A0A031I0A0 |  |
| UniRef90-D7VVL1 |  |
| UniRef90_A0A034VC49 | T WA L A N P |
| UniRef90_UPI0003816AF4 |  |
| UniRef90-UPI0003486575 | S LT WF LA N |
| UniRef90_UPI00029B3279 | F TAWELAN |
| UniRef90-J518H9 | L W |
| UniRef90-R6YD92 | AFAQEMANAA |
| UniRef90-B9HSZ1 |  |
| UniRef90-J2IU11 |  |
| UniRef90_UPI00047B9D78 |  |
| UniRef90-K9TJR9 |  |
| UniRef90-S2E8R2 | A MVV N |
| UniRef90-A0M616 |  |
| UniRef90-B4KRX0 |  |
| UniRef90-C1ACX3 | A Y 1 V |
| UniRef90_UPI00036EF781 | Y |
| UniRef90 ${ }^{\text {K } 1 \mathrm{KY} 63 ~}$ | A M |

VE G S L S E F S T QR A L G K LA I I A K E P HYVGS E PGTATPTVGPL PFDRRRAWGYLLRQVAFGPRVPGTA
 ALISP QLD T I D P P QLWSH I K VLV GERF QDSD

A Q A D QR L A PPD $\square P G A N S M A H A N Q L Q S \square G N R A H G T S$


$$
A G \square P R \square P \square Q P \square R D A L P \square L E S \square R G P A A
$$

 LPPALTVVGDLERAPNAFDAERAWAS LKTDNDDGPKPA GS Q DRFSEARAVEHVRVLAD GSRREGSP

PRTGRDDVTPVIPS LP $\square S Y \square N A L L A A L E G F G A S G A E V N$ AERASWDLKNLTDDGPRVVGSY

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

SRARSRLAELVS LGPRSVGSY

LP DALRNAHLAKYPNAF $\quad$ AERAYKDLK ILNDFGPKPTGSA
SASTALDYLSS DELNGRDTGSE
$\square S$ PAQQTKSVAERLTADAVKPAGVELASYEGRGGGYP

SEF DAERAYKTLYTLSNDGAKMLGSE
 PPPK LSSE SH LGEFSEQRARVHLDK $\square$ ASYGPRPTGSA PAPRATVEPSAPQTSVARAMADVEHLAVIGPRHATSE

LLS WAETKQLQQDVEVLASLQGRRSGTQ
DDEVSGRFPKDPSDPLSVDDAEDES LGGAPTPSE $P V V L R T S D I Q R V V S Q T D V T Q M L Q T D M K P M L I E R Y A G S P$ LL N WA E P E ALKQQTVATLSALMMRKTQTE DEAVKRRFPK $\quad$ KSAE TAVE II R SLLG

SATSALKYLSS DELSGRDTGSE AERAYKN $\square Y$ T $\square S N \square G T K \square P G S E$

PPDPEPAD $\square$ S $\quad$ LTQFSSGRAMEY $\square E N \square A \quad V K P H P V G S E$

S SKAQPQGLM VDSGRLRSHLQTLA NERYTN

DFSASRARGYDDNTTADGPRTVGSP KPALNDS $\square S E F S G E K A F E H V N H L V Q I G P R P A G S K$ KFVAERAQAQLLEISLLGPRLVGTP

```
R Y G TVP G G VL
PAFSAS LLAAPPT \(\square N V A N V N A H L Q Q L Q T F G N R A T G T A\)
``` PS ILHPDAIQNVAEKTDVSEMWEDLRPI LIERYPGSP

VDKAQLT QDLQVLTSFQGRKTRTR LS WDNARHLLQSLKGKGSKVEESW
\(\square P\) P LT A D Q A GKRGFSEFSA
RKHVRALTEDGPHPVGSD
 FTEERARTS LLTLTSSGPR\|VGSE

APVLATLSATGAAKLFAGGGTPWSD
A ERA QANLYDFAN \(\square\) GTKVVGSD

TAQTFIQRYANQTSQANITNNLTEYEALGVKRRGTQ
\(P T \| L N A T S \square L Q V T S Q T N V N R M W Q N D \square H P \square L I E R Y P G S P\)
PANAP \(\square E R F S E A R A V E H \square R \square L A E \square D G R Q E G R P\)

UniRef90 D9QFC2
UniRef90-A1ZIC1 UniRef90-W1S718 UniRef90_UPI0004020BB3 UniRef90_D1CGE8 UniRef90-JOS145 UniRef90_UPIOO04792992 UniRef90-14W287 UniRef90-D3PWF0 UniRef90_A8H008 UniRef90-A0A059FAU9 UniRef90-K2IZH0 UniRef90-G2LEQ2 UniRef90_L8GC39 UniRef90-K6YT63 UniRef90-E4RQL0 UniRef90_Q7QDI5 UniRef90_A0A059D928 UniRef90_F9YVP3 UniRef90-F9XJF6 UniRef90-I2ETA6 UniRef90-U4UWB4 UniRef90 \({ }^{-}\)W0V460 UniRef90-UPI000472C4F5 UniRef90_UPI00038109F8 UniRef90 J2K4P7 UniRef90_UPI0003B50E52 UniRef90_UPI00037F93A5 UniRef90_A2V759 UniRef90 V5IGY7 UniRef90_UPIO001983C1A UniRef90-Q17191 UniRef90_UPI000475CB1E UniRef90-K4IFW3 UniRef90-W5XAJ4 UniRef90 K1PZU6 UniRef90 UPI00036596FA UniRef90-B4LLU4 UniRef90-G9YVR4 UniRef90-UPIO004420459 UniRef90_A3QD29 UniRef90-A7RIR1 UniRef90-IOJPH4 UniRef90 E2SEH7 UniRef90-A7S6G6 UniRef90_UPI000472BDEB UniRef90 L8JTA1 UniRef90 \({ }^{-}\)W9S126 UniRef90_Q66KH1 UniRef90-A0L197 UniRef90 K4A6F3 UniRef90-UPI0003657644 UniRef90-F9FKT9 UniRef90-B4J730 UniRef90 D4Z336 UniRef90_G8M269 UniRef90-M2SBW0 UniRef90-W1RRA9 UniRef90-K9EZF7 UniRef90-W8F7G5 UniRef90-UPI000362FD5B UniRef90 UPI0002B44BD0 UniRef90-H5XVL3 UniRef90-B3MCB7 UniRef90_C5XJ81 UniRef90-E2ALP2 UniRef90-R6BEG4 UniRef90_UPI000476AC19 UniRef90_G1NFN4 UniRef90_UPI0003B7362A UniRef90-Q12IY4 UniRef90-D5G5R8 UniRef90_UPIO004734B8E UniRef90_UPIO002C31C42 UniRef90_Q7Y228 UniRef90 UPI0002DA64D8 UniRef90-N8Y7D0 UniRef90-Q232E1 UniRef90-T1IR32 UniRef90-F4Q2Z5 UniRef90-N1UTE8 UniRef90-UPI00026CC96C UniRef90_UPI0003B4C575 UniRef90-Q290E2 UniRef90-K7LI61 UniRef90-A8NYE0 UniRef90 V6SVI8 UniRef90-A0A059DLI9 UniRef90_A7ISW2 UniRef90-A0KYA6 UniRef90-O64804 UniRef90_UPIOOO288477E
 ESLINAAHYIHEEFKK WDCPTEVQAYDAEGNTYQNLIA NHKVVADFVIKELENLGLEPEDQEGYTDWGNLVKSKNILAA PHSRCRDFLLRELR ATLGSASPQAFSFQGVQMCNILS G \(\square E K A A V F L E D F L K K N K D K P Y F K T Y R D T B T N N T P A F N V V G\)
 GYRASDQLGRVLAYGKPVTVRLDLDCGIEGEYTGANVGG G A R A S A D GNEAARGFLRKRFETLRLTKVGNSYEHPFDQPDQGVNLLG
 ADQLVR\MDYGHTPK TRLNTQTKDLGP\|VTKNVFG QGEVPHDWI SSTAAKlKISKVNLEVGARQSKDIATYNVAG ANEVAYEFLLQEVQRLGAFSUSLLNQSMTSVYRNVQNLVV G LREAARY \(\quad K S Q L E T F G S F N M M F L G H S \square S F G Y R N H T N V V A\)
 ENEHPNQYLEQDTQ\|VTGSYYLSAKQGVINVYENVQNVVV L 1 NRLA ARGPLKMHLTLTPQNLPDADSFNVI A VAHIKRESVLSEVFNSPNVL NNANTLAWIKNKYLSYGYAASQTVEDPFTFGSTSSKNLVG
 D A LLA A NLRAGEKITATVKVAGAEVKTLTSHNVIAA ENEVAADYLLKQLEHDRDRARPVHIDGFTSTYRNIQNVIA
 E \(\square\) DEAASF GEKRAAEYLATRYAELGLQPYFQEFSFYPHAPIRPWNVLA KMEAKNLPPVMSRNTVA
 GEADAVRYLRDRFEEMGYSVTLQPYTDGQ GRTGHNVAA
 EYADSYNVVA
 A Y L R A A D WVA DRFDR LGYTVSRQDVQAPAGNSWGVDNVI A A EMMWRMAQRGDKIVVK LIMSAKSLPPVKSRNTVA GATLSREYLTERFEQDGLQPQHSFNYVDGFADARGDNLLGG \(T V N G D D N K T L T S R N V V G\) W RDALDLKVDHVGPGPTLVDFDYQGEKKVK DHNVFA GNYAVRQHI KQRLQNLGWDTEEDTFEAPTPYGYTFSNIIS GAAKARDYLHSQFQQLGLTPWGETFEVPFFSQETGSNMVA GPA \(\square P A D W Q E A G L D A G G V G P G P T L V N F T Y Q E D R T \square Q D I F G\)
 NEVEAVNF \(\quad\) DMNE LS Q \(\square Q \square D \square Q N D Y F D M E \square D G G Y P F K N L L\) EHSRVRDY \(\square\) TEK \(V\) KEFGFKAE \(\square\) HS SNPSVENIVV QHEQVDSHNVLA
 YQDFDSYNVVG


 GAVAPADWQSRKGSPVYHLGPGPAVYLGNDTMATIENVFA
 GHTATTTYLQQKLQAAGFTVTVQT CTTCSGGSAKNII A GNHAVRQHIKQRLQRDQAGWEIEEDTFQKYTPYTFSNIIS GAKLTQDFLANRFKALNLTPWQGSYHAPFDYGFSGVNMI G TGRGVEE WWT GS \(\square\) ND S SVVVKLENDQVEEKRHP 1 WNVLG
 \(N \vee I G\) GGEASAQY ILDH \(\square K K T G Y E V Q \| I A F E N \quad R D K V N G Q N V V G\) A A A I A AEMFLRMFERGQRIRLNLYMESWNVPNANSFNVVA


HNVMG
TTFNI DA
\(\square V K\) SAADR EAVFRAERLGVSMAVSDKTAFEPMSSGNVAG FRPVPLKATMTARFPVTQEVVKSQNV LAA GNEN \(\square E D Q L L D D Y F D\|E\| D V Q \square A S G S Y \| K W E L V N M Y Q V V K\) GARTAAAWTKARDEETGATCRLSTFDTGF APNVTC A LQNTLNWLKNKYLSYGYTAGQMTEDSFANSTYTCKNLVL
 E Y A N S Y NVVA


UniRef90 D9QFC2
UniRef90＿A1ZIC1
UniRef90＿W1S718 UniRef90＿W1S718
UniRef90＿UPIO004020BB3 UniRef90－D1CGE8 UniRef90－JoS145 UniRef90－UPIOOO4792992 UniRef90－14W287 UniRef90－D3PWFO UniRef90－A8H008 UniRef90－A0A059FAU9 UniRef90－K2IZHO UniRef90－G2LEQ2 UniRef90－L8GC39 UniRef90－K6YT63 UniRef90－E4RQLO UniRef90＿Q7QDI5 UniRef90－A0A059D928 UniRet90－FgYVP3 UniRef90－F9XJF6 Uninefefo－12ETA6 UniRef90－U4UWB4 UniRef90＿WOV460 UniRef90－UPIOOO472C4F5 UniRef90＿UPIooo38109F8 UniRef90－J2K4P7 UniRef90＿UPIO003B50E52 UniRef90＿UPI00037F93A5 UniRef90－A2V759 UniRef90－V5IGY7
UniRef90－UPIO001983C1A UniRef90－O17191
 SF GVGHSTR VLGAHYDVCGDQ PGADDNAS BLPGSDPKDEYVVLSAHLDHIPGDPATKDRDNNGADDNGA RIKGTANSKALLLLLSHYDSAPHSKSVGDPPTPGASDDGS VIEGTDPKKEFVVLSAHYDHTGEKKDQADKINNGANDDAS EHPGTDPKAGVILLAAHYDTVPN
 \(L V E G Q N P G D R M L V I S A H Y D H L G\)

SWDPGTGAllDDAA GVRAGAGDNDNGS EVTGSEKPDEVVVISGHLD TLTGRDHPDEWILLGNHRDAWVYG SIRGHEEPDRLVIIGNHRDAWVYG EITGRELPNEVVVIGGHLD
 RUAGSDVOHAL RLAGSDVHQHALLLNCHFDTVAS EIIKGSTYPDEII AFGAHLD

SWDVGPGAGDCGS VI NGTDPNEGA IIGNHRDAWMDGGAGDPNSGTAALDEVA KIDGTDPKLEYLLYSGHTDAHG KLHGKNGSSSVLVNAHFDSVP DFAGSDKADEVVVVSGHDD SWDGATGAHDDGA VIGGSDPKDEYVVLSAHLDHTGESPKGDDKINNGADDNAT RUEGTKRPNETVIYSAHWDHLGVGDAKGDKUYNGAVDNAT TKKGTLYPNKYVIVCGHFDTIYG ETKGSKYPNETITVGGHLD KLEGADPKEEYVVYTAHWDHDGKDDKKGDQVYNGADDNAT TKKPKKNTNDIIIIGSHHDSVEKA PGANDDAS RПAPRESKRHSLLVNCHFDTAPG SPGASDDAD ILRGSEEPDRYVLLGNHRDAW KLVGK HKEHALLLNCHFDSVATSPGASDDVSGCAV VLKSTNANLKPLVIGAHYDHTGTESVEGDSIGANGANDNAS FLKSTNANLKPLVVGAHYDHIGIESVEGDSIANGANDNAS EKGSKYPEOVVLVSGHDDQPKANS DLPGGSKADEVVVIGAHLD KLTPKNTTSEYLLVNSHFDSKP SWDVGQGAMDDGG
SWHTGTGASDNGA
ATPSAGDAGF VKAASVPDADILVSAHHDSVPT

TLVA SLL

 TMKPHKNKDQMITVGAHHDSVAGG VAGGANDDAS ETDGSKYPEQVVLVSGHLD

SWDVGEGAMDDGG
GPGFYPGADDNAS WLPAAQPTTEWRLLIAHYDHLGGMRGPGFYPGADDNAS VIKGLEEPERYVLLGNHRDAW KGFATYGAVDPS
 LVPARQPTHRWRIVVAHYDHLGG MSGSKIYHGADDNAS VLKSKQESNKPLLIGAHFDH GGHDKVEGDSTANGANDNAS
ETKQGD PNNVVMMGAHDSV
QAGPGINDDGS ETKQGDTPNNVVMMGAHLDSVVF LLPGKARPDEYVLYAAHWDHLGRCEPDGDDПCNGATDNAT KVDGKGKSKDTILISAHYDTVPGA RIPGTAHPDQVIMYGAHWDAYGEGKPHGHTYRAGANDDAL RIPGAKRPDETVMYGAHWDAYGEGKPQGRIYRAGANDDAL RPGTQTPEQKVLVGAHYDSVAGGRVQGDSTYNGADDNGS KIPGSDARDEYVVHSAHLDHLGVGPVQGDS円YNGAHDNAS KLEPRNGAEHAVLSNCHFDSVPN TPGASDDAV
 LSTKSSNSTNYLLVNSHYDTKPGAPGAGDDV

\section*{VILGNHRDAWTFG} D TGSSDPEKTVVVSGHDDSVEFSHGVYDDVGQGAMDDGA D TGSSDPEKTVVVSGHIDDSVEFSHGYDDVGQGAMDDGA QLKGTEDTNENUTFGAHFD VEFSHGVYD GVSAGPGDNDDGS TLNPS AKRHLVLACHYDSKFFGPQWHGRVFVGATDSAV KLPGTTQAGETVLFGAHWDGQGVADTKGDAIRNGADDNAT VIPAQKPASRWRIITAHYDHDG YURGSDDHKRIVVGNHRDAWCFG KRNTDDIIVIGAHHDSVEGA DFKGKDSVDNAVLVSSHDDTVFS V 1 EGEEEPDRYVILGNHRDAWTFG TGGAGDCSS VLEGNGPANETVVLGAHYDHLGRGETGTKEDHYGADDNAS EIKGKDQ DHATLI GAHYDSV KGKMGGDNDNAS ELRGSVYPEKLLVLGGHTDSWDVGSQTG STGANDDGG DVIGSDLPDEVVVVGGHDD VVAEGAGWDVGQGAMDDGG DTKGN ADETVVVGAHFDSVAEGAGDNDTVYGAENGS KIPGTTRPGEVVMYGAHWDAYGPPDENGKDYRAGANDDALL LTPKNCTSENYLLVNSHFDSQPYGAVDPNSTPSAGDAGH
 TK円GTVYPNTYVIVCGHYDS円 TGTGTNDNGS




\begin{tabular}{|c|c|}
\hline & \\
\hline UniRef90 D9QFC2 UniRef90 A1ZIC1 & FVNHPPVPLERLK ANLEI EMI ADQDPPAGVMMM \\
\hline & FARHPTVPIKQIVGNVDLDMPLLLYPFTDVV AFGA \\
\hline UniRef90 UPIo004020BB3 & VTQH NWAKEIIGLAI NFEARGT \\
\hline － & YLGSRHYPQGRPSWGVLLDMV \\
\hline & KLKKQNFNLYTQLNIEMIGVPMKRDY \\
\hline UniRef90－UPI0004792992 & EK PQNLTNLQATIILDMVGYACHGEF \\
\hline UniRef90＿14W287 & YAGKHADE \\
\hline UniRef90－D3PWF0 & YTRNLPSERAKTDAYLNFDMVGQRDTTRWGI \\
\hline UniRef90－A8H008 & LVDKLKPNLAQLELA NLDMIGRPSRNGA \\
\hline UniRef90－A0AO59FAU9 & LIRSGEVDLSRIALLLNFDMVSRSDKDEL \\
\hline UniRef90－K21ZH0 & QHQGKLAKHVLAAESDFGAGR \\
\hline UniRef90－G2LEQ2 & VEEHLTELEKAVCYLNVDSAVSGDNFRASAVPSDVPDAS \\
\hline UniRef90－L8GC39 &  \\
\hline UniRef90－K6YT63 & YAKARQDDGS \\
\hline UniRef90－E4RQL0 & YAENPLVPLEKTVFNMNCDGAGYNDVSRIT \\
\hline UniRef90－Q7QDI5 & F \(\mathrm{T}^{\text {T Q HPWA ADVRAFLNLESSG SGGKEVLFQAGPHHPW }}\) \\
\hline UniRef90－A0， & FMTTNRWR DS \(\|\) GAFINVEASGT GGPDLVCQSGPSSWP \\
\hline UniRef90－F9YY & YAEESKKRNENHIFALESDAGGFAPRG FAFSGEA \\
\hline UniRef90＿F9XJF6 & FVEEYLPWL NASAATYINFDSATIGPIVPAFAGTPELLHQU \\
\hline I2ETA6 & \\
\hline 退90－4UWB4 & \\
\hline UniRet90＿WOV460 & KQFAA ESDMGAGRPFG \\
\hline UniRef90＿UP1000472 & FAHFPTVAREQMVANVNLDMPALLY \\
\hline UniRef90－UP100038109F8 & YASKPLYPLLATYVGVMDALDPHGPARNFTVSGSA \\
\hline UniRef90－UPI0003B50E52 & YAELAKAAKEVHIAAMESDGGGFTPRGFG \\
\hline UniRef90－UPI00037F93A5 & KTLANपNMD\LNAYSPTED \\
\hline UniRef90－A2V759 & 俍 \\
\hline & \\
\hline UniRef90－UPI0001983C1A & \\
\hline 17 & FISSHRWAKEVRAFLNLESAG SGGKEMLFQSGPKNPW \\
\hline & YWDASNANNEYHLAALESDSGGFTPRG FSAQAEDAV \\
\hline UniRef90 K41FW3 & LAEKMKAQDVVPYVVFNIEMLGQMKDKEYRAYVTGYKTSN \\
\hline UniRef90－W5XAJ4 & NHPPFELSRHVAMNLECGKA \\
\hline Unirefo－KPIO 036596 FA & YVAKYLADWRKRGYDRFAGYFNFDNGTGRTRGTYAQENHA \\
\hline  &  \\
\hline UniRef90－B4LLU4 & YASLHTEEERTRCVVGAVQLDMGGGLGSTGTVVCQSGPGEANW \\
\hline UniRef90－UPI0004420459 & SVRAFINLEAAGV GGKELVFQTGPENPW \\
\hline UniR & KTVAVFNLDSTNIMGRTSDYTIV GKGKSQ \\
\hline UniRef90－A7RIR1 & \\
\hline UniRet90－10JPH4 & YATLSEDEVHRTV \\
\hline  &  \\
\hline UniRef90－UPIOOO472BDEB & LVSALQQSGEHTSLAVNLDMIGRPGLPYATYGEGSRY \\
\hline  & HPLIPLEQSVYCFNSDNASYNDTTKATIVGLER \\
\hline UniRet90－W9S126 & NLVNLGSKAVAYLNVDCAVQ GPGF \\
\hline UniRet90－Q66KH1 & KMEATSHPLQGDDLFILLDLIGTANPVFPKYFQDTALWFN \\
\hline A0L197 &  \\
\hline & ADLAKAVAYLNVDCAVQGVG FFAGSTPQLDKL \\
\hline 003 & \\
\hline & YGEQLEEEADRURFYFNYDMUGS PKPKYWVQASKPADRV \\
\hline UniR & KWAP NCKAVVNLEGAG SGGREAL \\
\hline UniRef90＿D4Z336 & VFPLGQTVGGVNMDALSMAGLAKNVVVI GKGKSQ \\
\hline G8M269 & REYPY DDIKIVL NDGKGCSYSL \\
\hline UniRet90 M2SBW0 & YAANP \\
\hline UniRet90 K9EZF7 & GCQTYPPGLEQQDLPSTGDFIGVAGDTDHPELLATFAT \\
\hline UniRef90 W8F7G5 & PTVPK \\
\hline UniRef90－UP1000 & N P D Q \\
\hline UniRef90＿UP10002B44BD0 & 俋 RAFINLEAGV GGKELVFQTGPENPW \\
\hline  & \\
\hline & FITQHRWA ANCKALLNMDSCGA GGREMLFQGGPDHPW \\
\hline UniRet90－C5XJ81 &  \\
\hline UniRef90 E2ALP2 & Y QNH \\
\hline UniRef90 R6BEG4 & Y A AHKDE \\
\hline & K MVS \\
\hline UniRef90－UPIO003B7362A & YAANPLVPLASTVAVINLDPHVQLPRTRSLELIGGGRTTL \\
\hline UniRef90 Q121Y4 & QLKMPEMQ｜ELAL N \\
\hline UniRef90－D5G5R8 & YVEDNIDDL RLHGMAYI \\
\hline UniRef90－UP10004734B8E & YVDGSHDEKDRIVGMFNLDMVGSRDAGD LVLLTA \\
\hline UniRef90－UP10002C31C42 & FITQHPWRKTIRLADDLEAM \\
\hline & WVEENREM \\
\hline UniRef90－UPI0002DA64D8 & Y TK \({ }^{\text {ch }}\) \\
\hline UniRef90－N8Y7D0 & YAEHLEQQLKA KAYUNVDMVGTKDPE\LIAGMSEQDYKP \\
\hline ef90 Q232E1 & YANDHKDEMDNHIVAFESDLGS SGTPVAWGFSGGQN \\
\hline UniRet90－T11R32 & \\
\hline iiRef90－402235 & HANE TFESIETDGGVTQPYGILGV \\
\hline UniRef90 N1UTE8 & \\
\hline & FAKHPTVPISSUVADVNLDMPILSYAFEDMTVVFGADRST \\
\hline UniRef90 UP10003B4C575 & DVLLI GKGQGT \\
\hline UniRef90－K7LI61 & 䢒 \\
\hline UniRef90－A8NYE0 & YARELRAQNASTVMMIQADMTAYRAAQEPLQLGLPEGTPE \\
\hline Ref90 & \\
\hline 99DL9 & \\
\hline & \\
\hline UniRef90－A0KYA6 &  \\
\hline Ref90＿O64800 & NVEASGT GGIDLVCQSGPGSWP \\
\hline Ref90＿UPIO00288477E & \\
\hline
\end{tabular}

UniRef90_D9QFC2 UniRef90-A1ZIC1 UniRef90-W1S718 UniRef90_UPI0004020BB3 UniRef90_D1CGE8 UniRef90-JOS145 UniRef90_UPIOO04792992 UniRef90-14W287 UniRef90-D3PWF0 UniRef90-A8H008 UniRef90-A0A059FAU9 UniRef90 K2IZH0 UniRef90-G2LEQ2 UniRef90_L8GC39 UniRef90-K6YT63 UniRef90-E4RQL0 UniRef90_Q7QDI5 UniRef90_A0A059D928 UniRef90_F9YVP3 UniRef90-F9XJF6 UniRef90-12ETA6 UniRef90_U4UWB4
UniRef90_W0V460 UniRef90_UPI000472C4F5 UniRef90_UPI00038109F8 UniRef90_J2K4P7 UniRef90_UPIO003B50E52 UniRef90_UPI00037F93A5 UniRef90-A2V759 UniRef90-V5IGY7 UniRef90_UPI0001983C1A UniRef90-Q17191 UniRef90_UPIO00475CB1E UniRef90_K4IFW3 UniRef90-W5XAJ4 UniRef90-K1PZU6 UniRef90_UPIO0036596FA UniRef90_B4LLU4
UniRef90 G9YVR4 UniRef90_UPI0004420459 UniRef90-A3QD29 UniRef90-A7RIR1
UniRef90-I0.JPH4 UniRef90-E2SEH7 UniRef90_ATS6G6 UniRef90_UPIO00472BDEB UniRef90_L8JTA1 UniRef90-W9S126 UniRef90_Q66KH1 UniRef90-A0L197
UniRef90-K4A6F3 UniRef90_UPIO003657644 UniRef90-F9FKT9 UniRef90_B4J730 UniRef90_D4Z336 UniRef90-G8M269
UniRef90-M2SBW0 UniRef90-M2SBW0
UniRef90-W1RRA9 UniRef90-K9EZF7 UniRef90-W8F7G5 UniRef90-UPI000362FD5B UniRef90_UPI0002B44BD0 UniRef90_H5XVL3 UniRef90-B3MCB7 UniRef90-C5XJ81 UniRef90-E2ALP2 UniRef90_R6BEG4 UniRef90_UPIO00476AC19 UniRef90-G1NFN4 UniRef90_UPIO003B7362A
UniRef90 Q12IY4 UniRef90_Q12IY4
UniRef90-D5G5R8 UniRef90_UP10004734B8E UniRef90_UPIO002C31C42 UniRef90_Q7Y228 UniRef90_UPIO002DA64D8 UniRef90_N8Y7D0
UniRef90-Q232E1 UniRef90-T1IR32 UniRef90-F4Q2Z5
UniRef90-N1UTE8 UniRef90_UPI00026Cc96C UniRef90-UPI0003B4C575 UniRef90_Q290E2 UniRef90-K7LI61 UniRef90-A8NYE0 UniRef90-V6SVI8 UniRef90-A0A059DLI9 UniRef90_A7ISW2 UniRef90-AOKYA6 UniRef90_O64804 UniRef90_O64804
 LVQEVKTSMKQVANADNAPPQMDGDTFSDHASYWNEGYPA GPVVAQAVKPMGVTLDPMPQETIFVRSDHYMFVKQGVPA LVRHFAAAKPKFSNSLMYSDYKMLPNDTDLTVFREEGK VNDRVWAAARDAGHGDVFVEERGAS VLDDHLPLLRRGDPV \(M A Q K I N E T G K N T D G F L P K E A E Y Q L F Y R S D N Y S F F Q A G K P C\)
\(L L K V F Q R V S K Q F P P L V A V P D P T P D V L R S D H A P F W Y Q G D P A\) \(L L K V F Q R V S K Q F P P L V A V P D P T P D V L R S D H A P F W Y Q G D P A\)
\(A R G A D E Q V A R V L A P G V A Y D A R P G G G G S D L S Q M H G K G M A A\) AGATFKQYFD SKGUATRS DD ASGRSSDHASFARYGDPA

 GTRSLYDNWRAQDQKASEVRFGKLGSGSDYAPFLQLGA G GASVVEKVNMPDGRQVREVWEDPLGATSDFMPFQEVGMAS VKEEFQKATKAFGLTADPAPEQNLFDRSDNVSGAAKGUPA
 KVKSWGKLFEPYY 1 HLLEKKGYPGTDINPL KNDRTL A I ETMKKVQWPRTSGTMYEQPQVLGAGSDYIAFVQNGFPT \(S E E \square I N M T L E A N K E G P N F K L D Y G W Y F R S D H L P Y A R L G D P A\)
\(L L K Y Y N G V P H P Y G Q V A G E E L F Q S G F L P S G T D F R T F R D F G K\)
 LGPVTEEALATVGLTLDPMPEEGDFTRSDHYRFVQQGVPS \(L L D E L T D T A K Q W V Y S G D P K P E A G H F F R S D H F S F A K R G V P A\)
\(S A A A V Q E L V T C T Q L Y S T L Q T A D D P A E D T D Y M P F E A K G\)
\(V\) \(V V R K V Q Q W\) QPLFTPYGSGDDKPGHGGTDDGPLKGQA\(K A\)
\(L E D I L E E E A R S Q N R R I V P E P E K G S F Y R S D H F E F A K K G V P A\) \(V\) TDLGAAASSRLSGVLPYGQEGR SDBHSFHALGUPA LVRYVEGAVRPFASIIAEEVFQSGLIPSDTDFRDFRDFGG LI EVAKKVQDPDSESMTVVINRLSGVDSDFAPLLQAGVPS LI EMYAKAIKPYAQAAAEEVFQSGVIDSDTDFRVFRDVGR

 \(A R T \ M Q K V L E P L Q K V Q S Q P L\) L VVPIFKAWLEPFHDLGAEIVTTRNTGSTDHVSFDRVGLPG LVKYYKRFVKPFATTMAEEGFQSGTIPSSDTDFRQFNLYGN
LVQYI SAAKHPFGSIVA LETYLVEAAQQRTAVSETRPESGGFFRSDHFSFAKYGVPA
 PAVRDSLAAAAVAAGVPHTVCGDNRSDHWSFERGGLEA


 FPQFMLNANNRLCDKLSHPKPVGWDRASDHYPFHKAKIPW

 LDQYYKKAMKPKATSAGEEDFQAGFYPSDFEQFTTYGNDP V VKEFAKAAYP IAFSSS DKAADDAFGLNDFDGFKEDNKQG LEDRMATVAATQGRTVTPEPQNGLFYRADHFSFAKRGVPV ENKLATSKAVTLDVPI GVLPFMPDLEFRSDHAPFWLKGI GAA LARPVAEAARNLTVEEDPEPDQNRFIRSDQYSFVAQGIPA MGKLMQKRLQSYSIHPDPYPEQNLFYRSDNATLARLGVPA LVQYVVAAKHPFASVVAQEDFQSGIIPADTDFRIYRDFGN




UniRef90_D9QFC2 UniRef90-A1ZIC1 UniRef90-W1S718 UniRef90_UPI0004020BB3 UniRef90-D1CGE8 UniRef90-JOS145 UniRef90_UPIOO04792992 UniRef90_I4W287 UniRef90-D3PWF0 UniRef90-A8H008 UniRef90-A0A059FAU9 UniRef90_K2IZH0 UniRef90-G2LEQ2 UniRef90-L8GC39 UniRef90_K6YT63 UniRef90-E4RQL0 UniRef90_Q7QDI5 UniRef90_A0A059D928 UniRef90_F9YVP3 UniRef90-F9XJF6 UniRef90-12ETA6 UniRef90-U4UWB4
UniRef90_W0V460 UniRef90_UPI000472C4F5 UniRef90_UPI00038109F8
UniRef90_J2K4P7
UniRef90_UPIO003B50E52
UniRef90_UPI00037F93A5
UniRef90-A2V759
UniRef90-V5IGY7
UniRef90_UPI0001983C1A
UniRef90-Q17191
UniRef90_UPIO00475CB1E
UniRef90-K4IFW3
UniRef90-W5XAJ4
UniRef90-K1PZU6
UniRef90_UPI00036596FA
UniRef90 B4LLU4
UniRef9_G9YVR4
UniRef90_UPIO004420459
UniRef90_A3QD29
UniRef90-A7RIR1
UniRef90-I0.JPH4
UniRef90-10JPH4
UniRef90-A7S6G6
UniRef90_UPIO00472BDEB
UniRef90 L8JTA1
UniRef90-W9S126
UniRef90_Q66KH1
UniRef90_K4A6F3
UniRef90-UPIOOO3657644
UniRef90-F9FKT9
UniRef90-B4J730
UniRef90_D4Z336
UniRef90-G8M269
UniRef90 M2SBW0
UniRef90-W1RRA9
UniRef90-K9EZF7
UniRef90-W8F7G5
UniRef90_UPI000362FD5B
UniRef90_UPIO002B44BD0
UniRef90-H5XVL3
UniRef90-B3MCB7
UniRef90-C5XJ81
UniRef90-E2ALP2
UniRef90_R6BEG4
UniRef90_UPIO00476AC19
UniRef90_G1NFN4
UniRef90_UPIO003B7362A
UniRef90-Q12IY4
UniRef90_UPI0004734B8E
UniRef90_UPIO002C31C42
UniRef90-Q7Y228
UniRef90_UPIO002DA64D8
UniRef90_N8Y7D0
UniRef90-Q232E1
UniRef90-T1IR32
UniRef90-F4Q2Z5
UniRef90-N1UTE8
UniRef90_UPI00026CC96C
UniRef90_UPI0003B4C575
UniRef90-Q290E2
UniRef90-K7LI61
UniRef90 A8NYF0
UniRef90-V6SVI8
UniRef90_V6SVI8
UniRef90_A0A059DLI9
UniRef90-A7ISW2
UniRef90-A0KYA6
UniRef90_O64804
UniRef90_UPI000288477E

HT \(\square\) S GWAT \({ }^{250} \square\) PTYHTPEDT \({ }^{260}\) ANTNFDF \({ }^{270}\) MTAA \(\square\) QSLL \(\frac{280}{V}\)



 SGUSSGSD
 YYGVVEDHSD \(\quad\) YHKQTDTPDK VS LRQDGTYYFDYHHTPDDTLNKUKPDEDAQNVAAWVAM I ACLDMASTGSYGVYHSTYDSFRWMDPTFSRHAAMARGWA


 LAGLTPDSQRYFDHHHCQTDVFEAVNKRELEEGAAATMASM







 LLGFKPDSQRYFDFHHTANDVFENVNKRELELGAASUTSLC

 LPGLDMAQC \(\square N G F I\) YHTKYDVIDDI PLAS LDQNTGDNVLSL
VLLMQ


 GSLKNEN EKYFDF KYS DGDTMTVQDPDEMDLCADVA
 VDMYYGAD F FPTYHTAFDSYDWMDPSFKRHVAVAGVWG

 HT C CTFDFTNYEYYHH VNDEFEELEVEFVKLVDDLKPG

 LNFDMGFNKGDYAYHSKKDTDTNDDERVDQHHGTNAVSLC LLMMGIAGAYTGNCYHQACDAVGEPEWDLEGAAQDVDLML \(V M V S D T A N F R\) NPNYHQASDTVDT DDDMFLEQTA

 \(V P G L D M A G V Y N G F V Y H T E F D R Y T V V S R D S D Q H T G D N L L A L\)
 GNFCRF GRNGGAMDHCRHDVIDVGLDYNFGKTAAFVQ AKWGGTAGQAYDSCYHKACDSY LHLIDPSPFPE VWHTMEDTEENLDQTT \(\square E N \square S K \square L Q\)



 YFFFSKD H PEYHTPKDKPETIN
LILFHGDVLEFAPCYHT \(\square C D R V D T V D P K S M Q L A A E A L V H L\)
 GSLL TNMTQYFWYHHSEGDGVDKLDGTVVRMDKCVATALA GGLVTGAGEAYDPCYHTACDDLSNIDDDEKGLGEMADAI

 LLIMGDAGGY DANRYHNQNDA WD PD WDLRGAAQDVELF L L HLDPSPFPR VWHTMEDNEENDDPTIDNDSKDLQVFV VAGGGSEPTMKGCYHNVCDEY HEDWDLSGADQDLEVYY


UniRef90 D9QFC2
UniRef90-A1ZIC1
UniRef90-W1S718
UniRef90-UPI0004020BB3
UniRef90 D1CGE8
UniRef90-JoS145
UniRef90_UPIOO04792992
UniRef90-14W287
UniRef90-D3PWFO
UniRef90_A8H008
UniRef90-A0A059FAU9
UniRef90 K21ZHO
UniRef90-G2LEQ2
UniRef90-L8GC39
UniRef90_K6YT63
UniRef90-E4RQLO
UniRef90-Q7QDI5
UniRef90-A0A059D928
UniRef90 F9YVP3
UniRef90-F9XJF6
UniRef90
UniRef90- U4UWB4
UniRef90-W0V460
UniRef90_UPIo00472C4F5
UniRef90-UPIo0038109F8
UniRef90 J2K4P7
UniRef90-UPIOOO3B50E52
UniRef90-UPIO0037F93A5
UniRef90-A2V759
UniRef90 V5IGY7
UniRef90_UPIO001983C1A
UniRef90-Q17191
UniRef90 UPI000475CB1E
UniRef90-K41FW3
UniRef90-W5XAJ4
UniRef90_K1PZU6
UniRef90_UPI00036596FA
UniRef90-B4LLU4
UniRef90-G9YVR4
UniRef90-UPI0004420459
UniRef90-A3QD29
UniRef90-A7RIR1
UniRef90-E2SEH7
UniRef90-A7S6G6
UniRef90-UPIO00472BDEB
UniRef90 L8JTA1
UniRef90-W9S126
UniRef90-Q66KH1
UniRef90-A0L197
UniRef90 K4A6F3
UniRef90-UPIOOO3657644
UniRef90-F9FKT9
UniRef90 B4J730
UniRef90-D4Z336
UniRef90-G8M269
UniRef90-M2SBW0
UniRef90 W1RRA9
UniRef90-K9EZF7
UniRef90-W8F7G5
UniRef90-UPIO00362FD5B
UniRef90 UPI0002B44BDO
UniRef90-H5XVL3
UniRef90-B3МСВ
UniRef90 C5XJ8
UniRef90-E2ALP2
UniRef90-R6BEG4
UniRet90_UPIo00476AC19
UniRef90 G1NFN4
UniRef90_UPI0003B7362A
UniRef90-Q12IY4
UniRef90_D5G5R8
UniRef90-UPIO004734B8E
UniRef90-UPIO002C31C42
UniRef90_Q7Y228
UniRef90 UPI0002DA64D8
UniRef90-N8Y7DO
UniRefo- Q 232 E 1
UniRef90-T11R32
UniRef90-F4Q2Z5
UniRef90-N1UTE8
UniRef90-UPI00026CC96C
UniRef90 UPI0003B4C575
UniRef90-Q290E2
UniRef90-K7LI61
UniRef90_A8NYE0
UniRef90-V6SVI8
UniRef90-A0A059DLI9
UniRef90-A7ISW2
UniRef90 AоKYA6
UniRef90_O64804
UniRef90_UPIOOO288477E

EPLLSELA
R R \(\square\) TRAMA
\(\square T\)
PAVTK TAVSP
NVVAELLNS
AFSYMAAQADG
A \(\square_{\text {A }}\)
A \(Y \mathrm{~L} \backslash \mathrm{~A}\)
LLAFRDAESP
\(\vee \vee \mathrm{LMRLSG}\)
VFAFIAAEWPG
TYAARLAN
VKA
\(4 Y\) LID
RTGWKVANAP
SMAWYLAN
LITNAVANA
KLGSDLANS
GA!QHFAVAT
TYL!
RVGLRVAN
SAVYQAA
LL
La Lا पA
\(\square \mathrm{Y} \square \mathrm{D}\)
SMLTSLA
A YTVV
SFAWHAAN VRGLSNAT

YYAQRLGN
SVVKEIANSP
A AVYYi A
DMAQWLAS
AFTV
LSCRNTANADA
\(-\operatorname{LLALHLA}\)
LLALRLA
QFALDANS
QFALSL
VRGLSNAT
Y Y DVALAVAT
TMGADAGS
HGRDLATST
LIGYLVA

V
MMALRLAN
SFVL
EFADHMVNA
VF VLE
VLIE Li
afldrvaas
LVALRLA

GAMLHFARAS
DMTEDLANSTA
LEYLㄴNㄴ
QVTRTLGNS
LKA
SFLVNAANA

UniRef90 B4LLU6 UniRef90-M2T6P2 UniRef90-UPI0003822E11 UniRef90_UPI00026CA20B UniRef90 U2ZDA3 UniRef90-F7CS01 UniRef90-KOD010 UniRef90 UPI00047A9139 UniRef90-UPI0002BC164C UniRef90-F7IR06
UniRef90-R5ANJ3
UniRef90 G2IE58 UniRef90_UPI00029D9ECC UniRef90-UPI0003692052 UniRef90-UPI00037079E8
UniRef90- Q0AQU9
UniRef90-E8V2J5
UniRef90-UPI00046F686E UniRef90 E9FSS6 UniRef90-W7Q0W0 UniRef90-UPI000416EF15 UniRef90 V4PPT1
UniRef90-UPI00047DB9C7 UniRef90_UPI0003B6ACAF UniRef90-UPI0002C2E771 UniRef90 V4ANF3 UniRef90- U9VU68 UniRef90_UPIO003B2FB2E UniRef90 UPI0004668866 UniRef90-UPI000392F784 UniRef90-UPI000426214D UniRef90-UPI000365C83E UniRef90 B4LLV0 UniRef90 A3XH86
UniRef90_UPI000476AD8D UniRef90 E8X1M0 UniRef90 UPIO00328CD14 UniRef90-UPI0003616F8A UniRef90-W5F7U7 UniRef90 \({ }^{-}\)U1WKG2
UniRef90-UPIO00477E50C
UniRef90_U2YKE4
UniRef90-A6EB71
UniRef90 B9IIF5
UniRef90_Q04609-8
UniRef90_U5Q7Q7
UniRef90 B3S2G0
UniRef90 UPI00020ADEEA
UniRef90_UPI0003B3C063
UniRef90 J2J326
UniRef90 S3DD63
UniRef90-Q290E4
UniRef90_UPI000175847F
UniRef90_GOPK20
UniRef90 Q0AST5
UniRef90-E4TRR5
UniRef90_UPI000252BF42 UniRef90 J9NAR6
UniRef90-G1KQD5
UniRef90-E3PVJ5
UniRef90 H0WMN7
UniRef90 UPI0003057693
UniRef90-B2W7C8
UniRef90-UPI0004761B23 UniRef90 UPI0003D082E3 UniRef90-L7U6X3
UniRef90_V4PDU5
UniRef90 G9P7L
UniRef90 L8X0L6
UniRef90-F0XT21
UniRef90-UPI0003606EFO
UniRef90_C3Y1R9
UniRef90 \({ }^{-}\)W3XM22
UniRef90-F4FDI6
UniRef90-E8UZ49
UniRef90 UPIO0045430EB
UniRef90-MOY933
UniRef90-M5C587
UniRef90-E1FHZ7
UniRef90 D7AVD1
UniRef90_K9DAS3
UniRef90_UPI00041A2531
UniRef90 Q290E6
UniRef90-W4ZKL5
UniRef90-UPI0003331612 UniRef90-UPI0003F157Ds UniRef90 B0SZD0
UniRef90_UPI00047E5518 UniRef90_K9DHX5
UniRef90 C5GBI8 UniRef90_G7DTX6
UniRef90_A0A031GEH6



VANTSQTNLINDLTTFENFGVKEVGSA QHANPERLEK \(\square V R Y \square S Q\) TEYPRSA

MAAAFDADSAYAAVKAQVDMGPRNPGSA \(1 N G D \| A Y K H L L K F S S \square G N R V F L T Q\) FPPVASSGDPS DPA QP SADUASRLLDKL

PEAEAPLPKTPVDEAEVLLRSMSTENPAPEDWQ PPALDEETQAL RDRLHGHVLQLAGDGERHYWRP

S D F VEERVRVTLDSLVSLGPRVTGSD RVDGEQLRSHLQTLAN ERHTNT

AES LLRNMGGYAPPHSSWK
LPRPDS ITKDEAKYPERF TAERAELNDQRLVALGPRVVGSR KPQQVSDLDTPETEFSTARAFQLLDSIAQ KPHAVGMP

LQKMGGPGPGPE VP QS A QEARVEHAQEWDNFLAS LIKGRKTGTP

A A E H \(\square \mathrm{T} N \mathrm{~L} \mathrm{~A} S \square \mathrm{GDRVAGTE}\)

A Q \(\square D S S F L V D M V T Y L S S L T G R G M G T T\) SEGRARKHLEKLVA GPRLAGTY ARDYLEH \(\downarrow\) TS \(\downarrow\) GPRTTGSP

TTQDEDQQP GQF TGERAENTLLR\SK GGPKVVGSA LP TPLK DADEAKNPDRF IAERAHNVLKKLTKIGPRIAGSA SSSFDEFSEQRARVLLKQLTALGPRPSGSA

NAERL \({ }^{L}\) LRRMGGRPPPDDSWK


PRADRSS \(\square\) T P Q \(\square\) PS \(\square\) P \(\square\) S W \(\square E A L L M A L N G F G T N G T E N R\) AQEFSAARAFTHVRQ VSQATHVAGSP

PDPSAHPELEPMLTMVNSSELRSYVTQLTKYKTRYY LSL

LP P D T E R Q D P S D A \(\square\) P S \(\square\) P S T D A \(\square P\) F LKA DDGHG \(\quad\) S S DEFSADRAYEHVSVVARQRHP AGSA M D Y L E H \(\square\) T A \(\square\) G P R T T G S A
\(\square P R P \square S \square K D E A K Y P D R F \square A E R A E L N \square Q H \square V A L G P R V V G S K\) FPP \(\square\) PSQP \(\quad \square\) GFEDAKDLLCN \(\square T \quad\) GPSAPASW DQFSAGRAMVDVRA \(\square\) GQKPHP \(\square\) GSA QQAQALLTLFSPKLTASMGTQ

■S YKEA TP LLKALNGHGPKASDFD \(P T P N Q A L V S P V T S Q F S E A R A L D V I K Y L S D V G Y R \| V G T K\)

UniRef90 B4LLU6 UniRef90-M2T6P2 UniRef90-UPIOOO3822E11 UniRef90-UPI00026CA20B UniRef90 U2ZDA3 UniRef90-F7CS01 UniRef90-K0D010 UniRef90 UPIO0047A9139 UniRef90 UPI0002BC164O UniRef90-F7IR06 UniRef90_R5ANJ3 UniRef90 G2IE58 UniRef90-UPIO0029D9ECC UniRef90-UPIOOO3692052 UniRef90-UPI00037079E8 UniRef90 Q0AQU9 UniRef90-E8V2J5 UniRef90-UPI00046F686E UniRef90 E9FSS6 UniRef90 W7Qowo UniRef90-UPIO00416EF15 UniRet90_V4PPT1 UniRef90-UPI00047DB9C7 UniRef90-UP10003B6ACAF UniRef90_UPIooo2C2E771 UniRef90 V4ANF3 UniRef90-UgVU68 UniRef90_UP10003B2FB2E UniRef90-UPI0004668866 UniRef90- UPI000392F784 UniRef90-UPIO00426214D UniRef90_UPI000365C83E UniRef90-B4LLV0 UniRef90- A3XH86 UniRef90-UPI000476AD8D UniRef90_E8X1M0 UniRef90 UPIOOO328CD14 UniRef90-UPI0003616F8A UniRef90-W5F7U7 UniRef90 U1WKG2 UniRef90 UPIO00477E50C UniRef90-U2YKE4 UniRef90 A6EB71 UniRef90 B9IIF5 UniRef90-Q04609-8 UniRef90-U5Q7Q7 UniRef90 B3S2G0 UniRef90-UPI00020ADEEA UniRef90_UP10003B3C063 UniRef90_J2J326 UniRef90 S3DD63 UniRef90- Q290E4 UniRef90-UPIOOO175847F UniRef90 GOPK20 UniRef90 Q0AST5 UniRef90-E4TRR5 UniRef90_UPI000252BF42 UniRef90 J9NAR6 UniRef90-G1KQD5 UniRef90-E3PVJ5 UniRef90-HoWMN7 UniRef90 UPI0003057693 UniRef90-B2W7C8 UniRef90_UPIO004761B23 UniRef90-UPIO003D082E3 UniRef90-L7U6X3 UniRef90_V4PDU5 UniRef90_G9P7L1 UniRef90 L8X0L6 UniRef90-F0XT21 UniRef90-UPIO003606EFO UniRef90 C3Y1R9 UniRef90-W3XM22 UniRef90-F4FD16 UniRef90-E8UZ49 UniRef90 UPIO0045430EB UniRef90-MOY933 UniRef90-M5C587 UniRef90-E1FHZ7 UniRef90_D7AVD1 UniRef90-K9DAS3 UniRef90-UPIO0041A2531 UniRef90 Q290E6 UniRef90 \({ }^{-}\)W4ZKL5 UniRef90-UPIOOO3331612 UniRef90-UPI0003F157D9 UniRef90 BoSzDO UniRef90-UPI00047E5518 UniRef90-K9DHX5 UniRef90 C5GBI8 UniRef90-G7DTX6 UniRef90-АОАОЗ1GEH6

ANAEANDRFEFEDDVQQAS \({ }^{60}\) GAYMHWTMVNNMYQGDQNVVVK \({ }^{80}\) LAALMASAKKKGFEAVPLGDTASTKLNNTDRRQMSHNVVG FDA LSAAAKVKGFKAVPGGVTASVSFTNTTKRQASKNV \(\mathrm{T}_{\mathrm{G}}\) AAAQQRDFQPVELDGVTLSVDF RQTVDRTETQNVVA NNEVTRDYDVIG
ALTSAENWTTARYNDLGY TDVTLQPFSYSAGTSNNIIV
 GHTA IVGWLQNELKRRGA DTVVLQRGEDDGVELTNITG SETNSRKYI KNVLKDLGYKVNIDKFDVDGHETEN I EV GPVAPQEWLLGSPYHLGPGPRLRLVVNNHRTSTPGNNIFG DRPSGNVVG DPFNDPNVVG
ATTATHEDSRFEAPNVVA GGLNATYFLGSKFTQRKWSVRLOV RMDKKVACADVA DALHAADYIEHVFQEAGHEPLRHAV PAGNRTFHNVEV T IEGAKSSTNKSHNVIA LITKRMDDNGPVAVEFSFKNRपRKNVKVDNVAA FQSPNVVA ANTKARDVILGVEDVQRNSNNVHQSDNQQTVDGDFAlD ALACTRTYLTQQLQSYGYEPDSQAFGVGDSAGLNGSVV

FNVAG TAWNIVG
 QTVDTMESRNV \({ }^{\text {G }}\) G ENEMGSQVITSTMQKDEMDVQVASGSY■HWSAVNMYFVVK AHQEVQDFIVAKDEDYGLEIELQSYKAGWGALSRAENIITT LDTEFAAAGKHGFKAREMPVKLDATAKSAVRNEQSANVIAG NWK GSLNVSYN \(\square\) GPGFAGNFSKHRVKMHIHTNTRIYNVI G EMKKVHA WLEQRFTADGLKTLPDTDSYRQEFSFEVKNYIGG
 \begin{tabular}{lll|l}
\hline MK GRNVI & A \\
Y TSRNVI & \\
\hline
\end{tabular} NNNVEKMPLFNVAG YQGEKKVVTI HNVFA GSLLAGTMDARQFQNLIDNFSTQKVKMHIGSTTRRYVIG NNEVVANYIMNELKMI QMSAKPHFTQSFVKDYANGTNGVG ENEITVHYLLEQIKLI EVQLLHKDSVGVQRPTGDNITNVVA AELLSESLKNNPT LKKFYFKQSCCETVVKKTDQNVVAB A NEQVAQFLLSETT DIIDGARTDLYWSMVNVYQSVQNVVV
 NEKAFGMUQDRIEKVASVEEDSFTLCYH KTMDSRNVVGG QSENT 1 LYYKDK \(\square\) ENRAK \(\square\) ST \(\square\) NEAK

F LS GFQSSNVI G
R NVI A
HNVIG GNDSVSYNDGPGFKGSASKSKVKMHDHSDKEVRRDYNVIG GEYDAKDYI EDVFMDLGYDTKLQSFEDKPYDTVTSYNVIAA WQGH LLPDTPYHLGPGPSLQLRVNNYRASTP DSNIFG T GWVGADPGVNYFTGEGSGSTIVSARNDMNDQDQPGYNTAVA ANDTVREYLVTTLRGLGLDPQIQDTVGVSRSDDRVRNVVAG HNIN KDTRI YNVIG HYS IV S QNVIA AS WLGKAQTQCVNEYRKSWNVIA YSAQAYTTTP \(\square W D V V G\)

QRDGNNKQTRVQVNNKQS TK Q TKNVIA KDMGGQDWKGAEYWTGPSKAKVSLVNQGEYRISPIYNVIG ANDEVRAHLEARLRALGLTPEVQDTVAEEATLARVRNVVA

\[
\text { AEM } \square \text { GRMFQNGER VVIRMH } \square \text { KSHSEDRTTSRNL!F }
\] VS NETSYSVLA FKP \(\square P \square K A T M S A D Y A D K S E \| I T S H N V A G\) GSELKVRVMVDQPVDFIRANNVVG ENEMGAQK \(\square\) RSGLGSAND IVVDVQVASGSYVHWTMN IVVK QGALGCDYLGPGFQPDGNFQTDSQVQVTRNEERFTYNTI G \(H N T N K \square T R D Y N V I G\)
 QLSNPTFWLLPEALPSKAKRVNYRLTSDLLTDYQSQNVIG



UniRef90 B4LLU6

\section*{UniRef90-M2T6P2} UniRef90_UPIO003822E11 UniRef90-UPIO0026CA20B UniRef90 U2ZZDA3 UniRef90-F7CSO1
UniRef90-KODOIO UniRef90-KODOIO UniRef90-UPI00047A9139 UniRef90-UPIO002BC164C UniRef90-F7IR06 UniRef90-R5ANJ3 UniRef90 G21E58 UniRef90-UPIO0029D9ECC UniRef90-UPIOOOO3692052 UniRef90_UPIOOO37079E8 UniRef90_Q0AQU9
UniRef90-E8V2J5
UniRef90_UPIO0046F686E UniRef90-E9FSS6 UniRef90-W7Qowo UniRef90-UPIO00416EF15 UniRef90 V4PPT1 UniRef90-UP100047DB9C7 UniRef90-UP10003B6ACAF UniRef90-UPIO002C2E771 UniRef90-V4ANF3 UniRef90-U9VU68 UniRef90-UP10003B2FB2E UniRef90_UPIO004668866 UniRef90-UPIO00392F784 UniRef90-UPIO00426214D
UniRef90- UPIOOO365C83E UniRef90-UPIOOO3
UniRef90_B4LLVO
UniRef90-A3XH86
UniRef90-UP1000476AD8D UniRef90-E8×1M0 UniRef90_UPIO00328CD14 UniRef90 UP10003616F8A UniRef90-W5F7U7 UniRef90-U1WKG2 UniRef9O-UPIOO00477E50C UniReffo-U2YKE4 UniRef90-A6EB71
UniRef90-B9IIF5
UniRef90-U5Q7Q7
UniRef90-B3S2G0 UniRef90-UP100020ADEEA UniRef90-UP10003B3C063 UniRef90-J2J326 UniRet90_S3DD63 UniRef90-Q290E4 UniRef90-UPIo00175847F UniRef90-GOPK20 UniRef90-QOAST5 UniRef90-E4TRR5 UniRef90_UPIo00252BF42 UniRef90_J9NAR6 UniRef90-G1KQD5 UniRef90-E3PVJ5 UniRef90-HOWMN7 UniRef90-UPIO003057693 UniRef90-B2W7C8 UniRef90 UPIOOO47611823
UniRef90-UPIO003D082E3
UniRef90-L7U6X3
UniRef90_V4PDU5
UniRef90_G9P7L1
UniRef90_L8X0L6
UniRef90-FOXT21
UniRef90-UPIOOO3606EFO
UniRef90-C3Y1R9
UniRef90-W3XM22
UniRef90-F4FD16
UniRef90-E8UZ49
UniRef90-UPIO0045430EB
UniRef90_MOY933
UniRef90 M5C587
\begin{tabular}{l} 
UniRef90-M5C587 \\
UniRet90 E1FHZ \\
\hline
\end{tabular}
UniRef90-D7AVD1
UniRef90-K9DAS3
UniRef90-UPIOO041A2531
UniRef90_Q290 6
UniRef90-W4ZKL5
UniRef90-UPIOOOO331612
UniRef90_UPIooo3F157D9
UniRef90 BoSzDo
UniRef90-UPIOOO47E5518
UniRef90-K9DHX5
UniRef90-C5GBI8
UniRef90-G7DTX6
UniRef90_A0A031GEH6
 VLPGTQRPEEYVLYSAHWDHVGKADETGDDTCNGALDNAS
 VVPGTDPKDEVVLYSAHWDHMGKQGTEGDT: FNGAALDNAS RVDGAARPDETIIYGAHWDAFGTPDADGDDIVNGAlVDNAT TI RGAVEPDRYIILGGHRDSWVFG G GDDPTGA TLEGTDKPEEWVMLGAHWDHLGVEKNGQTTGYNGAVDNAS DYGPQDGPL II GAHYDSATSDENDQLIYTPGADDNAS ETGGSKYPLQVVLVGGHMDATSDENDQLIMTPGADDNAS SFNPSAKT RVLLAAHYDTRPWADEDPDKPLPGANDGAS NKKGMDSS KVIILGAHYDGRDEGNAFDD
C EGRSEPDHYVVIGAQRDAWGPG AAKSAV
EIVGSEKPDEILLIGGHDD
TIPGTEKPDEYIILSAHYD SWDLGGGAVDDGA MI RGSDPADEVVVLSAHDDHTGSATDESDEVCNGAVDNAS LLEGSDRKDEYVVLSAHLDHLGVGRVDGDSUYNGAMDNAA TLYGREEPDRYVLVGNHMDSWTLGGПDPASGTSVLADMAR
 YLPGSDPSAGVILVTAHLDHLGV QADGTDMHGANDDAS EIPGRDLPNEVVIVAGHLD SWHPATGAQDNGT VLPGANKPDQAVMYTAHYDHDGFVPGKGDNDYNGAADNAT VIEGEEEPDRFVILGNHRDAWTFG GYDVHASPGAVDPNS RPGMQTPEQKILVGAHYDSVAG RPGMOKPEEKVVFGGHYDHKPDKPGVTDSDANGADDDAS VVPGTDPKAEVVVYGAHWDHVGKGDAHGDDTYNGAVDNAS MLPGTERPEEYVLYTAHWDHAPTEDFYQDEIFNGAVDNAT ISPKGSNSSTYLLVNSHFDTVP RIPGTGE GQTLLVMSHYDSAP HSASKGASDAGS KiPGSKRPRESVMFGAHWDAYGPADASGATLRPGANDDAL
\(\qquad\) YLKGAVEDNDKYIMLGGAHYDHVGFGGDDPDDTFNGADDDAS VIKGHEEPDRYVILGNHRDAW KKDGSKFPNEKIVLGGHLD VLPGVSRPNEYVLYTAHWDHRGPADATGDDUCNGAIDDNAT VIRGSEEPDRYVI GGNHRDAW TYGAVDPNS TVRGAVEPDRYVKVGGHRDSWVFGGIDP RISPSHSKDNALLVNCHFDTVVDSPGASDD KLEPRDGAQHAVLANCHFDSVAN


 KVGTTRPDEYVLYTAHWDHDGDRDVPEDGQYNGAVDNAT
KVKK RSDSVIMFSAHYDHLGMQMNAVRGANDNAS
 VLRGADEPDRYVILGGHRDSWVFGGDDP V CIEGTSEPDHYVVIGAQRDAWGPG VI NGSGKADEVVVMVGAHMDAWIVGG VINGTNE DEVVIVGNHRDAWIVGG VIPGQDSTGRVFLVAHYDSV QTGPGANDDGA T RGSTEPDRYVI GGHRDSWVFGGDDPTTGT VI PGRLASEEVVITAHLDHYKPG ADDNAS EITGAKRPQEIITIGGHLD ETRQGDPDNVIMLGAHLDSV RIEAKDPNAPIIILGAHLDST S VINGSALPNEVVVVGNHRDAWIDGG TGSGDPENTVIVGAHLDGVLEGAGDSDNGTGSAGDPAS STPGAVEPDRYVVVGNHRDAWTYGGVEPSTGT TIPGR AQEDVILGNHHDSWCCG RLAGTDAPTGTVFLVAHYDAVQTGPGGNDNAAGVAADNGV
 VIQGKEEPDRYVIIGNHRDAWTFG
\(A V D P N S\)
\(G D D D G S\)
Q TTGQERPSEVVLLSAHLDSWDVGQGAGDDGGGCAVVWNA ETPGGRRDNVVVVGGHLDSVMGDGAKGEDGPGDNDNGS TFKGSKYPDEWI I LGAHFDAWSFGATDPNSGTAMLLTLA VSPKGTNSTTYLLVNSHYDSVPGGPGAGDDG VRGSEPRY
IIRGSVEPDRYVAGNHRDAWVYG
T RGSVEPDRYVI LGGHRDAWVFGGTDP
TLPGTDPQAPAVLVMSHYDTVHNSPGAADDSAGVAATS YVPGTSNPTQYLVLTAHYDHLGGYGTAADTYFPGANDNAS IVPGTDPKDEVVIYTAHWDHMGKQGTQGDTDFNGAVDNAS VIKGTVRPEVVIGGNHRDAWVAGGAGDPNSGSAALDNES


\section*{UniRef90_B4LLU6}

\section*{UniRef90_M2T6P2} UniRef90_UPI0003822E11 UniRef90_UPI00026CA20B UniRef90_U2ZDA3 UniRef90_F7CS01
UniRef90 K0D010 UniRef90-K0DOIO UniRef90_UPI00047A9139 UniRef90_UPI0002BC164C UniRef90_F7IR06
UniRef90_R5ANJ3
UniRef90-G2IE58
UniRef90_UPI00029D9ECC UniRef90_UPI0003692052 UniRef90_UPI00037079E8 UniRef90_Q0AQU9
UniRef90_E8V2J5
UniRef90_UPIO0046F686E
UniRef90_E9FSS6 UniRef90_W7Q0W0
UniRef90_UPI000416EF15 UniRef90_V4PPT1 UniRef90_UPI00047DB9C7 UniRef90_UPI0003B6ACAF
UniRef90_UPI0002C2E771 UniRef90_-UPI0002C
UniRef90_V4ANF3

\section*{UniRef90_U9VU68} UniRef90_UPI0003B2FB2E UniRef90_UPI0004668866 UniRef90_-UPI000392F784 UniRef90_UPI000426214D
UniRef90_UPI000365C83E UniRef90_UPI0003
UniRef90_B4LLV0 UniRef90_A3XH86
UniRef90_UPI000476AD8D UniRef90_E8X1M0 UniRef90_UPI000328CD14 UniRef90_UPI0003616F8A
UniRef90 W5F7U7 UniRef90-W5F7U7
UniRef90_UPIO00477E50C
UniRef90_U2YKE4
UniRef90_A6EB71
UniRef90_B9IIF5
UniRef90_Q04609-8
UniRef90_U5Q7Q7
UniRef90_B3S2G0
UniRef90_UPIO0020ADEEA
UniRef90_UPI0003B3C063
UniRef90_J2J326
UniRef90_S3DD63
UniRef90_Q290E4
UniRef90 UPI0001
UniRef90_G0PK20
UniRef90_Q0AST5
UniRef90-E4TRR5
UniRef90_UPI000252BF42
UniRef90_J9NAR6
UniRef90_G1KQD5
UniRef90_E3PVJ5
UniRef90_HOWMN7
UniRef90_UPI0003057693
UniRef90-B2W7C8
UniRef90_UPI0004761B23
UniRef90_UPI0003D082E3
UniRef90_L7U6X3
UniRef90_V4PDU5
UniRef90_G9P7L1
UniRef90_L8X0L6
UniRef90_FOXT21
UniRef90_UPI0003606EF0
UniRef90_C3Y1R9
UniRef90-W3XM22
UniRef90-F4FDI6
UniRef90_E8UZ49
UniRef90_UPI00045430EB
UniRef90_M0Y933
UniRef90 M5C587
UniRef90-E1FHZ7
UniRef90_D7AVD1
UniRef90-K9DAS3
UniRef90_UPI00041A2531
UniRef90_Q290E6
UniRef90_W4ZKL5
UniRef90_UPIO003331612
UniRef90_UPI0003F157D9
UniRef90_B0SZD0
UniRef90_UPI00047E5518
UniRef90-K9DHX5
UniRef90_C5GBI8
UniRef90_G7DTX6

130
140
150
160
\(M\) V VT MLEVMRVV IVAK S DEPLAHP\|VFLFNGAEENP|LQASHA GIA GLI ELGRMMAEAGA AERSMVFLAVTGEESGLLGSAY GTA ALLAMAAQEAVRH PAKRSQMFLWVAA EEQGLLGSAA \(G V A G L V A L A B E A N K A \quad G P A R R S L V F L S V T C E E C G L L G S R Y\) \(G L A A L L E L A R L D A E\) GPAPERSVVFMAWAAEEPGLLGAE Y
 \(R\) L L K DV
\(G V A G L L E L A R L L Q Q Q A P\) \(G V F\) GWW L ARLLQQQAPKTGDQLVAYASEEPPFFRSDEMG




 GMVALLME EARAVVSELVVWKPKRTMVVYCAWD GE E E GLLMGS T E

 GTVAVMEVAHA LAAAPQPKRGVLFVAYGSEEGGGGLGSHY \(G V A T V D D V A R A \square K T S G H P P R R T V R F L L V G G E E Q G I L G T S A\) GCGGMLL E M A R A WS T L G G VK P P R S V I F A S V A A E E Q GLL L G S E Y
 A V A TVVL
 GAAVVHEIVRSFGKLKWRPRRTVIFASWDAEEFGLLGSTE GCAALLAMMAQTAVVHTPAKRSQMF LIVVCGEEQGLLGGSRA
GSAALLD I AEAMAAGEH
\(M V A V M M E T L R V L A K S K Y A L K H P V V G V L F N G A E E N P L Q A S H A\)

 GAAVVVEVIVRSFGKLSWKPRRTVLIFASWDAEEFGLLLGSTE G \(V\) V A S L V I A E LLLS Q K E S L P P F H I I I A A WD A E E M G L L G S K H GTAAALL DV A R RMLLQS G WT P R R T I I L C S W W D A E E E F G M M G S T A
 GSFSVI DI A RTYKKLNLSNERTIEFVLFMGEEVGLVGSK H
 GTAALLDDARRYMQKGWNPRRTII LGGWDAEEFGMMCNGW GAAVV HEIVRSFKKE GWRPRRTIL FASWDAE EFGLLLGSTE
 S C S V ML E V L H VLSS S S EALLH HAVI FL FN GAE ENVLQA S H G
 GSAAMNEVVRTLDAS GWKPFRKIVLASWDNE EYGLVGSTE MCVIDMLEVLRVI TKYETPDTYSVVVLLFNGAEENPLVQGSHA





 \(G \boxtimes A V M M E A M R \square L K A V G A K P K R T I R V A L W S G E E Q G L I\) G S Q D
 A V L Q E I A R S S G K L V WK P R R T I I FA S WDA E E F GL L G S T E
 GTAALLEEDATSLVK YEGDVNKVRFAWWGAEEVGLVGSLY GVAVTMSIMRILKTNNYQGTHAIEAHAYA GEEGGLLGSQN GSAVLNEVVRAFGEATWQPLRTVVFASWDGEEYGLLGSTE AEAM A C L M E L M R TVGGKKNWRPRRSI IFA SWD GGE



 LY S L K QLA A K N A A F K


 GTAALMEMSRAMGK LDKWRPRRSIVVFASWAAEEYSLLIGSTE
 LIEARA LKA GPPPARDVI FLFTD GEEPGLLGAE \(G\) VALLL SLA QYYAQN PAPYSVVFGAFGAEEVGLI GSAY

 \(G T A G L L A M A Q E A V K K\)

\section*{UniRef90_B4LLU6 UniRef90_M2T6P2 UniRef90-UPI0003822E11 UniRef90_UPI00026CA20B UniRef90_U2ZDA3 UniRef90_F7CS01
UniRef90-K0D0I0 \\ UniRef90_UPI00047A9139 UniRef90_UPI0002BC164C UniRef90_F7IR06 UniRef90_R5ANJ3 UniRef90_UPI00029D9ECC UniRef90_UPI0003692052 UniRef90_UPI00037079E8 UniRef90_Q0AQU9 UniRef90_E8V2J5 \\ UniRef90_UPI00046F686E \\ UniRef90_E9FSS6 UniRef90_W7Q0W0 \\ UniRef90_UPIO00416EF15 UniRef90_V4PPT1} UniRef90_UPI00047DB9C7 UniRef90_UPI0003B6ACAF UniRef90-UPI0002C2E771 UniRef90_V4ANF3 UniRef90_U9VU68 UniRef90_UPI0003B2FB2E UniRef90_UPI0004668866 UniRef90_UPI000392F784 UniRef90_UPI000426214D UniRef90_UPI000365C83E UniRef90_B4LLVO UniRef90_A3XH86
UniRef90_UPIO00476AD8D UniRef90_E8X1M0
UniRef90_UPI000328CD14 UniRef90_UPI0003616F8A UniRef90_W5F7U7
UniRef90_U1WKG2
UniRef90_UPIO00477E50C
UniRef90_U2YKE4
UniRef90-A6EB71
UniRef90_B9IIF5
UniRef90_Q04609-8
UniRef90 U5Q7Q7
UniRef90_B3S2G0
UniRef90_UPIO0020ADEEA UniRef90_UPI0003B3C063 UniRef90_J2J326
UniRef90_S3DD63
UniRef90_Q290E4
UniRef90_G0PK20
UniRef90_Q0AST5
UniRef90-E4TRR5
UniRef90_UPI000252BF42
UniRef90_J9NAR6
UniRef90_G1KQD5
UniRef90_E3PVJ5
UniRef90_HOWMN7
UniRef90_UPI0003057693
UniRef90_B2W7C8
UniRef90_UPI0004761B23
UniRef90_UPI0003D082E3
UniRef90_L7U6X3
UniRef90_V4PDU5
UniRef90_G9P7L1
UniRef90_F0XT21
UniRef90_UPIO003606EF0
UniRef90_C3Y1R9
UniRef90-W3XM22
UniRef90-F4FDI6
UniRef90-E8UZ49
UniRef90_UPI00045430EB
UniRef90_M0Y933
UniRef90 M5C587
UniRef90_E1FHZ7
UniRef90_D7AVD1
UniRef90-K9DAS3
UniRef90_UPI00041A2531
UniRef90_Q290E6
UniRef90_W4ZKL5
UniRef90_UPI0003331612
UniRef90_UPI0003F157D9
UniRef90_B0SZD0
UniRef90_UPIO0047E5518
UniRef90-K9DHX5
UniRef90_C5GBI8
UniRef90_G7DTX6
UniRef90_A0A031GEH6
\(F \| T\) QHKWA KNCKALINLDSAG S G GRE\|I LIF QS GPN HPW Y GANPDYPLA QTVGGVNMDGLNTMEPTNDVVVVGGAKSE YA AKPLWP I EKTAANLNLDSLNFVGLSRDVVNVQGSERTD YAEHPVYPLADTVGGVNMDVLSVNGRAKDFVIIGAGKSE Y A V N P L S P L E T TVVANI NMDSFLPGDHDDPQVVIIGGPGKSE WAENAKILDNEAVAYYNSDEGNYTDRVDCTPLMYGFEGES

 S AVBAAS LN R PVVK L M I S L E M I G Y Y D S A P G S Q D YP Y S A M S W

 WL E G Y L S V VL H K A V V Y V S L D N A V L G D D K F H YVEAHKKDLANHILASSESDFGAGKVYELRSGLKGGD
 FARNPSVPAEQMVANVNLDMPVIVYDFADV IAFGANHSN
 WAEEHA

V \(\mathrm{T} Y\) § N S D G N G
WAEEHA KVLTQRAVAY NVDSA


 \(L G Q H P P V P A G Q Q A D L D I N Y\) D MVLPD \(L\) WV E ENRNMLAS RRADAY LDNVDSAVHGQGFRASATP QLDELL
 GCQTYPPGLGDEGLPNQGDFDGVIGDAEHPVFSTEAENTA
 YVQNPLRSLDSTRAVVNLDMIGRVEADSPQTLIGAAFSAG WAEENAKVLQRGVAYI NADEGNYTLRDDCTPLMYGFEGKS
 Y A D N P TVVP L N Q V VA G NMD GMLPVVRTKEMVVV GYGASE FIT QHKWA KNCKALINLDSAGNNGGREILNQSGPNHPW FVNKHPWAKE VDMALNFEARGSGGSSNMIVETNGGNGELL
 WAEENSKLLERAVAYVNADEGNYTGRDVDCTPLMHDFEGKS FA E N P MVVPL D Q I E T G I M M E L V V G T P V



 STE WVE QNLVNAKAVAYLNVDCAVQGPGFFASATPQLDNL WAE ENSRRLLERGVAYMNADEGNYTRRVDCTPDMYGFEGK S


 YEEVSKQKNENHDFALESDS GGFTPRG Y GE D H A L E IS K T K C C V A Y L NVDE S T N G GA I L G A T G S P L

 Y GENP IVP Y S QTVVGGINVDALLPS GRSRDVVVV GHGASE

 WAENVKILQDRAVAYINADEGNYTLDRVDCTPLMHSFEGKS YAE NMT QEVNNTVVAMVNLDS LLAGGDMYVYGDLGGFVREQ WLE GYLSVLHKAVAYVSLDNAVLGDDKFH YV S R HFARRQRQRDYDKFSAYFNMDNGSGRFRGDYAQEN L A
 , A \(\qquad\) GGVVLNVEARGSSGPA IMFETSAGNAG

 LA K Q Y K A Q NK TI R GMLNFEMVGKY D
WV E E Y LDP WLS A T S A Y V N DDVGGT E F S A S A VP L L H DLL L HVV Y V E N D P E A F E D DA M Y L N F DMMGGS P N Y GR F V Y D G G D T NV P E



 Y A A E L R Q A D A N ITTLM Q A D ML A Y R D P S EP L Q L G L P E GLP E YY ITTHKNDTTDAFYFVGETDTGAFKPENWLAFSGDQHHMK Y VE D LA Q E VE D \(\square A\) L Y L N F D M \(\square G S\) H N Y G R F V L LP G S VA A P S
 \(F\) T Q HK WLL KA

 WAENVKTUQERSVAYINSDEGNYTLRVDCTPLLYQESSSG AFFARDPLRD HVG VVVNMEARGDAGRAAMFQTGTGSGD

 WV E E NLTTWLS KIVAYL NVDVAGQHFKASASPLLNKADYEA


 GSAAD A A AF HE HFA SVVGLS G DT E F S G R S DY G P F I A A D I A S \(M Q K V V Q D V Y N E W A E K F P V G P K T Q L G A G S D Y A A F L Q A G V P S\)














UniRef90_A0A031GEH6

\section*{UniRef90 B4LLU6} UniRef90-M2T6P2 UniRef90-UPIOOO3822E11 UniRef90-UPIO0026CA20B UniRef90_U2ZDA3 UniRef90-F7CSO1
UniRef90-KODOIO UniRef90-UPIO0047A9139 UniRef90_UPI0002BC164C UniRef90-F7IR06 UniRef90-R5ANJ3 UniRef90 G2IE58 UniRef90-UP100029D9ECC UniRef90-UPIOOO3692052 UniRef90-UPIOOO37079E8 UniRef90-QOAQU9 UniRef90-E8V2J5 UniRef90_UPIO0046F686E UniRef90-E9FSS6 UniRef90-W7Qowo UniRef90-UPIO00416EF15 UniRef90 V4PPT1 UniRef90-UP100047DB9C7 UniRef90-UP10003B6ACAF UniRef90-UPI0002C2E771 UniRef90-V4ANF3 UniRef90-U9VU68 UniRef90-UP10003B2FB2E UniRef90-UPIO004668866 UniRef90-UPI000392F784 UniRef90-UPIOOO426214D UniRef90-UP1000365C83E UniRef90-B4LLVO UniRef90-A3XH86 UniRef90-UPI000476AD8D UniRef90-E8×1M0 UniRef90_UPIO00328CD14 UniRef90-UPIO003616F8A UniRef90-W5F7U7 UniRef90_U1WKG2 UniRef9O-UPIIOOO477E50C UniRef90-U2YKE4 UniRef90-A6EB71 UniRef90-B91IF5 UniRef90-Q04609-8 UniRef90-U5Q7Q7 UniRef90-B3S2G0 UniRef90-UPIO0020ADEEA UniRef90-UP10003B3C063 UniRef90-J2J326 UniRef90-S3DD63 UniRef90-Q290E4 UniRef90_UPI000175847F UniRef90-GOPK20 UniRef90-QOAST5 UniRef90-E4TRR5 UniRef90_UPI000252BF42 UniRef90_J9NAR6 UniRef90-G1KQD5 UniRef90-E3PVJ5 UniRef90-HOWMN7 UniRef90-UPI0003057693 UniRef90-B2W7C8 UniRef90-UPI0004761B23 UniRef90-UPIO003D082E3 UniRef90-L7U6X3 UniRef90-V4PDU5 UniRef90-G9P7L1 UniRef90 L8X0L6 UniRef90-F0XT21
UniRef90-UPIO003606EFO UniRef90-C3Y1R9 UniRef90-w3XM22 UniRef90-F4FD16 UniRef90-E8UZ49 UniRef90-UPIOOO45430EB UniRef90_MOY933
UniRef90 M5C587 UniRef90-E1FHZ7 UniRef90-D7AVD1 UniRef90-K9DAS3 UniRef90_UPIO0041A2531 UniRef90-Q290E6 UniRef90-W4ZKL5 UniRef90-UPI0003331612 UniRef90_UPIooo3F157D9 UniRef90-BOSZDO UniRef90-UPIOOO47E5518 UniRef90-K9DHX5 UniRef90-C5GBI8 UniRef90-G7DTX6 UniRef90_A0A031GEH6

VpGILDMAYT \({ }^{250}\) G GYVVHTKFDRVNVFPRASFQHTG LYAGSGVDDYDENRYHQPADEY DPSWT WQGAVKDLAL FSVGAGHGWAYRARYHQVSDEYD PNWDLSGMVQQAQFTL FDGGAGEDDY LFAAADFTDYVQNRYHQPSDEWDETWTMGAAAANVQLLF ARARYTKNRKNYPVYHTVYETFEYYDPSFKKQLSVAQVRG ALFMDTDPSFDAKRYHKADDDY TGLEEQNESPYAKYHTNDTMEHMD VMLTDTAFYYRNKYHQPGDTADRLNY IDDI ECNNAAFPYYWTMADDMTAISAKTDGAVGTTVLT LYFESTNWNAFGRIIHTPMDNMNFLENFFDK VEFSFMEDDQAYPFLHTKEDTYENL DK DDVAQNVAAWT
 LFLMTGFGEGFMTHYHRPTDQYDKEVFDDVRNNVILTALL LAFKFGAFNDWDKNYHRPSDDLEQUDKAA AGVQFDHVLL
 \(\frac{1}{H T D S G N P A E P W Y H K P E D K D D K L S K A K L Q Q U A}\) LVLWN DVDKYFKLHHKASDSFDSVN
FSVDQGELIEGHHDYHNFSDNY HPDWDFHGNAKLVRFG\| A DMTFGKGYPVYHSMYDDFVWMDPSFHRHVAVASLWG ПPGПD\AHDKYGYVYHTPNDLPRYTQPG
 \(V W W T T G\) FHPDYHQTSDTAEKIDYPL MRKVVAVAA GRARYSKNWNSYPVYHSVYETYEIVDPTFKNHLTVAQVRG LSVGGGRDAAYGRRYHQVTDEY DPAWDDMLQQAQFTF LYGRAAADTYTAQRYHKPMDEYSEDWNDEGMVEDVTALYY GFFF AFDGDHFDYHTANDVPSRLDPESLEH LLLMALGGDAYMACYHKTCDRWSADWNLVGAAQDVDL AWSQAQGAAYNKNDYHNVSDNFKKPEWDFVGNATTVRLGIV TPMHATSVWRGQDHYHQVHDEAEI
VDLYYGKE KGPGYHTALDSYKHGDPDF LRHDADTEDWG GYFEATNWEKHGATWHDPQDNLSFIQAEFEHLHTFTIL GGLSDSQFAKGANCYHANCDTFDYVEEMGLKKRNVVEGT HTDSTDQDDSDKFYHTVKDEYVTLDTD TDTYYG RDFPVYHTAFDSYGWMDP LTFHRHVAVAGTWG GRNWETNKFSGYPLYHSVYETYELVDPMFKYHLTVAQVRG LLFTSGDH

\(\square D V G F G G G P G S P Y H Y H S N Y D S Y H W M D P G F V Y H A A M A R D F G\) GGLFTGAGVAYDSCYHSACDDUSNVN LQGMEEMSDAAA LDLQYTLDPGFYPVYHTVYDTFNFIDPDLSYHRAVTQVGG LDLVFNKRGTAVYPYHSNYDSHFWIDPGFMKHLAMARLWG AWGDAQEHDYNEHRYHNFSDNYTPEMDFRAPAKDARFGM DPGDDLAFDENGY YYTKYDTADRILIDSQQRAGDNDLAV LDMSYGLFSEYPVYHSLYDDFVWMDPLFHRHVADASVWG VNYMDKAGEYYFHFHHTDGDYI
GGLFSGAGEQFDPYYHTADDTMEHDN WDSVAEDSAAGA VPG GGGTGGLTPYHSNYDNFHYVDPSFKMGGAVAQVFG VDGLYMAYQYNGYVYHTRFDRPEVFPRGSFQNTGDNLLALL SMDLAYTYDRSYPTYHTAFDTFDYLDPGFSSHQAVAQTAG GRDRYTKNRKSYPVYHTAYETFELVDPTFKKQLSVAQLRG
 FSVGAGKAATYRDKYHQASDEYD PNWDLSGMVQQAQYT VDYFKRKDGDAVYQYHSNYDSFDWMDPNWTYHIAAAKVWS LTGDMALVQSYKYHTRDDVVEYDEPGALQHMGENTVAM
FSINGGREAYGPRYHQVTDYDA SWDLSGMGQAGTGL

UniRef90 B4LLU6
UniRef90- M2T6P?
UniRef90-UPI0003822E11
UniRef90-UPIO0026CA20B
UniRef90 U2ZDA3
UniRef90-F7CS01
UniRef90-KODOIO
UniRef90_UPI00047A9139
UniRef90-UPI0002BC164C
UniRef90-F7IR06
UniRef90_R5ANJ
UniRef90 G2IE58
UniRef90_UPI00029D9ECC
UniRef90-UPI0003692052
UniRef90 UPI00037079E8
UniRef90 Q0AQU9
UniRef90-E8V2J5
UniRef90-UPI00046F686E
UniRef90 E9FSS6
UniRef90-W7Q0W0
UniRef90-UPI000416EF15
UniRef90 V4PPT1
UniRef90 UPI00047DB9C7
UniRef90_UPI0003B6ACAF
UniRef90-UPI0002C2E771
UniRef90 V4ANF3
UniRef90-U9VU68
UniRef90_UPIO003B2FB2E
UniRef90 UPI0004668866
UniRef90-UPI000392F784
UniRef90-UPI000426214D
UniRef90-UPI000365C83E
UniRef90 B4LLV0
UniRef90 A3XH86
UniRef90_UPI000476AD8D
UniRef90 E8X1M0
UniRef90 UPI000328CD14
UniRef90_UPI0003616F8A
UniRef90-W5F7U7
UniRef90 U1WKG2
UniRef90_UPI000477E50C
UniRef90_U2YKE4
UniRef90 A6EB7
UniRef90 B9IIF5
UniRef90_Q04609-8
UniRef90_U5Q7Q7
UniRef90 UPIO0020ADEEA
UniRef90_UPI0003B3C063
UniRef90_J2J326
UniRef90 S3DD63
UniRef90-Q290E4
UniRef90_UPI000175847F
UniRef90 GOPK20
UniRef90-Q0AST5
UniRef90-E4TRR5
UniRef90_UPI000252BF42
UniRef90 J9NAR6
UniRef90-G1KQD5
UniRef90-E3PVJ5
UniRef90 H0WMN7
UniRef90_UPI0003057693
UniRef90-B2W7C8
UniRef90-UPI0004761B23
UniRef90-UPI0003D082E3
UniRef90-L7U6X3
UniRef90_V4PDU5
UniRef90 G9P7L1
UniRef90_L8X0L6
UniRef90-F0XT21
UniRef90-UPI0003606EFO
UniRef90 C3Y1R9
UniRef90-W3XM22
UniRef90-F4FDI6
UniRef90-E8UZ49
UniRef90 UPI00045430EB
UniRef90-MOY933
UniRef90-M5C58
UniRef90_E1FHZ7
UniRef90-D7AVD1
UniRef90_K9DAS3
UniRef90_UPI00041A2531
UniRef90 Q290E6
UniRef90 W4ZKL5
UniRef90-UPI0003331612
UniRef90_UPI0003F157D9
UniRef90 B0SZD0
UniRef90_UPI00047E5518
UniRef90_K9DHX5
UniRef90 C5GBI8
UniRef90-G7DTX6
UniRef90_A0A031GEH6

Y Y
\(N L G R V V A D A P\)
GL GRQLA
DVGAELANS
SLVYELANAP
GAAMEFADA

A MVW
TYMA
Ml \(\operatorname{laREDADS}\)
TLITRVANATA
RATLRLANA
E LT T N L S E S
ARALEV

E GGWEADSAP
\(\square \vee A L W L A D A\)
Y V VE L A N S
\(\mathrm{N} V \mathrm{~T}\) LDLA N A
GLVFELANS
D GQAVANAPA

\(E\) LG W
GMVFELANS
\(L L A \square R \square A N\)
\(Y\) LLY QLS N
\(N \overline{\mathrm{Y}} \mathrm{L}\)
L L A \(\square \mathrm{H}\) L A
GMVFELANS

ATSDMDASAS
GIVLDLDSAA
LYLVD
L MAVRDAG
V K A LANA
A
VRA \(\square\) LAS
NVGSRLANS
SYVL
LLAYHLA
GLLVFELLAD
QLLIRL
V
\(L \mathrm{LL} Y \mathrm{H} M\)
ALVVELA
VTVA A WA
A WAATL
R A VA QLA
LL VA R L A
\(A \vee \vee L R Y A T S T\) NTLLRLSDST \(\square L A V R L A G\)
A
E LG W
\(\square 1\) A \(R\) RA
\(A T L L E V A G\)
H GVEFFAEST
LVALRLAN
VREIANS
E LARSLADS
SVALRLASD
ALVYELAD S
PTVRTLAASPA
\(N \square G R A V A D A P\)
LTAAYLA
\[
20
\]
```

LPP\ \E QYHPLTTGT PQ LS EHH|LNT A RY LS S \GYRTVGGTR

```

```

    PR|LHSDT\QKVAANTDVSEMWEDLRPI LIERYPGSP
                                    QQAEPDRLNSYLKQVQAFRN YQN\Q
                                    E T F S GEK A LAA LVA R QLD F GP R\squareT GT E
    FPPTQQ SSGLPK\PAQTLRDATVLLQNDSGPEAAAD

```

```

        RTSAENLDPASUDPARLG
    ```

                    KEFST \(\square\) RAFEHVKN \(\square\) GD EPHY \(\square\) GS D


                    RHEGSP
                            \(\square \mathrm{YNNKES} \mathrm{LVPMTPNLSGNK}\)
                MP Q \(\square\) D G DR \(\square\) FRHVEA \(\square\) A FPRNDRR
                    PA \(\square L N S S A \square R Q \square A E G T S D S E M W Q D L Q P D Q D R E Y P G S P\)
                    KFVAERAQG \(\square L \square S \square S Q M P R V V G D H\)

R G P Q A P
REKNTK
            \(S L L T L V Q S D T L E A Q V V A L Q T F H A L R T R S A\)
                DE \(\square R T E Q \square R E E A S S S A P R A A F T S\)
                    E S A E S M LLLR LT K \(\square\) GP K VVGS A \(N L A G A G N Q L E G W L\)


\(\square \mathrm{Y} N \mathrm{NVES} \mathrm{LV} \mathrm{V}\) LTPS LGGS T


PNTE

GPQAPASW


UniRef90_UPIOOO3C4278D UniRef90_UPI0002E8DC8F UniRef90 A7Ul09 UniRef90_C3XZ18 UniRef90-M5G3N3 UniRef90 UPI000288CB4B UniRef90 C9JFW8 UniRef90_UPI000398ED3F UniRef90_N9EIH2
UniRef90 D4LI46 UniRef90-F9WYT6 UniRef90-B0T825 UniRef90-1013B7 UniRef90_B3TC66 UniRef90-H3D7Z0 UniRef90 G8BR56 UniRef90-A0LMN3 UniRef90-F8FKK08 UniRef90_G8NXJ1 UniRef90 V9KID1 UniRef90-M5TPT4 UniRef90-C5FSY0 UniRef90-K4IH63 UniRef90-F2DV95 UniRef90-W5MK44 UniRef90_UPI00034BF94C UniRef90 D6A5E2 UniRef90_UPI0004797BAD UniRef90-W5P0T6 UniRef90-H2XN25 UniRef90-B4WEL1 UniRef90_A0A031GQV6 UniRef90_A8XCM5 UniRef90 T0RZ61 UniRef90-H9IVJ4 UniRef90-19WI06 UniRef90-C5X485 UniRef90-K2RCS4 UniRef90-R1CFA3 UniRef90-UPI000328DC11 UniRef90 F4KS21 UniRef90-W6MW95 UniRef90-P25152 UniRef90_W2RLY2 UniRef90-UPI00037A78CD UniRef90_K9D849 UniRef90_K1Q249 UniRet90_12N1Q9 UniRef90-A6EDU7 UniRef90-Q16769 UniRef90-Q290D8 UniRef90-H6RSJ2 UniRef90-W4S3N5 UniRef90-UPI0003443285 UniRef90 UPI00036ACB20 UniRef90 M0ZHM7 UniRef90-I3ZMX3 UniRef90-H3GGN5 UniRef90 U2D505 UniRef90_UPI0003B7274F UniRef90-Q12N53 UniRef90-R8BN02 UniRef90- H 2 CIM 7 UniRef90_UPIO0036AB9A6 UniRef90_U5EIF5 UniRef90 B1LLM7 UniRef90-W8B5F8 UniRef90-M2UBJ8 UniRef90_W0VD97 UniRef90-B3MCB4 UniRef90-K7FLV5 UniRef90-G4NAK7 UniRef90 G3BD55 UniRef90-V9DL54 UniRef90_UPI0003D0C788 UniRef90-A6EJF9 UniRef90 Q9K671 UniRef90-A1XA57 UniRef90-B8MFF6 UniRef90 UPIOOOO12188B UniRef90-UPI0003F0E446 UniRef90-S7VGP9 UniRef90 H5X293 UniRef90 L7KV81 UniRef90-HOV8X6 UniRef90-W5UQ83 UniRef90 D3BEU1 UniRef90_S6A5C4 UniRef90-B4J729


TSHNVI A
FENRTTWNVIA
EHALADVWMSEQLQEVQSLCEEVECVNQDREVRTTYNVIGG
DTLKAMENYLNDNNTIDCFIPYKETETSVNNVVG GF QDARDLL CQVNVSVYNRDELRNSSNVLG GNY V RQHIKHRLQRLQAGWELEEDTFQAYTPYTFSNIIS E LDRVAAFIK QQIEQFS \(\square\) PCEYQTY AVDGKNYRNVI C CLVVE Q DV TA CRSRNVV A MMNK QE YVT TP LDWNAIG

VDSVFETRDTWNLI SE
 SGFKGG LSSSVYRLGGEENDTVEVNNVLVNRKDHNVFG GENWVGG LSEFKYFTGPNPEYTLNLYNKQSYDIRNVYG ENDRAAAYVRDEFDKAGGRVVEQPFQ VDGSTYRNVIA QEAQAAAYLSGEFAKMGGAVEEQPFHYTVKQDVYSKNIIAA GNDAVRQHILKH LNELGWITEQDTFEDETPIGTTKSNIIAS AMKRQQEYLTDFFTQNGASVELQK ES DRHPLTGEAVEMA AHNSKRNY IVNELEKMDANVMMNGQNEQDYVTTPDWNVIGG



LQ HQT \(\square\) PQ A QKVKMHIHSNNKTYNVI G GGLNTTYRTGPGFSGTYASSKMKMSVKTENEEKEIKNVMG DHALVQAYLQGRMAQLGAAVRRDEDRGESVEGLSVVNLVG
 ADLIRRMYDRGEN VLDNGMSSTDDTKVSRNTVI G \(\square E\) A A A Q Y \(\square\) K GE \(\square Q G \square G S F S M M F \square R H R D T \square G Y R N H K N I V M\) EQDEEEKQP \(\square W N V M G\) HTNSEKKKRAKNVVGG Y E HLLETFNVIG
 YNQQEYVVTPLWNVI G D R R R VR Q Y L L N A L R E A GWS PE L R A FD SDVRFDDSDVNAYNILA TRTTRN! IA HVENKLLPAFKADNICG GSYAARQH \(\square M Q R \square Q R \square Q A D W V D T F L S Q T P Y G Y R S F S N I T S\) E IAKVRSAMRDDLFDLECEVQRVSGSYLHNGLVNHYQIVK NVFA H NVVA
DALVSKLANGEK DEVSMEVKTSVETDSYSYNVIA \(T \square Q N \vee I A\) M GWQG G LT LVGEYR \(\quad\) VGGDESAVVNLDVQMNNSVPDWDVVG YGKVPALFMKDCLHMLKNKASKVKVDLDTEDELTSQNVVV HHREATEY \(\square\) TSQFR RSSRLQ SSEQVFGG \(\square R N V V \sqrt{A}\)

E D
\(D \square V L A A A K Q N A E A V L E \square D F A A L E R T G Y N\) \(L G A\)
AEMILRKYRRGDNMKDHDEMADRNLPMVTSRNSTA NLKRSAEYI KEVFVSSGARVTSQDA PITGGPYKNIVA ANEQAVQFLLTEINK』VASGNYVDWKMVNVYQSDQNVVVK AEPVLKKLKQGTHVDGIAYDDAEVNEDQTVNIVAQ QEDAARDLFKAAGQDLDALRARAESRDFQPVELNQYNVAG NEDTTVEFLVNEVEKVRAEMQTDLYEDMVNMYQGDHNVVV
 TTADAEKYIEKLTEDPAFKFEVTAYVDSYVKY IKTLNVVA
\(V N E Q E Y V T\) TPLWNVIG
\(N \vee M G\)
\(R N V\) I
\(\square S V P V V G T S K E S G A Y\) V \(\square E E E E V T L E D Q A D T N Q T S Q N V I A\)
 N NQDYVTTPLWNVI G KTKRIQNVI G PHRLT GDWlIEKLEGFGFTNPNRSVQMD\|H
 EERTSYNVIA TPVTTRNVVA QGALSCVYHLGPGFTGGKFPEDSQVKVSVHNRRNSSNVLG YKQVTRDYNVI G
 QTYRDTETYNI FA
\begin{tabular}{|c|c|}
\hline & 20 \\
\hline UniRef90 B3SAH3 & \\
\hline UniRef90-UP10003C4278D & GAVEPDRYI I L GGHRDSWVFGGDDPTTGT \\
\hline UniRef90-UP10002E8DC8F & PSNLKKDIIVIGSHHDSV \\
\hline UniRef90-A7U109 & ETKGGDH NNVVMLGAHSDS \\
\hline UniRet90-C3XZ18 &  \\
\hline UniRef90 M5G3N3 & SYHGTQSKAHAVLVNSHLDD \\
\hline UniRef90 UP1000288CB & YIKGKNSSLPPIVISGHFDHLGEDLL NTTYPGALDNAS \\
\hline & \\
\hline ef90_UP1000398ED3F & DPS AKRHLVLACHYDS \\
\hline niRef90- N9EIH2 & MGHAKK \\
\hline D4L14 & EGTDKKDELLT \\
\hline & VINGTVSDEVIVIGNHRDAW \\
\hline UniRet90-BC & ElKGSEKPDEVIVIGGHLD SWDVGTGA \\
\hline UniRee90 S8 & \\
\hline & \\
\hline UniRef90-B3TC66 & ETPGTDLADEVVMVGAHFDTT HAGTGATDNTT \\
\hline UniRef90_H3D7Z0 & \\
\hline UniRef90_G81 & NHRDAW \(\square \mathrm{KGG}\) \\
\hline  &  \\
\hline UniRef90-G8NXJ1 & GSGKPDQAVVLYTHYDHLGFVPGMGDNTYNGAADN \\
\hline UniRef90-V9KID1 & PS AKRRLVLACHHDSKYYNQWWYSRVYVGATDSAV \\
\hline UniRet90 M5TPT4 & NLIASWYPERPILLCAHYDTRPFDRNDPKGVFVGAN \\
\hline Ret90_C5FS & \\
\hline UniRef90_K41H & SSSK \\
\hline UniRef90-2DV & K GGEMEP \\
\hline UniRet90-W5N & \\
\hline UniRet90-UP100034 & ETKG GAADNVVMFGAHLDSVADGPGTNDEGPGINDNGS \\
\hline UniRef90-UPIO004797BAD & YVKGKKNPQQWLVESAHYDHLG RVSPEHYFAGAND \\
\hline UniRet90-W5POT6 & TLRGAVEPDRYVILGGHRDSWVFGGUDPQSGAAVVH \\
\hline UniRef90 H2\% & GSVEPDRYVLFGNHRDA \\
\hline UniRef90 B4WEL1 & GRNPSLIPLVVLMA Y \\
\hline UniReer90-A0AO31GQv6 & GTo k eav rsah \\
\hline A8x & \\
\hline UniRe90-TORZ61 & EKKGSERPNEVIVGAHYDTVAYDKMLPEVPQPGADNNGS \\
\hline UniRef90-H9VJ4 & DLKGSVHPEKLVVSGHIDD \\
\hline UniRef90 C5X4 & RISSSEDDDPSLLVNGHFDSPLG \\
\hline & GVEASAKKIFVGNHRDAWCFG SADA \\
\hline UniRef90-R1CFA3 & GENRK KALVFSAHLDHVGWA GDKDFKGAVDNAS \\
\hline UniRet90 UPIO00328D & 寺 \\
\hline UniRe990-4KS21 & S \\
\hline UniRet90_W6MW95 & S \\
\hline 25 & \\
\hline & S \\
\hline UniF & GTVLVGAHYDTV ADSPGADDNAS \\
\hline UniRef90-K9D849 & DIPGSDPKAGYVMAGAHLDSWVAGDG A A M \\
\hline UniRet90_K1Q249 & SNEPD \\
\hline UniRef90-2N1997 & ( MGM \\
\hline UniRef90- Q16769 & TLNPT AKRHLVLACHYDSKYFSH WNNRVFVGATDSAV \\
\hline UniRef90-Q290D8 & RTSNSSSYLLVNSH \\
\hline UniRet90-H6RSJ2 & AHLDSV AVGPGINDNGS \\
\hline UniRef90 W4S3i & DETVV FSAHWDAFGVGKADGDTVRRGAVDN \\
\hline UniRer90-UP10003443285 & \\
\hline e90-UP100036 & \\
\hline UniRet90_M0ZHM7 & EGEEEPDRFVILGNHRDA \\
\hline UniRet90_13ZMX & ElPGTDPKDQVVMVGGHLDSWISG TGATD \\
\hline & PEEQVILGNHRDAWVCG AVDPGS \\
\hline UniRef90_U2D505 & TLEGTKYPEEDISFGAHYDSVPF \\
\hline UniRet90_UPI0003B7274F & SNS \\
\hline & \\
\hline UniRef90 R8BNo2 &  \\
\hline UniRet90-H2CIM \({ }^{\text {a }}\) & GQR \\
\hline  & KNSVVVVGGHFD SWDVGVGAMDDGG \\
\hline UniRef90-B1LLM & PADGPL IIGAHYDSASSYENDQLTYTPGADDNAS \\
\hline UniRef90-W8B5F8 & PRGTNSTSSLLI NSHYDSVPGSSGAGDS GA \\
\hline UniRef90 M2UBJ8 & EG DSDNCVMLGAHSDSVTEGPGUNDDTV \\
\hline UniRef90-W0VD97
UniRef90
B3MCB4 & KLSPKGSPSQYLLYNAHEDSKPTSPGSGDDIFNGVDNAS \\
\hline UniRef90 K7FLV5 & YLKGSTFPDRYVIVGSHHNNVDGFSGQEW ASSTAV \\
\hline UniRef90-G4N & QG DPDNCVALGAHSDSV \\
\hline UniRef90-G3BD55 &  \\
\hline UniRef90-VDL54 & NGTAKDEVVVGNHRDAWVHG \(\square\) AGGAGDPNS \\
\hline UniRef90_UP10003 & RGSQEPDR \\
\hline UniRef90_A6EJF9
UniRef90 Q9K671 &  \\
\hline UniRef90-A1 \({ }^{\text {U }}\) UA57 & TLNPT AKKRHLVLACHHDSKYFSPEWDGRVFVGANT \\
\hline &  \\
\hline UniRef90-UPI0000121 & GSKEPDRYVMLGNHFDAWVYGSVDPNSGTAA \\
\hline  & FlRGQVEPDRYVIVGNHHDAWIYGSVDPSSGIASML \\
\hline er90-S7v & SYKP EASKRILLGAHWDTRRЏADKDTDVPIDGANDGGS \\
\hline niRef90_H5X293 & QTK TGRDDNVVMAGAHLDSV TEGPG \(\square\) NDNGS \\
\hline UniRef90 L7KV81 & ETR TGATDDVVMAGAHLDSVVEGPGMND NGS \\
\hline UniRet90-H0V8X6 & PD \\
\hline 90 W5 & QIRGAQEPDRIVI LGGHRDAWVFGGIDP \\
\hline UniRef90-D3BEU1 & ПFHGAVDNA \\
\hline Re90_S6A5C4 & A \\
\hline UiRef90_B4J729 & \\
\hline
\end{tabular}

\section*{UniRef90 S9PKC5}

UniRef90- B3SAH3 UniRef90-UP10003C4278D UniRef90-UPIO002E8DC8F UniRef90-A7U109 UniRef90-C3XZ18 UniRef90-M5G3N3 UniRef90-UPIO00288CB4B UniRef90-C9JFW8 UniRef90-UPIO00398ED3F UniRef90-NOEIH2 UniRef90-D4L146 UniRef90-F9WYT6
UniRef90-BOT825
UniRef90-S8ALR1
UniRef90-1013B7
UniRef90-B3TC66
UniRef90-H3D7Z0
UniRef90-G8BR56 UniRef90-AOLMN3
UniRefolo-rfk
UniRef90-V9KID1
UniRef90-M5TPT4
UniRef90-C5FSYO
UniRef90-K41H63 UniRef90-F2DV95 UniRef90-W5MK44 UniRef90-UPIO0034BF94C UniRef90-D6A5E2 UniRef90-UPIO004797BAD UniRef90-W5P0T6
UniRef90-H2XN25 UniRef90-B4WEL1 UniRef90-A0A031GQV6 UniRef90-A8XCM5 UniRef90-TORZ61 UniRef90-H9IVJ4
UniRef90-l9WIO6 UniRef90-C5X485 UniRef90-K2RCS4 UniRef90-R1CFA3 UniRef90-UPIO00328DC11 UniRef90_F4KS21 UniRef90-W6MW95
UniRef90
P25152 UniRef90-W2RLY2 UniRef90-UP100037A78CD UniRef90-K9D849
UniRef90 K1029 UniRef90-K1Q249
UniRef90 12 N 109 UniRef90-A6EDU7 UniR Refo-Q16769 UniRef90-Q290D8 UniRef90-H6RSJ2
UniRef90-W4S3N5 UniRef90-UPIO003443285 UniRef90-UPI00036ACB20 UniRef90-M0ZHM7 UniRef90-13ZMX3
UniRef90-H3GGN5 UniRef90_U2D505 UniRef90_UPI0003B7274F UniRef90-Q12N53 UniRef90-R8BNO2 UniRef90- H 2 ClM 7 UniRef90-UPIO0036AB9A6 UniRef90_U5EIF5 UniRef90-B1LLM7 UniRef90-W8B5F8 UniRef90-M2UBJ8
UniRef90 \({ }^{\circ}\) WOVD97 UniRef90-B3MCB4 UniRef90-K7FLV5 UniRef90-G4NAK7 UniRef90-V9DL54 UniRef90-UPI0003D0C788 UniRef90-A6EJF7 UniRet90_Q9K671 UniRef90-A1XA57 UniRef90-UPIO00012188B UniRet90_UPIOOO3FOE446 UniRef90-S7VGP9 UniRef90-H5X293 UniRet90-L7KV81 UniRef90-H0V8×6 UniRef90-W5UQ83 UniRef90-D3BEU1 UniRef90_S6A5C4
UniRef90_B4J729

ATAVMLEVSRIUMGKQGWRPRRTIKFCSWDAEEFALIGSTE GTAVLQEVARSFGKMMWRPKRTIDFASWDAEEFGLLGSTE GS GVMTVAKAL TNFKLNNAVRFAWWTAEEFGLLGSTF GTAVMLELARAMGKLIFRQUYRI TYMYWGAEEEGLIGSVE CVGVMLELIRVLVHGGWSGEWSIIF LFNHAEESLQDASHL GTAVLLEMSRLLKKGTWRPRRSVVFASWGAEEFGGLDGSTE PCAMLLELARAKTSSASRPDLSLQLIFFDGEEAFVRWSQK GAALIMELCRYF QQYRPRRTMEFVWFGAEEKGLLGSRD GSAALNEVIRSFGKAGWKPHRTVVFASWDGEEYGLIGSTE GDADTTAAAKLIGDAPKHPKRTVRVVMFGSEESGGSSEAY GAAMLLELARTLD LESTQHTVCLAFFDAEWEGHIGSQL GVAAMMEVMRULRTIGARPRRT: RLA GTASMLETIRSLTKAGWKPERTIIFASWDGEEYALLGSTE AVAGLI EAHLLRKSSLNTLVELVAYSLEEPPYPHMGSAV GVAVMLEAAETVAKLDS PYTIKFTAFGAEEEGLRGSKH GVAMILEMARAWKQVPPDDPHSVIVAAVTAEEQGLLGSEY PCAMLLELAHAMKNMTERPDLTLQLTFFDGEEAFHIWSRH GVAAWMEMSHOFSSDPSDLDDAEEFVFAEGRDDYFLGSTH GSAVLNEVIRSFGQAGWKPKRTLVFASWDAEEYALIGSTE
RSAGML


\section*{S FG}

GVAAVLEMVRVMLKQGW GAAALLAMAQVAVKQ
GVSLMLELIRLYSENPHLLNHDVIFLFNGAEESSLLAAHG
GLFISWAAPVILKRLNLKPKRTVRSIDFWTAEEGGSWDYAK
GVAALTTLAKANVAEGPAARSQVFI ALTAEESGLLGAEF
CVASMLELSRLIIDSGWVPPRPVIFLFNGAEELFLLGSHG


\section*{G
G
G}

GSAVLLELARVIRTTGWKPKRTIMLASWDGEEMGLLGSTE
GTSVMLEMARVL KSVPSDKE: RFDAFGAEELGLLGSSH
GSAVLNEVIRTALSAGWKPLRTVVFASWDGEEYGLVGSTE
GTAMIMEAARILKSDGDKPKRTI RFALWSGEEQGLFGSMA
GSAGLLEVAQELAKAEKRPTNKIRFAWWGAEENGLLGSEA
PCAMMLELARALDKSDSKPDLSLQLIFFDGEEAFLHWSAK
GSAALLEVAESDAK VKPANTVRFAWWGAEEQGMLGSHG GVASVLELARVFAAGPKPQRTLYF\ALLAEEKGLLGANY GAFISWEALSLIKDLGDRPKRTLRLVLWTAEEQGGIGGFQ GTVSLIEAARIRPE:ASQLKYN|EFVNFGAEEDGLIGSKE GSVVAMEAVRILKALGLKPKRT RIALWSGEEQGLYGSRG GSSALLE ARVLLKQGWRPHRTLVVASWDGEEYGLLGSTE GSVAMMELDRYYKEN PAPMRTLKFVWYGSEEVGLLGSQA GTAGVMEVARQFAKAGNGLKRSLTFAATTGEEQGLLGSRF GTTLILELAAAMDAAYLPADVNVVFANFDAEERGLFGSSR GALISWKALT LLKQMGLRPRRTI RALLWTGEEEGSYGGQK GVAGLLELARLLQQQAPKTGVQLVAYASEEPPFFRSDEMG MLVIMLETLRVISKYETPLQHSIVFLFNGAEENPLQGSHA GTISLLEVASQLTK FNVSNCVRFAWWAGEEEGLLGSDY \(M V V V M L E V L R Q M A I S R T P F Q H P I V F L F N G A E E N P L Q G S H G\) IQALMLKVKR GWRPDRTIVFCSWGGTSFGNIGSYE GTLSLEVARQLTK FKVNNCVRFAWWSAEEEGLVGSSY GSAALNEVIRSFGEAGWKPLRTVVFASWDGEEYGLVGSTE GTAVMLEITRVLGKMTWRPRRSIIFGSWGAEEFGLI GSTE GTGVMLELARVL KSYPDDKELRFIGFGAEEDGLVGARY
 AMMQT\_NETHWRPARTIVFNAWDAEEFGLI GST GVAVLLEDARVLHADTVQPNVGIDFDFFDGEDWWCLGSQY GSAAVLETALRLGSSPRVPHRVRFAFWGGEEDGLVGSTEY




\section*{UniRef90 S9PKC5} UniRef90_B3SAH3 UniRef90-UP10003C4278D UniRef90-UP10002E8DC8F UniRef90-A7U109 UniRef90-C3XZ18 UniRef90_M5G3N3 UniRef90-UPIO00288CB4B UniRef90-C9JFW8 UniRef90-UPIo00398ED3F UniRef90-NEEIH2 UniRef90-D4L146 UniRef90-F9WYT6
UniRef90
UniRef90-B0T825
UniRef90 S8ALR1 UniRef90-1013B7
UniRef90-B3TC66
UniRef90-H3D7ZO
UniRef90-G8BR56 UniRef90-AOLMN3
UniRefefo-F8FK08
UniRef90 G8NX1
UniRef90-V9KID1
UniRef90-M5TPT4
UniRef90-C5FSYO
UniRef90-K41H63 UniRef90-F2DV95 UniRef90-W5MK44 UniRef90-UP100034BF94C UniRef90-D6A5E2 UniRef90-UP10004797BAD UniRef90-W5POT6 UniRef90-H2XN25 UniRef90-B4WEL1 UniRef90-A0A031GQV6 UniRef90-A8XCM5 UniRef90-TORZ61 UniRef90-H9IVJ4
UniRefo-19WIO6 UniRef90-C5X485 UniRef90-K2RCS4 UniRef90-R1CFA3 UniRef90-UPIO00328DC11 UniRef90-F4KS21 UniRef90-W6MW95 UniReffo-P25152 UniRef90-UP100037A78CD UniRef90-K9D849 UniRef90-K1Q249 UniRet90-12N109 UniRef90-A6EDU7
UniRef90 \(\mathrm{Q16769}\) UniRef90-Q290D8 UniRef90-H6RSJ2 UniRef90-W4S3N5 UniRef90-UPI0003443285 UniRef90-UPIO0036ACB20 UniRef90-MOZHM7 UniRef90_13ZMX3 UniRef90-H3GGN5 UniRef90-U2D505 UniRef90-UPIO003B7274F UniRef90-Q12N53 UniRef90-R8BNO2 UniRef90-H2CIM7 UniRef90-UP100036AB9A6 UniRef90-U5EIF5 UniRef90-B1LLM7 UniRef90-W8B5F8
UniRef90 M2UBJ8 UniRef90-WOVD97 UniRef90-B3MCB4 UniRef90 \({ }^{-K 7 F L V 5}\) UniRef90-G4NAK7
UniRef90-G3BD55 UniRef90-V9DL54 UniRef90-UP10003DOC788 UniRef90-A6EJF9 UniRef90_O9K671 UniRef90-A1XA57 UniRef90-B8MFF6
UniRef90-UPIOOOO12188B UniRef90-UPIOOO3FOE446 UniRef90-S7VGP9 UniRef90-H5X293 UniRet90-L7KV81 UniRef90-HOV8X6
UniRef90- W5UQ83 UniRef90-D3BEU1 UniRef90 S6A5C4
UniRef90_B4J729




200 WVEENAKELAQRAVTYINVDLAVIGNYSFAAQASPDFTKA WAEENAKVLERAVAYDNTDEGNYTLRVDCSPLLYGYEGKT YVENSDNDISRTVANFNLDMVGSNDAGD LILQTADNKSN YVDSLDRELHKVKLYLNFDMIGSPNFANQIYDGYNMTGPA FVEDYDKSLERTVAYLNCDHNMDRDATKKVPDPHEPSKTLL FTEEFFNKLERTVAYVNVDVSVFANATLRVQGTPPVQSVV MGSFDHKQKDQDQAVYILEMIGYFDHANFDGAVSNFSSRA Y I RVHESELGAHRFNMNVDLAGQLIGGNVLGVTGE AS
 YTKNSE QEADKIVRFYFNYDMDG SPAPYFHVYQGENPG FVESLPNSVPRCASPRYVVGVEQAGAVNQRFFRNDAGDEA

 Y GE NHGKELK NCLAY I NVDVGGGNLQVSASPSVNKVLDS S HASSLLKARNRSVVIMMCLEADGFFNDGDFDAVVGKMDQTD
 LAEKMKNELHGGIDLFVLLDLIGAPNPTFPSYFSNTARWHR FA Q Q Y R M S PP AV RAGVV L DMVGDRE LQLLYERNSLRYARD WVE E N \(\square\) S WLLS GAVA Y L NV DVAA S GKKF DV H A

 \(Y\) VA GLE E EL D D IA L Y L N F D M I G SHNY GRFVLDGRS GGAPS Y V D S S A A DLA A K K L L Y L N F DM I A S P N Y A Q F V Y D G D D GP GP E
 \(W\) WVE E F K Q FFS E HP LRRG RVGAVVNLEARG GGGRAMMF ETGP GNA Q
 KLKLE K Q S GVVDI K GFI NLVMLLGHQKY GNMKLYYS S E GTPA YEEAHRNESHNINF IMESDEGTFAPDG LIVAGTDKARC


 WAELQSPD
 EDFEGKS
 Y V D H S EK E L K R S EVVNFNL DMV GT WEK A S E L Y VVNTLDD G Q S N WV E E Y DP WL S ATAVA Y L NVVDVGAR G DAFKVV S A S P L

 \(Y V A S L T S L G K K I K A Y L N F D M I A S P N Y G D F L Y D G D D G P G P E\) FTENPLT DLK NI RF LI NVDMVGTGGTGGTVVNAT LHS K MASTPHPPGARMDLLVLRLDIGGAPNPTPPNFFPNSARWFE F IT QHRWS A NCK ALI NLD GSGG GRELLDGQGGPNHPW YVNSLSDQIEDIALYLNFDMVASPNFARF YFQPNFVVPE Y A A HPL A P L D K TVVAVLNMEMFSPDGSTRDIAWGRGRVVLE
 YVK SLLQDS GR KVK SMMN LDMVGVGNNM VMWNSNKNSNHE WV E ENREMLAARVVA YL NVDCAVQAGDFRILLASQQVQDPDN \(Y\) V K Q H F GP L K T TKE WET L D Y Y NLDDNGT GRVR GVY T Q G N Y A FVEENADQLKKHVAYDNVDTTARDLPANRF
Y L K A HEKELNQHLLMINADVGGS LIGCEWALVTAEQT



 YKK DHANEKKEFNFFFESDDGTFEPQGLDFTGNTXAGC S AVHA A SLER PVRLMDA LEM GGYYDS GDF IAVVGRMQD DN F ITQHKWAG NVKAVINLDSAG SGGREILGQSGPDHPW
 Y V D P DWP LA Q TAA A LN LD SMNFVGKTHDI G VA GA ER S S
 YASSS PE ENLLKVRLIFMDYDMLASSPNFAYQVYNATNDVHP T


 Y A Q L S S D E IGERSVA NF NMDMVGTSSWEPA S K L F F V N T D G S P N
 FVE E F V D ILK RAVVY VNMDCI QGNSSAKRVPNPSKEEKS S WV E E F V K NL
 V R GLDDAAERRAI ALLYL NFDMLAASPNGGYFTYDGDDSEHP G




\section*{UniRef90 S9PKC5} UniRef90-B3SAH3 UniRef90_UPIO003C4278D UniRef90-UP10002E8DC8F UniRef90-A7U109 UniRef90-C3XZ18 UniRef90-M5G3N3 UniRef90-UPIO00288CB4B UniRef90-C9JFW8 UniRef90-UPIO00398ED3F UniRef90-NEEIH2 UniRef90-D4L146 UniRef90-F9WYT6 UniReftoo BoT822 UniRef90-S8ALR1 UniRef90-1013B7 UniRef90-B3TC66 UniRef90-H3D7Z0 UniRef90-G8BR56 UniRef90-AOLMN3 UniRef90-F8FK08 UniRef90-V9KID1 UniRef90-M5TPT4 UniRef90-C5FSYO UniRef90-K41H63 UniRef90-F2DV95 UniRef90-W5MK44 UniRef90-UP100034BF94C UniRef90-D6A5E2 UniRef90-UPIOOO4797BAD UniRef90_W5POT6 UniRef90-H2XN25 UniRef90-B4WEL1 UniRef90-A0A031GQV6 UniRef90-A8XCM5 UniRef90-TORZ61 UniRef90-H9IVJ4
UniRefo-19WIO6 UniRef90-C5X485 UniRet90-K2RCS4 UniRef90-R1CFA3 UniRef90-UPIO00328DC11 UniRef90-F4KS21 UniRef90-W6MW95 UniReffo-P25152 UniRef90-UPIOOO37A78CD UniRef90-K9D849 UniRef90-K1Q249 UniRef90-A61Q97 UniRef90-Q16769 UniRef90-Q290D8 UniRef90-H6RSJ2 UniRef90-W4S3N5 UniRef90_UPIOOO3443285 UniRef90-UPIO0036ACB20 UniRef90-MOZHM7 UniRef90-13ZMX3
UniRef90-H3GGN5 UniRef90_U2D505 UniRef90-UPIo003B7274F UniRef90_Q12N53 UniRef90-R8BNO2 UniRet90_H2CIM7 UniRef90-UP100036AB9A6 UniRef90-U5EIF5 UniRef90-B1LLM7 UniRef90-W8B5F8
UniRef90- M2UBJ8 UniRef90_WOVD97 UniRef90-B3MCB4 UniRef90 \({ }^{-K 7 F L V 5}\)
UniRef90 G4NAK7 UniRef90-G4NAK7 UniRef90-V9DL54 UniRef90-UP10003DOC788 UniRef90-A6EJF9 UniRef90_Q9K671 UniRet90-B8MFF6 UniRef90 UPIIOOOO12188B UniRef90_UPIOOO3FOE446
UniRef90_STVGP9 UniRef90-H5X293 UniRef90-L7KV81 UniRef90-HOV8×6 UniRef90-W5UQ83 UniRef90-D3BEU1 UniRefor_S6A5C4
UniRef90_B4JT29

LITTVHDALRARTESLDAP \({ }^{220}\) STTGVDFSDHASFWDEGYPA \({ }^{230}\) VHEAAKRVKDPWSTRFPDPGTQKPFMGSDYKSFDQYGDS
 GSAEIEYLIFEKFFDDQGLPHQPTAFTRSDYSAFIKRNVPA
 MDAAYSHVPRPHGSVLANDVFNSGIIISDTDFGQFVKYLN FSATKESYYDNWLRYFNRSSPVYGGAGSDYAPFVHFLGIS GEKMKN KRLDCQRLIAPSFVKGVDFSDHLNYWRFDIPA \(V Q S P N Q T V E G Q T V R D T W N G H D D T M G S G S D F T A F Q D A G I P S\) GHPAMQAAARVLTPKTYVDRAPPAHAGADTEGLEEAGVPV D门HGANNLMEYLTGKGKPAEDAGFGTSSDYVGFLNDGVPS LSRADWRVAANLQLSARFPDQTRTAPTTSTFAFASVGIPT ENFAVAPVAEAWLPSAHDLGVTTLGPRSDHTAFDAVGLPG LESTMKEVQEPAGSGTLYSRIGPGTWMDDYPFLAFAG\|PS VVRRVKRAMRGVSPSINAPAVVPGIDFSDHRNYWREGWKA VRTRGLALAEKLGPGLNPDYPKGTGDWSDHAPEKAKGMPY RMQLI ERRLHRLGLLNNHPDEVKYFWPDDHTPFLKRGVPD VTKS| WQTARRLGVRAFVPRTRMQDVRDDHLPLNQAG||PT LNKAIYNAAGQVLSDVWGGNDAVMGSGSDFTAFQDAG|PS |LDELLKQASKKWMASDSSLIGRLGGGGSDYSAFVQHGIPS GSGAIAKVFEDYFEGRGQVSEPGLSGRSDYDAFMQAGVAS GSAQLERQ TDYLDRRGTPYEGTDFTRSDYGPFDEVGUPS FESWNEKSPSPEFSDLPRISKLGSGNDFEVFFQRGGIAS YDTWLLRSPFNSSDPSSHPFFGTLGSGSDYTMFQQVGVPA TYDLYAQATRRASNALAIFVYRLMPNGTDFTLAADRGLAG LNSYLEAAVHPHCSVIGQEVFQSGVYPGDTDFRMFRDHGR LAQLLTAKGVQATSSIVKFKPEAKNFPNGDNVSFI QNGTAS VAEVLKLFESTNASTLIEDDSPG SDDSVIIKTGIPG LADLLHSALAELTEVPEEHSEKGGYYRSDHFSFAKRGVPM LGRVADPLKNRTVGDIWTEEGGKLGGDSDYVAFQDLAGCS LVKNLRDEFSKYNISFVTGVSTMGDISDHYSFDENNWCA MMATVQQAAGYLGLEGVDHPDTEVRFVRSDQYSFQRQG|AS YVWESSRTAAEKVGFDSLSLTQGGGSSDHVPFHEAG| DS
 GSAQIIERDMQKFLDGRGTPHEGTDFSRSDYGPFIEDGIPA EFELLNEDNNKHGHYVKINPRGKAANSDHYFFTESGVPA RLQALEHELHEDGLLKDHNYSYGGVIQDDHDPFRRRGVPV
 KARATMKEVMRLLLEPVNVTQVFRTGEGTDDNFWAQAGVPG VTDLTKKMASQLGYLNMSTTKDLHSTSSDHAPFESVGIPS GGPDFAQW APLRDLGVTTITNRNTGGTDHLSYDALGLPG LGNESEETLYDQWISQSDGSVGVLGSSSDFAAFDQHLGVT VDY VDHMAK KKGFPLKVERSQSDYSSDSTAFADTGIPS LSRALDDANTWYDIGLKIRRSQDEFDISSHKPFWDGGYNA LNQLLYDVTSQVVRDTWDGTDHTMGSGSDFTAFQDAGUPC LKKRVEEAYAASVHGLYSDEERPGLGPSDHASFYRKKVPV AVRQLKAALNDMGPLNAAEFQNTSDVGLDSTSWWDKGFG AMRQLKAALDLSVYSMNAPGF DPGLDFSDHLDNYWQDIDPA GSEELRDLYUSWYKEQGGNYTFIPFDRSDYDGFGRNGDPA VMKYYKEIKHPFATTMAEEIFQSGILPSDSDFRIFRDFGN LQQLATELGKMKCPVSNVSSVQMQGDSDDYFINHLGVPT GSGHLKDVYUDFYKSKGLNYTFVPFDRSDYVGFIDAGIPA PSPN QTVPGQSVGDTWHGH RTMGSGSDFTAFQDAGIPS YDNWRHHTNRSSPAYGVAPSLGSLGAGSDYASFMHYLGIT WGAQTTS UVWQISSKVAERLGHEPLLLNQGG TIRWYNKLIERRLHNLGLLKDHPGQVIDD GRATVYDTWMNVGPDVGHPKIRVPGGGSDTAFQEAGIPS LEQAIFSAAKKVDDPSDPPYVSNLGSGSDFAPFMRDGVPG LVDKVWSQAHHLGFGDFFQMRNAEADTDDHEFVNQANI PM
 PGPSGLSIYDNWIRYNNRSSPVYGGAGSDYAPFIHFGGIS AYNTTKQVMDNWTDNRDAPR SKLGSGSDFEFFIRLGUAS
 LRYFVEALLAKRVGVNLLSSEDV

240

UniRef90_S9PKC5

\section*{UniRef90-B3SAH3} UniRef90-UP10003C4278D UniRef90-UPIO002E8DC8F UniRef90-A7U109 UniRef90-C3XZ18 UniRef90_M5G3N3 UniRef90-UPIO00288CB4B UniRef90-C9JFW8 UniRef90-UPIO00398ED3F UniRef90-NOEIH2 UniRef90-D4L146 UniRef90-F9WYT6
UniRet90
BOT825 UniRef90 S8ALR1 UniRef90-1013B7
UniRef90-B3TC66
UniRef90-H3D7Z0
UniRef90-G8BR56 UniRef90-AOLMN3
Uninefefo-F8FKO8
UniRef90-G8NXJ1
UniRef90-V9KID1
UniRef90_M5TPT4
UniRef90_C5FSYO
UniRef90-K4IH63 UniRet90-F2DV95 UniRef90-W5MK44 UniRef90-UP100034BF94C UniRef90-D6A5E2 UniRef90-UPIO004797BAD UniRef90_W5POT6 UniRef90-H2XN25 UniRef90-B4WEL1 UniRef90-A0A031GQV6 UniRef90-A8XCM5 UniRef90-TORZ61 UniRef90-H9IVJ4
UniRefo-19WIO6 UniRef90-C5X485 UniRef90-K2RCS4 UniRef90-R1CFA3 UniRef90-UPI000328DC11 UniRef90-F4KS21 UniRef90-W6MW95 UniReffo-P25152 UniRef90-UPIOO037A78CD UniRef90-K9D849 UniRef90_12N1Q9 UniRef90-A6EDU7 UniRef90-Q16769 UniRef90_Q290D8 Unirer90_-W6RSJ2
UniRet90_-W4S3N5 UniRef90-UPIO003443285 UniRef90-UPI00036ACB20 UniRef90-MOZHM7 UniRef90_13ZMX3 UniRef90-H3GGN5 UniRef90-U2D505 UniRef90-UPIO003B7274F UniRef90-Q12N53 UniRef90-R8BNO2 UniRef90-H2CIM7 UniRef90-UP100036AB9A6 UniRef90-U5EIF5 UniRef90-B1LLM7 UniRef90-W8B5F8
UniRef90 M2UBJ8 UniRef90_WOVD97 UniRef90-B3MCB4 UniRef90-K7FLV5 UniRef90-G4NAK7 UniRef90-V9DL54 UniRef90-UP10003D0C788 UniRef90-A6EJF9 UniRef90-Q9K671 UniRef90-A1XA57 UniRef90-B8MFF6 UniRef90OP1000012188B UniRet90_UPIOOO3F0E446
UniRef90_S7VGP9 UniRef90-S7VGP9
UniRet90 H5X293 UniRef90_L7KV81 UniRef90-HOV8×6 UniRef90-W5UQ83 UniRef90_D3BEU1 UniRef90-S6A5C4
UniRef90_B4J729

260
270
280 INFFVTSPLSNYPTYHTRYDTFDYIDPHFSFHASTGRMMM ARVRYTKNRRSYPVYHTTYETFELVDPTFMKQLAVAQLRG ALFI HNPVEPWYHKPEDTVDKI
GGLFTGAGVAYDKNYHGKGDTVANINKGFLNTRATAYSVA AS SMSTDDDGGYPLYHSAYETFDFIDPDWTVHQAVGRLWG VTGGDMAZVGNSYLYHTRKDLVENI QPGAAQHMAENVLAL ITFCDND TKRDHTPNDKAEFI SMDTAYTYDRSYPTYHTAFDTFDYLDPGFSSHQAVARTAG LHLDPSPFP AVWHTMEDTEENLDKTT IMMITDTAFFR NKHYHTPEDTVEKLN MTLNRDGFG MHTRYDTDDLL SAWS DERSA LLG DDVFASSRSDPVYHYHSNYDSFHWMDPGFQYHMTMAKIIA I ALNQDASRYFDYHHTMDDTLNKVRPDELAQNVAAWASF SGLFTGAGAPQDPCYHLKCDTLDNIDWD VDLGGVDY
FQFLQDRLEYNARTHHSNMDVVDRVQR DDVVQMAVVAA ISFFDSKNTDSYMYYGTDDDNKDHLNYQTGH
VDRFESGENDPVYHYHSNYDSYEVMDPGFKYHKSTAQFRG VMLTETAF YRNASYHTAGDTADTLDYKRMAMVGVHQAVL AYLEGTNWDGYTQTWHTPKDTLAYLRENYEHLKTFSQVLS LHLDPTPFPR DWWHMEDNEENDNPTT
TDLIDFDYPRPPQYWHTTEDVPEKCSGTSLAAVTWT
LDYGFVAGDDPVYQYHSNYDSFDWMDRGFEYHLAMAKLTA VPSFFFAFDDDHFDYHTALDTPSRLDKGSLSHEAVASVWG VDMATGTG KRYAVYHSLYDDFTWMDPMFRRHVAVASVWG GGLFSTAGEMFDPYYHTPEDTEENANMDSVAELSAAGA
\begin{tabular}{l} 
F \\
G \\
\hline
\end{tabular}

 LI FDGGSDDDYTENRYHGPKDEYS NESWDWSGLLQDLDL SNDMQSNGNKNGEGGHYTIKDTVEVVDF GYLH
 MDFGYGAGNDPVYHYHSNYDSFGWMDPGWLHHTTMAQLLG
VMVTDTANFR NPNYHRPSDTPETLDRAFTGSAQLVVNAT YQFDQDPDDYESRVHHSGDDTFDHLDKAEDMRQGAVVLA GGTFTTAGVAYDPNYHGAGDNLDNV
FFMYTQGG \(\square\) SAYHDVDDRATTL
LHMUPSPFPE VPGLDMAGTYNGFVYHTEFDRYTVISGGALQSTGDNVLAL GGAGPGRDKYFAECYHQPGDTMTVMDPKQMNVAAAVWAVV ASLVD DLYKYFSFHHSHGDTMTVMDPKQMNV
 VTFSRFAPDGGDG DHTRNDVIDYL
VTGTESSTPDANPFYHTAADTVDKVN FRLVRKVTQLVL V AMGFQAGPDPVYHYHSNYDSFKYGDPGFIYGRTMSQVYA
 ASLRNKHENYFWFHHSAGDTMAVEDPTNLDKCVALWASA GPGLDMAHTLNGFVYHTKYDRFSLLPRATYQQTGDNVLAL
 MPGGDAAQSQNGYVYHTPFDTYEAVPGRADQNTGNNQLAL GGMATGDGDAYDECYHQLCDDTRNVNATAWELN TKLVA GGFAFGSGPDAVYHYHSNYDSFHWMDKGWHYHVTVAKVLS SMDDAYTYDRSYPAYHTAFDTFDYDDPGFTSHQAVARTAG
 IVSFFTGGKTNAVYHYHSNYDSFDWMDPGWKYHLTAAKI VNFKYKNYTAYYPDYHTMYETFTNDHDMDTDDLAVHRADG ADVRYTYGDSSYPAYHSAYETLTYYDDGFKYHLAVSRVWA
 SMDDAYTYDRDYPTYHTAFDTFKYLDPDFSSHQAVARMAG
GRARYYKNRKSYPVYHSVYETFELVDPTFRRMEATTRVRG
 VNGYRASGSG ADDHTVKDSSEHLHP

UniRef90 S9PKC5
UniRef90_B3SAH3
UniRef90_UP10003C4278D UniRef90 - UPI0002E8DC8F UniRef90 A7Ul09 UniRef90-C3XZ18
UniRef90-M5G3N3 UniRef90_UPI000288CB4B UniRef90 C9JFW8 UniRef90_UPI000398ED3F UniRef90 N9EIH2 UniRef90 D4LI46 UniRef90-F9WYT6 UniRef90-B0T825 UniRef90_S8ALR UniRef90-I013B7 UniRef90-B3TC66 UniRef90-H3D7Z0 UniRef90 G8BR56 UniRef90-A0LMN3 UniRef90-F8FK08
UniRef90 G8NXJ
UniRef90-V9KID1 UniRef90-M5TPT4 UniRef90-C5FSYO
UniRef90 K 4 IH63
UniRef90-F2DV95
UniRef90-W5MK44
UniRef90 UPI00034BF940
UniRef90 D6A5E2
UniRef90_UPI0004797BAD
UniRef90-W5P0T6
UniRef90-H2XN25
UniRef90-B4WEL1
UniRef90_A0A031GQV6
UniRef90_A8XCM5
UniRef90 T0RZ61
UniRef90-H9IVJ4
UniRef90-19WI06
UniRef90_C5X485
UniRef90 \({ }^{-}\)K2RCS4
UniRef90-R1CFA3
UniRef90_UPI000328DC11
UniRef90 F4KS21
UniRef90-W6MW95
UniRef90-P25152
UniRef90 W2RLY2
UniRef90-UPI00037A78CD
UniRef90-K9D849
UniRef90_K1Q249
UniRef90 I2N1Q9
UniRef90-A6EDU7
UniRef90-Q16769
UniRef90_Q290D8
UniRef90 H6RSJ2
UniRef90-W4S3N5
UniRef90-UPI0003443285
UniRef90 UPI00036ACB20
UniRef90-M0ZHM7
UniRef90-13ZMX3
UniRef90-H3GGN5
UniRef90 U2D505
UniRef90_UPI0003B7274F
UniRef90_Q12N53
UniRef90 R8BNO2
UniRef90- H2CIM
UniRef90_UPIO0036AB9A6
UniRef90 U5EIF5
UniRef90 B1LLM7
UniRef90_W8B5F8
UniRef90-M2UBJ8
UniRef90 W0VD97
UniRef90-B3MCB4
UniRef90_K7FLV5
UniRef90-G4NAK7
UniRef90 G3BD55
UniRef90-V9DL54
UniRef90_UPI0003D0C788
UniRef90 A6EJFs
UniRef90-Q9K67
UniRef90-A1 XA57
UniRef90_B8MFF6
UniRef90 UPIOO0012188B
UniRef90-UPI0003F0E446
UniRef90-_S7VGP9
UniRef90_H5X293
UniRef90-L7KV81
UniRef90-HOV8X6
UniRef90-W5UQ83
UniRef90 D3BEU1
UniRef90-S6A5C4
UniRef90_B4J729
\(\mathrm{L}_{\mathrm{G}}^{\mathrm{L}} \mathrm{T} \mathrm{V} \mathrm{V} \mathrm{E}\)
\(G L \vee Y E \square A D S\)
E Y A R S L
QMA VTLADA

S VI LRLS D S

C]A D ALGNA
LLAAKL
LYLV
\(\square \mathrm{F} \mathrm{A} \mathrm{Y} \mathrm{N} \mathrm{T} \mathrm{A}\)
VI I L K L
\({ }_{G}^{H F L T} E\) VGAA
DLGGWQVIDAP

A Y \(\square\) S E L A N A T
LVALRRL
GLVFKLADSP HGVEFFAEST A Y A WD

G I PEDANS
EAGRRLSDS
\(N \square G Y E \square A N\)
SWALNL
A Y Y ALGGRTDADG
VK A
L L I L E L A
GMVFELANS
LISYLVSRAA
LLVIEISES
V Y
\(\mathrm{L} F \mathrm{~T}\) IT L
ATLLE
GMLLQAANS
ELARNLADS

V F VLE
\(\stackrel{V}{\mathrm{~A}} \mathrm{Y}\)
SYVI
\(L V A L R L A\)
L Y
L V A L R L A D S A
\(\overline{\mathrm{V}} \mathrm{T}\) VD S L
MAAEALGNS
LT TAQLA
QI DRRAAAFAP
RYAFDLSS
A Y V
LY
TKA \(\square C N A P\)
HSVATYAQS
NLGYEVAN
VRAFSNAS
EVTLQDAS
H SVA
HSVATYAKS
LL I A QL
NVLLRLAD A SVYEL

QYWAELA

SVLLRLSDS
\(G \vee \vee F R L A N\)
\(R L I Y Y L G N S\)



EFSAERAFQSVRT \(\square\) AA APHPAGSA
\(\square P P V V D L I N P Q T A L P Q L S E A Q M L A H A K Y \square S D \square G Y R T V G T R\) T I DGERLWQT \(\square M E T S A F G A R L T L S E\) PVAADASAR EFSAERARPVIEK \(\square\) AT EPRP \(\square\) GSA F D A K R S F D Y \(\square\) T R \(\square \mathrm{CR}\) R LK S R \(\square \mathrm{S}\) GS P

FPPSQSSG \(\square\) P N \(\square\) P VQT \(\square\) TRAGAEK \(\square\) FQNMEGDCPR \(\square W G T D\) LQHLKGFG QQVDKD

GS YAARQHTMQRDQRDQADWADEVDTFLSETPYGYQNTIS EKDVADYIDKLQKNPNHKFETTLF IDDYVKNDSTLNVIAA

RD IWN TYA
F IVT TENTLNELKNYGKNGYIVDCF\|PYQNSSANLKN\|IG


N S A N V M G
VENRTTFNVIA FSQDEHWVIESRNVIV NVMG
EGGVPDVPEWWTGNKTGSP \(\quad\) VR LIKNEQDEETQQPVWNVYG N 1 A G

GNDRVHDFLERRTQELITGANFTTWDNDTNSYYESNNLLV
 QTVEYAESRNVL \({ }^{\text {G }}\) \(Y \square M \square S S K T A Q E \square K N Y \square N S G Y E \square S C F \square P Y E N E \square T S A Y N V L G\) FKPVDLKTRVHGQ DRSTVRQDEEFNVAG HMDHLME NK VAP VWDV

EFDFKVEPLYNVI A
NVKVSLLNHGEYRYSPTYNVIG AADGVRTY ILDTDRGLGDDARVQDAVGVHPGDPRVRNVVA WQGSVGGNLTYRIGPGFSNGEKLSINVHSEKTKRIRNVI G HTSRE \(\underset{P}{\square}\) RTKTVRNVI
QGA \(\square\) GCDY \(\square G P\) GFRADGDFPADSQVNVSVHNRRNSSNVLG

LLAALEASEEDVLVDLVIDAVTEYRTNYNVG LTYHLGPSRDRVVMATHNREVVTVRNNYNVI A ASFQGALNLTYHLGPSRDRVVMATHNREVVTVWNVIGVVE NETMATIURNVI S S
ADWLSKALIQKPELRLSLELDCQRLTDVASANVIA ERDRTTYNI I G GS Y A A RQHDMQR QQRDQDWVWEDTF DSRPYGYRSFSNII S EQERAREYIMNEVLALGAHRFDFMNKYVIKKYQNLKNIVV.

S SCKDVSSQNKNVK \(\quad\) TTVNNVL
KEDRDFNDFG EEFDPAGFI NQELLEAGETVEAHFQQTQLIEEQITQNVWA GS QAVQQQIKS TLNSLNAGWEVTEDHFQNWTPYGQMNIDA

A A WA QTAG \(\square Q \square S M\) TVDVIREQTETYNVLAE \(R N \vee \stackrel{A}{L}\)
T \(\square \mathrm{Y}\) NVIA
VVHDKMEAKTFPDADSFNVVA
GEKCPQEWTSG \(\quad\) VGCSSSNMTVK \(\square T V N N \square M \nabla D R K \square L N \prod F G\)


AEHTKHALGENKEDTVTDDAVSKVEKDRTTYNDVG EDRMARDY IKEEMSQDGLKVWED NHT VREF \(\square\) SKE

 YVEFI KTQNII A ADK \(\square\) FS \(\square\) ME \(\quad S G T P H F E A Y \square D A C V K E V P T T N I I A\) ETRTMTNVI A ANDTVRDHLLRTLRGLGLSPQVQDTVTAQGGELRVRNVV/T EHA LGDA WMFARAEELKAQCDECE TWRQEGSGHHRFDIMA ADRNVRDWLWEQCEAGGCSVKVDTVGNM

D S \(\square\) T TYNVAA A GDAVRDHLVAKFRDLGGEPQVRSATASAAEPDQTENIRA QMHVVTDVVRKQTETVNVIA GMAAQQKLILDHFKELKAKVQFQSFDAPHPQTGNPVRMNN
\(S \quad S C K \square V S S Q D N V K \square S V N N V L \quad R N D A\) GAGGVPDVPEWWTGNLSSPIVRLKNDNDVVERKSI WNI YG ERARVRWYLHDRDEDMGGKPPYDS IPCKFGGTLNIANLYC S \(\square\) SRAAD D IKGSMEDREAKVLFDA RSTVKDDDWARNVVA FVPAAD GLAAKDRITAGETLTAFFQQTQVVEERKTYNVFV NHEKVGDYI RDEMKGLGWEVTEDSFTDQTFGELNFRNIIA GWIGAVPQUPEWWTGDQHSPTVHLMNQDEVDRRPDYNVHG




UniRef90 AODN54 UniRef90 N4VA13
UniRef90 WOJXRO UniRef90-UPIOO0328E920 UniRef90-A5DZ20 UniRef90-R9NZX2 UniRef90-LOAF79 UniRef90-FOK4U9 UniRef90_C9SIO9
UniRef90_LODRB8 UniRef90-A2BGQ8 UniRef90-S9QJU7 UniRef90-B6HHG9
UniRef90 11 CRA
UniRef90-I1CRA5
UniRef90 A2VD75 UniRef90-S3C858 UniRef90-B9JNZ7
UniRef90-L9ZFT8
UniRef90-A5DZ28
UniRef90_R7YRR4 UniRef90-A1T304 UniRef90-UPI0003B7B18D UniRef90 W5PQ80 UniRef90 W6NGT7
UniRef90
U5P9R1 UniRef90-C5P9R1
UniRef90_UPIo00381B021 UniRef90-B2W2Y8 UniRef90-I2EX12 UniRef90-V4XQ14 UniRef90-W3WN28 UniRef90-F4CRM0
UniRef90
GOP3B9 UniRef90_GOP3B9
UniRef90_W4ZL65 UniRef90-S3ZDZ8 UniRef90-UPIO0042BD335 UniRef90-W0RRZ9 UniRef90-G4NFQ1 UniRef90 R9BW60
UniRef90 M7TZ10 UniRef90-M7TZIO
UniRef90 UniRet90-B9EZMO UniRef90 OO20W5
UniRef9-C7PBM5 UniRef90-C7PBM5
UniRef90-R5ERC3 UniRef90-F1S4Q8 UniRet90-O94702 UniRef90-MOM7U8 UniRef90-C9L2T1 UniRef90-UPIOOO2C32F61 UniRef90-W2S9988 UniRef90-W5UFJ7 UniRef90-V4YAA6 UniRef90-K5YNQ2 UniRet90-G41OW6 UniRef90-M4TY99
UniRef90-K7E793 UniRef90-АОАо24JM31 UniRef90-UPIOO0395D800 UniRef90 A0A \(558 Z 0 \mathrm{~K} 7\) UniRef90_DOMD60 UniRef90-UPI000478DEAA UniRef90-R6CCS5 UniRef90-UPIOOO4106AB8 UniRef 90 -F4H4T0 UniRef90-U6HH96 UniRef90-H9G426 UniRefofo-KgD8J6 UniRef90-G8YAU4 UniRef90-UPIO00368303F UniRef90-R4SJ56 UniRef90-G8SEA3 UniRef90-UPIOOO3B35A74 UniRef90-K5VTE1 UniRef90-A0A021XH99 UniRef90_S3CKJ7 UniRef90_V6K9B9 UniRef90-Q2SLP3 UniRef90-A6C9C0 UniRef90-W6ZAG8 UniRef90-E1BIG6 UniRef90 \(\mathrm{N} 4 \mathrm{VNX6}\) UniRef90-WORFA4 UniRef90-G5HH06 UniRef90-Q898V9 UniRef90-L7JD63
UniRef90-L7WW81 UniRef90_S7ZMQ8 UniRet90-C5FYL4
UniRef90_F61Q29


 GSLTLLEDATQLSK FSVNNCVRFAWWAAEEEGLLGSDY GTAMVVEAARALADREADLDTRVHFVCFGAEEVGLVGSAY PCAMILELARALDKQDSKPDLSLQLIFFDGEEAFI HWSPR GTDSLLEVAKYLTK FKDNNAVRFAWWAAEEEGLLGSDY GTAALLAMAAEAVKK PAKRTQLFLWPAAEEQGLLGAAA GTMSLLNAKQLNTHFKMNNKVRFAWWAAEEEGLLGSNF GSITLLSLAKYLTK FKINNAVRLAWWSAEEEGLLGSNY GSAGLLEVALKLAKKEKQPRNKVRFAWWSAAESGLFGSAH GTASLLETARALTTGRKKRNDVVRFMWDAEEACGLVGSTY HGAMLSEALGTLYKSGWRPDRTIVYASWDGEEPGLLGSTE AVGVMLECIRVLINTPGWEPKHAVTFLFNNAEESLQDGSH GSTGTLEVLRTLHDAGYEAEHPLMLVNWTNEEGARFAPA GVATVLEVARALTQGPAPRNTVEFLLTDGEEDGSLGARG GSAALLELALQTRRAH GVAFLMELGNVMPTLKVS GVVGI YEVAKGLSKYKIKNGYGVDFVFFDGEELVYRQSKY


GTAAFHEADKELYKKGWKPMRTVVFASWDAEEYGLVGSTE
 GTAMVVELANALAKREDELETRVEFVVYGSEEVGLVGSSY
 GVSFILEMSK FLLKSLGTPDRDI DFAAFNGEEFGLKGSEA
 GSDGVLNVAVALVSHFKVKNAVRFAWWGAEEYGKLGSYY
 GSAATLEMCRAAVKNGWKPRRTIVYASWDAEEYGLVGSTE
 GVAGLLEAARLLAAKRERLHRDVYFTAFSGEELGVLGSTA
 GVDSNLVVAKALTR FSVKNAVRFFFWTAEEFGLLGSEY
 GVATAMELDRYFI HHPPRHT1 1
 GTAVMMEVTRVLKQGKWRPRRSVVFGSWGAEEFGLVGSTE
 GMAGLALLPRLLKDTDTERPIVFLSTTGEEFGFLGARH
 GTAMVVELARALAAREDEDETVVEFVAYGAEEVGLVGSGY
保
 GTVGVLEVALQLAK YKTNNAIRFGWWSAEEFGLLGSEF
 GSAGLLDTAEAMVAEAPRRSVLFAAVTLEESGLLGSAY
 GTAVLLELSRLLKKGTWRPRRSIVFASWGAEEFGLIGSTE
 GTSFLLGMVKYIN SDGKPDRNIIASSNAEEFGClLGSKS
 GTAALLVMAAEAVKH PAKRTQVFLWPAAEEQGLLGAAA
 GSAVLIELANALGKLVWKPKRTII LGSWDAEEFGLQGSTE
 GMVAEMEEARAT TKTGWRPKRTIVFCAWDGEEPGLLGSTE
 GSALVVGVAR\|LAADEPELETRVRLVVFGAEETGLYGSYH
 GSTALNEVVRGLDKAGWKPYRKLVI ASWDSEEYGLVGSTE
 GVSTLLESARVLRTTMPDRNDVVLLFTDAEEACLCGAEA
 GTAVLMESARQMIKKGWRPRRSVMFCSWGAEEYGLLGSTE
 GSAGLTEVAEKLAKETKKLTNKVRFAWWSAEELGLLGSDH
 GTAVLLELSRLLKKGTWRPRRSIVFASWGAEEFGLIGSTE
 GTTALLEIMG SVKKYSGFKNKLRFIWWGAEEAGLVGSNF
 GTAFLLELQKTLSSYGKPKRDIIFVALLNAEEFGLLGSKS
 AVASQFSVTNAVRFAFWGAEEFGKLGSFYYVKQLNGTGSN
 GTASQMEVAKALLRRGWRPRRTLVLASWSGEELGLIGSTA
 GTAALLELAQRFSELQWRPRRTI LLCNWDAEEYGLVGSTE
 GLVQVIDALRILRTVLPHPARTIRI RLYIAEEQGLLGSRA
 ISMMLGMGKALVETGWQPENTILFCAMASEEWGVADSOF
 PCAMLLELARALDKQDLKPDLSLQLIFFDGEEAFLHWSPH


 GTSLLLKLAQAFLASGQQPERNVIFAFWDGEEKGLLGSKY
 GTSLLLELFKGL ENYDVKNKVRFAWWGAEENGLVGSTF
 PCSMLLEMARAQDKEFFDGEEALYQWTSTDSLLYGSRHLDAT
 GSALVAEVGRLLSMVETDLDTRVRLATFGAEETGLWGAYH
 GSAALLEMALLMSKAH PLDKVRFAWWGAEESGLVGSTH
 GVAAVLETALQMGSSP PVQNAVRFAFWSAEEDGLLGSAN
 TVALLAEA GELAKQGQRPKRTLVYASWDGEEAGLLGSTE
 GTISLIEVALALY NFNVTNKVRFAWWAGEEEGLLGSDY
 GSAALLELVAQVISDMVKNDDYKPRRSVIFASWSAGEYGAV
 SLLESARALAQLAREGHRPRRTIAIASWDAEEYGLIGSTE
 DAMMLCAGKAELMQKVKTTNQVRFAWWGAEELGLLGAEAH
 GSAVLLETAVVLGENNKENYYPIEIVAMNDERFGTG\|SNS
 N IAESL DRLFQSSKSFFDGEEAFREWTDTDSLYGSRHLAA
 GTALLLELARAFSDMVYKPRRSVVFASWSAGDFGAVGATE 











\footnotetext{


}

\footnotetext{

}









\footnotetext{

}








\footnotetext{


}
\(\qquad\)





\footnotetext{

}

\footnotetext{

}

 






\footnotetext{
\footnotetext{
K
}
}

\section*{UniRef90 A0DN54} UniRef90_N4VA13 UniRef90-W0JXRO UniRef90-UPIOO0328E920 UniRef90-A5DZ20 UniRef90-R9NZX2
UniRef90 LOAF79 UniRef90-FOK4U9 UniRef90-C9S109 UniRef90_LODRB8 UniRef90-A2BGQ8 UniRef90-B6HHG9 UniRet90-l1CRA5 UniRef90-A2VD75 UniRef90-S3C858
UniRef90 B9JNZ7 UniRef90-L9ZFT8 UniRef90-A5DZ28 UniRef90-R7YRR4 UniRef90-A1T304 UniRef90-UPI0003B7B18D UniRef90-W5PQ80 UniRef90 W6NGT7 UniRef90-UPIOOO381B021 UniRef90-B2W2Y8 UniRef90-12EX12 UniRef90-V4XQ14 UniRef90-W3WN28 UniRef90-F4CRM0 UniRef90-GOP3B9 UniRef90_W4ZL65 UniRef90_U3ZDZ8 UniRef90-UPIO0042BD335 UniRef90-W0RRZ9 UniRef90 G4NFQ1 UniRef90 R9BW60
UniRef90 M7TZ10 UniRef90 - W7TMG7 UniRef90-B9EZMO UniRef90 OO20W5
UniRef9-C7PBM5 UniRef90-C7PBM5
UniRef90_R5ERC3 UniRef90-F1S4Q8 UniRet90-O94702 UniRet90-MOM7U8 UniRet90-C9L2T1 UniRef90-W2S998 UniRef90-W5UFJ7 UniRef90 V4YAA6 UniRef90-K5YNQ2 UniRef90-G41OW6 UniRef90_M4TY99
UniRef90 K7E793 UniRef90-АОАо24JM31 UniRef90_UPIO00395D800 UniRef90-A0A058Z0K7 UniRef90-D0MD60 UniRef90-UPI000478DEAA UniRef90 R6CCS5 UniRet90-UPIO004106AB8 UniRef90-F4H4TO UniRef90-U6HH96 UniRef90-H9G426 UniRef90-KgD8J66 UniRef90-P37302
UniRef90 G8YAU4 UniRef90-UPIO00368303F UniRef90-R4SJ56 UniRef90-G8SEA3 UniRef90-UPIO003B35A74 UniRef90-K5VTE1 UniRef90-A0A021XH99 UniRef90_S3CKJ7 UniRef90-V6K9B9 UniRef90-Q2SLP3 UniRef90-A6C9C0 UniRef90-W6ZAG8 UniRef90 E1BIG6 UniRef90-N4VNX6
UniRef90-R5HX82 UniRef90-WORFA4 UniRef90-G5HH06 UniRef90-Q898V9 UniRef90-L7JD63
UniRef90-L7WW81 UniRef90-L7WW81
UniRef90
S7ZMQ8 UniRef90-C5FYL4 UniRef90_F61Q29

170
180
190
\(\qquad\)


A GE \({ }^{200}\) \(D V E \quad R R D R D D V R A V L N F D G V A R G R T L K F Y A H G F D\) MASTPHPPGARMDLLVLLDLIGGSPDPTFFNFFPGSARWFN YANNSEEENSK IRRLFMDYDMMASPNYEYGDYDANNKDHPD
 HSET TVDHDSIAA IVNNDGVVRDRTLEFYTHGFDG F VNK Y LS S LKGASV FNFDMI GA QK S DP LCLMGAKK DSA

 WTRSPP A GLK DVVGMINLDMVGRLRGNHLAVLGVESGQE Y TS H L A D E LA K I R L L Y N F D M I A S P N Y A L M I Y D G D GQ T G P A
 DG AY NLDTAG

 F TRHPWFKLVK YFLNLEGTGAGGKAILIF RATDYG Y V N T A P A E L D K D R L Y \(L\) N F D M I A S P N Y \(\square Y Y\) GU Y D G D G S A G P P
 FTEEFFSKLERAVAYINVD\SVVANATLRVQGISAPGSSG


 WAETF QDELKKAVVVYLNSD GNERGFGYAGGSHT


 YVK S S A QQKKN I KLY L NFDMIGSPNGAELVYNTAEGMPPK
 YGQMSEEEADKGRFYAN FDMMGGSPFP EFVVVQDPDF GSAVV F A E N N L D K L K E A E V , DN F D M I G S K G Y P L T L M L G S S Y K D S E
 WVE ENRAMLSRTVA YL NVD YVKEHFADPADMKPKPEMGYFNLDNGSGGKVRGGYDQDNDQ Y A A WARQSREQHDAVFETDAGGFFPHGFRI DAAPE D WS T HPE WR G QVIA DLLNFE LPALAHGTRARIRSTYEYVDF







 WAEQHADELRKAVLYVNTDGNGRGFERQRARAR\|DALAPA



 DWSTHPE WR GSVIADLLNFELPALAHGT RAR』RSTYEYVP F

 WLE GYAASSLHKAFAYI NLDSAVTGSRDFKF SASPM \(Y V A K P V W P L A Q T A A D L N L D S D N F V G R T R D V G D A G A E R S S\) YAYNLKEENSKDRVFMDYDMMASPNYEYEI YDANNKENPK

 \(V R Q N P L A A G G G V V \quad D N D E A R G S S G P A D M F E T S A R N A R\) WA ETHADELKK AVVYY NTDNASHDLQUFVNQAARDVTDPE
 \(\begin{array}{ll}\text { Y V E S A A E S A K } \\ Y T R & R \\ T & \text { S E D A A D P R H T }\end{array}\) \(S P N F V Y Q \quad Y\) R G K A P P L YTDSEDAADPRHTVVLNLEARGT DGRVVMFESGA DTA G
 DKN LITPA ENAK I CA Y
 Y V E H N E D L L K N A FA Y I N L D D S A G T E F H A

 FAKDNLS Y ITKNAKAFN FDMDGS DSNDP LSLLMGGK TS S P





UniRef90_UPI0004106AB8 UniRef90_F4H4T0
UniRef90_U6HH96 UniRef90_H9G426 UniRef90_K9D8J6 UniRef90_P37302 UniRef90_G8YAU4
UniRef90_UPI000368303F UniRef90_R4SJ56 UniRef90_G8SEA3 UniRef90_UPI0003B35A74 UniRef90_K5VTE1 UniRef90_A0A021XH99 UniRef90_S3CKJ7 UniRef90_V6K9B9 UniRef90_Q2SLP3 UniRef90_A6C9C0 UniRef90_W6ZAG8 UniRef90-E1BIG6 UniRef90-N4VNX6
UniRef90-R5HX82 UniRef90-W0RFA4 UniRef90-G5HH06 UniRef90_Q898V9 UniRef90_L7JD63
UniRef90_L7WW61 UniRef90_S7ZMQ8 UniRef90_C5FYL4 UniRef90_F6IQ29
UniRef90_UPI00035D089E

\author{

}

GSAATEDVFTDWFDSVGQPVDTQFSGRSDYQAF LVNGVPA

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





F SA E LE HLLWEA YF P EA GLAFD STAFDRS D Y GP F LDDA G \(\square P A\)
 GS K A TEEKLLF E D Y Y K LIR A LIP Y E T E I S F R S D Y A Q F F T D G V A F


 LMDYVENARMPYTYSLTSVIYRYMPNFTDFTPARRLL

 GSEVVIQQQTY LDHFAA Q DVVEVT P RLLTA GS D YA S F WS I N KP F F Y S Y F R S T E K W Y I R M A S A E S T S N A V I E D D H I P F Y K R D V D V




UniRef90-K7E793 UniRef90-A0A024JM31 UniRef90_UPIO00395D800 UniRef90-A0A058Z0K7 UniRef90-DOMD60 UniRef90_UP1000478DEAA UniRef90 R6CCS5 UniRef90-UPIOO04106AB8 UniRef90-F4H4T0 UniRef90-U6HH96 UniRef90_H9G426 UniRef90-K9D8J66
UniRefo- 37302 UniRef90 G8YAU4 UniRef90-UPIO00368303F UniRef90-R4SJ56 UniRef90-G8SEA3 UniRef90_UPI0003B35A74 UniRef90-K5VTE1 UniRef90-A0A021XH99 UniRef90-S3CKJ7 UniRef90_V6K9B9 UniRef90-Q2SLP3 UniRef90-A6C9C0 UniRef90 W6ZAG8 UniRef90-E1BIG6 UniRef90-R5HX82 UniRef90-WORFA4 UniRef90-G5HH06 UniRef90-L7JD63 UniRef90-L7WW81 UniRef90_S7ZMQ8 UniRef90_C5FYL4 UniRef90-F61Q29 UniRef90_UPIO0035D089E
\begin{tabular}{|c|c|}
\hline UniRef90_A0DN54 & M Y L I 290 \\
\hline UniRef90_N4VA13 & HSVANYA A S \\
\hline UniRef90_W0JXR0 & ALAVHLA S \\
\hline UniRef90_UPI000328E920 & \(\square \mathrm{F}\) V L E \\
\hline UniRef90_A5DZ20 & HSVAVVY A K S \\
\hline UniRef90_R9NZX2 & LM A I E \\
\hline UniRef90_L0AF79 & A L V V D L A S \\
\hline UniRef90_F0K4U9 & \\
\hline UniRef90_C9SI09 & K Y A L \\
\hline UniRef90_L0DRB8 & VF VM R A A A A \\
\hline UniRef90_A2BGQ8 & \\
\hline UniRef90_S9QJU7 & \(\square \mathrm{V}\) S E V A \\
\hline UniRef90_B6HHG9 & AYANSLAS \\
\hline UniRef90_I1CRA5 & GAVRAI A N S \\
\hline UniRef90_A2VD75 & \(N V L L R L S D S\) \\
\hline UniRef90_S3C858 & LL L I ELA \\
\hline UniRef90_B9JNZ7 & IL I ADL A \\
\hline UniRef90_L9ZFT8 & \(D L \vee V E L A\) \\
\hline UniRef90_A5DZ28 & \\
\hline UniRef90_R7YRR4 & \\
\hline UniRef90_A1T304 & A F A \\
\hline UniRef90_UPI0003B7B18D & \\
\hline UniRef90-W5PQ80 & S VLLRLLS D S \\
\hline UniRef90 W6NGT7 & \\
\hline UniRef90_C5P9R1 & L L L L E V \\
\hline UniRef90_UPI000381B021 & NL GYY V A N A P A \\
\hline UniRef90_B2W2Y8 & LI LY H I A \\
\hline UniRef90_I2EX12 & R TVVLRLSES \\
\hline UniRef90_V4XQI4 & A GIA AKLAEA \\
\hline UniRef90_W3WN28 & \(T \mathrm{~L} A \bigvee \mathrm{~V}\) L A G T P \\
\hline UniRef90_F4CRM0 & A R A \\
\hline UniRef90_G0P3B9 & QYWAELLAK \\
\hline UniRef90_W4ZL65 & ELS R D L A D S \\
\hline UniRef90_S3ZDZ8 & TYAHDLS SLKG \\
\hline UniRef90_UPI00042BD335 & S V L L R L D S \\
\hline UniRef90_W0RRZ9 & \(D F \vee E T L A N\) \\
\hline UniRef90 G4NFQ1 & \\
\hline UniRef90_R9BW60 & \\
\hline UniRef90-M7TZIO & K Y A L \\
\hline UniRef90_W7TMG7 &  \\
\hline UniRef90_B9EZM0 & L V A L R L \\
\hline UniRef90_Q020W5 & V Y \\
\hline
\end{tabular}

A

LNMWKMAN
EVVA


ATSW

TYGAS L
Q \(\square A \rightarrow R\) L
A R L L R R L A N A
TYAMN
A
TYSLAL
\(\square\) A A A E T A G
NLGYAVANAP
HSVATYADS
TYAHDLGALT
VYATSTANING
TRTLRLAAAT
\(R L V L R A A D A\)

A R S WE
A A TRQDAG
AFV
T Y A
LLм

A E Y L H L
LLGYH
LKG
1 F

UniRef90 UPI00037B3BC6 UniRef90- S3DJ60 UniRef90-W1S4F9 UniRef90_U1PR91 UniRef90_V2W8G5 UniRef90-B4LGC2 UniRef90_A8PFK7 UniRef90 L8HZE5 UniRef90_UPI0002BC8573 UniRef90_-Q852M4 UniRef90-A0A010R1K7 UniRef90- S3UlJ5 UniRef90-E8X3L6 UniRef90-B0W2E0 UniRef90-I4BDF2 UniRef90-UPI0002BD0994 UniRef90-A0A023BZP1 UniRef90-B6Q1D9 UniRef90 A0A016PUP6 UniRef90_UPI000287D2F1 UniRef90-E9QEV8 UniRef90-D3T1S2 UniRef90-O94479 UniRef90-F6SU34 UniRef90_UPI000287EAD9 UniRef90 H3E085 UniRef90-C7Q9D3 UniRef90-R4G3V9 UniRef90_UPI00047C0626 UniRef90_M3KGW7 UniRef90-D5UG77 UniRef90_UPI000309C3C0 UniRef90_H1V1R8 UniRef90-B3M3K5 UniRef90_J8QB36 UniRef90-A1UHW2 UniRef90 F4F793 UniRef90-XOWQG5 UniRef90_UPI000388BAEA UniRef90 L8HKC9 UniRef90-G0M8A1 UniRef90-E5S2X3
UniRef90-F4GP74 UniRef90-UPI0002DDA414 UniRef90-UPIO00406E531 UniRef90-F1NHG1 UniRef90 \({ }^{-}\)W1QDM9 UniRef90-S0EUQ0 UniRef90-M4ZGG9 UniRef90_UPI0004623163 UniRef90 A5EP65 UniRef90-K0AUN6 UniRef90-M9SLB0 UniRef90_W6QXQ0 UniRef90_D0NL83 UniRef90-X0XIY1 UniRef90-G5AUX5 UniRef90_G4N5Y2 UniRef90-R7IA55 UniRef90-G3BCS8 UniRef90 K5XED1 UniRef90 F0LJS1 UniRef90-D1C7C2 UniRef90-F8G5T7 UniRef90_B9L070 UniRef90-W0REQ2 UniRef90_UPI000381EB5D UniRef90-A0A010R875 UniRef90 V4GTM6 UniRef90-B3RJS8 UniRef90-G7CMI4 UniRef90_C3XZ72 UniRef90-W5JPF6 UniRef90-A0A023CIZ4 UniRef90-E3QNT6 UniRef90 UPI0003333C62 UniRef90-A0A021XIB8 UniRef90_U9W5J4 UniRef90-C5E0G6 UniRef90 G4I2R8 UniRef90-B5Y765 UniRef90-K1XDH2 UniRef90_UPIOOO42A96E8 UniRef90-В3М3К8 UniRef90-Q899V9 UniRef90- S2J4M9 UniRef90_UPIO00440E147 UniRef90-C3YAQ6 UniRef90_C4R628 UniRef90-D3T1R4
\(G G L P Y T Y R \square{ }^{50}\)
 GGLASADYILNQAKQAGFKTEDQTFEN REKTKGQN\|IV NHG\|VRQY \(\|V Q S \square R D L D W H V E L N G F H D N A P G A L H F T N\| I \sqrt{A}\)

T VT \(\mathrm{N} V \mathrm{~V} \mathrm{G}\) A \(\square\) NHA \(\square Q Y V L Q A A E N \square K E T A H W V E \square D \square F H A K S G A N H M V G G\) Y QEDRKMGMDQDIFA S L NKAADF THQTFLNFGYSPKRQYFQVDGSKYQNLEVRIG LI GRLAKDGPVTVHLEMEAHQEADVKSGNVYG AEMILRKYRRGETLTIHLEMEDRNLEPFMSRNTIA TTSRNVVA \(T \mathrm{~V} T \mathrm{~N} V \mathrm{~V} \mathrm{G}\) R KASADF LYNSS \(\square K D \square G L K P E R H S Y N V K D K K G F N G T N V Y A\) GSKVSAD WV DSE WWTGDLSSPKVNLM QDEVERQPDYNV \(\mathrm{L}^{A}\) VENRVTFNVI A ASFHGGDPDTYHLGGDGAVKVHLAVKSDW SQKPVYNVVAA GSRAVRKHUFSQLDSLSAGWSVEVDSFDSETPRGFSNILAA

QNEHVRSYILKSMREDEANDTFESTDNDTDTYFEGDNILV QGALGCDYLGPGFLDGGKFPQDSQVNVTVYNRKNSSNVLG EDRRARDYFRFCCEELGGDVKVDDLGCMY

GGAAARTWLTAALTELDAVSEVERFDTAAGGAANDYATDA SHEKVKDFI ARELSNLGFATELDKFRTPNFGNLQFTNVIG ERSRSRNYI DSQLKKFGWKPQLQSFSEGDN NFEAATS WMQSRLGVGYETS IQNFNWTASGTSRASKNVIA RYHVEEEESFNVI A ANLAG \(\square\) AHMERR \(\square A T \square G F T T R R V V T K W G G D P S Q P A \square S L V A\) A A GHPTANVRYVRHVAWSQPSIIV GHAQVRRFLAQELKKLGFMV VQNKFREGVNFTNVVA ENDKVHDYL LERVLKIARNASFASVSDDRVTYFESSNILV GEGDCARWVAAQLEEVGYECEYLEAGAP NRGNV FA

EWRGNLSVYKMRSQNTDGTKVTLEVNNQMVE RK \(\square\) UNTFG TSHNVLA

NHKKVQEFDTQS \(\square E A L Q Y K V E S T T F T Q Q T V V G Q K T\) \({ }^{\mathrm{F}}{ }^{\top}{ }^{\top}\) \(\square H Q Q G R E W L K E Q M E L A G L A V Q V D A A G N\) \(A \square R E V A E K \square R R R L G P D A H F E D V P D N P G M R N I V G\) VMVDSFVGYKTlSNVIG AHDKTLQFLRDEMQKYADVTVEQRFFYRDMPVTNV IGIFY GHQQTIDY IKAAMAKSAADVLTQSFTAKGDDGKAI PLTND DDRRVRDWFKRACEA \(\square G C T V T V D\) VN HVMTR\MPI WNVMA DCGNMFA

LD R Q A R D L F VR WCEEAGCTVTVDGVGN
TMDNS \(\square G P \square W D\) IFA EDKQARD DFVK WLKEDNLEDTDDE \(G N L Q V R K F L E A T L R A L T A G W H V E L D P F T A S T P L G P L D F G\) \(D\) REPALRLKARLE AGEKDEVFSNDQQLIEERITQNVDA \(\square G V R A S R E I\) RAQLPHGTVLGTLKVDNTVEI GKGTTYNVTG GNDYVHDYI EQKVKRLIKESKLPYIE YDYVSYYESNNILV EHALADTWMAQRAEEMQKECQQCEVWHQRGSGSHRFDMMG
 LDRQARDLFVQWCEAAGCTVTIDAVGN

GDVEGRNWF \(\square G \square M K Q A G L N P T \| D A A G N\)
1 - \(G\) A GGD \(\square\) A E WWTG \(N \square S S P \square V R L K N D N D V V E Q K G \square W N V Y G\)

Y \(\square\) ATTMNK LDWNVR DDRFEETPYGTVQFTNDIA AEAEAAHWVADRLREVGYQTEYVEAGAP GRGVFA GNQMVRQHIVQQLNNLKAGWTVDEDRFTDSTPYGFVNI DA NANPVHRVELEVQQAYGHMFLDYEKYPQTSVYRGDQNVVV EERAAKEKVASYMKEAGLFVYEDAAGN

DNDVVQEKGTWNVYG
E VCSPLELPYKETRTVSVQVQTVT
KEAETVAYLVQQLKGFGYKPTLQPFYEWQGE TLKTSPLLVA DNNRVHDYLLNKI EA GAQRSVHVSVSDDASNYFESYNILA GEAECALWVAEQLSAVGYATEYVESGAP
\[
\begin{aligned}
& K M P V V E A
\end{aligned}
\]

GSFDGVSY RTGADTDRVKVKVNNVLEKKПHNIFG EGNCPSNWNDDSSCRLELTQNKNVAVNNALKETRILNI FG GHQQVRDY LVQS LNGLGFQTEVDKFKQRVPVEGTFSNVVG GEKVSADYLKGKLEEYGYIVEFQEFPVYKQTKGTGKNVIGG AKVLLKEDEEGGPNRTVKKFSTDEFWMVESRNVIV AKVLLKEDEEGGPNRTVKLVNHVNNTVMPDWNTMG ANDEVHDY 【LERTRS \(\square\) AATKPY \(\quad\) EARGDNSTYFESTNVLV

\begin{tabular}{|c|c|}
\hline & \\
\hline UniRef90-S3DJ60 & QTKGGD KDNVLLVGAHTDSV \\
\hline UniRef90-W1 & E \\
\hline UniRef90-U1 & - TDEELLVTS \\
\hline UniRef90-V2W8G5 & ETPGEESTQSVILLGA \\
\hline UniRef90-B4LGC2 & N AERYLVLA \\
\hline UniRef90_A8 & NNVVFSGSHADSVPAGPGIINDDASSTAVITAS \\
\hline UniRef90-UPIO0021 & ATENALLVSSHDDTVFSAEG \\
\hline UniRef90-O852M4 & EEPDRYVILGN \\
\hline UniRef90 A0A010R1K7 & RGGDH DNVLMI GGHSDSVFAGPGINDD \\
\hline UniRef90-S3UIJ5
UniRef90 E8X3L & PVGSKKHPEDVVVLGAHYDVAGDQEG SWDVGQGADDNAS \\
\hline UniRet90-B0 & ELVGTTYTNSVVIVSGH \\
\hline UniRe & QTK AGNTDNVVMVGAHLDSV \\
\hline UniRef90-A0A023BZF & EIPATNGNDEYVVIAAHFDTV \\
\hline UniRef90-B601D9 & R】TGLEQPEKKIIVGNHRDSWCFG AVDPGS \\
\hline UniRef90 \({ }^{-10}\) & GDH DNVLVVGGHSDSV \\
\hline UniRef90-E9QEV8 & VLDPAMAPRRLLLACHYDS \\
\hline &  \\
\hline UniRef90-O944 & D \({ }_{\text {L }}\) \\
\hline UniRef90_F6 & PDRYVLYGNHRDSWVHG \\
\hline UniRet90-UP & A \\
\hline UniRef90-C70903 & APTPDPAPAPE WLTAHYDGVG D DDGVHRPGASDNAS \\
\hline & \\
\hline UniRef90-UP100047C & S \\
\hline &  \\
\hline UniRef90-UPI000309C3C0 & \\
\hline UniRef90-H1V1R8 & TIPGRNQ RTVVVGAHLDSVISGD RGAGRAPGADDNGS \\
\hline UniRef90 B3M3 & YWNPGVPEHVIMLSCHYDTETPGRGLKNKTYWGA \\
\hline UniRef90-A1UHW2 & GADPSRGALMIHGHDDVVPGAVSDGYVWGRGAVD \\
\hline 4F793 & K HGRTDNVVMAGAHL \\
\hline UniRet90-UPIOOO & G \\
\hline UniRef90-L8HKC9 & F \\
\hline 促 & RGKEEPDRYVL \\
\hline & \(V G T L D P L R R L I L A C H Y D S K D F R P N F E F F G A T D S A V P C A\) \\
\hline Uni & TRAGRRGPAERVMVCAHYDS \\
\hline UniRef90-UPIO00406E & ELPGTEPPAIVLGAHYETI NRPKGFVGANDAA \\
\hline UniRef90-FINHG &  \\
\hline UniRef90 W10] & TIEG DPDNIVMLGAHSDSV \\
\hline  & RFQVQNPRRVIVATHYDSIIKAYRDPDAPMPG \\
\hline & H \\
\hline UniRef90-A5EF & ADLPPICMGSHLDTQPTGGKFDGVLGVL \\
\hline ef90-K0AUN6 & \\
\hline UniRet90 M9SLB0 & RRPGRNA ARTVMLGAHLDSVTEGAGDNDNGSGSA \\
\hline UniRef90- DoNL83 & MVMIGNHRDA WVCG \\
\hline & K N \\
\hline & \\
\hline UniRef90 G4NS & S \\
\hline & \\
\hline & V \\
\hline UniRef90-FOLJS1 & GKPPYILFTAHICH \\
\hline UniRef90-D1C7C2 & FVLFHGHLDSW \\
\hline & RRPGRNPKDPPVMTGSHIDTQPTGGKFDGCFGVMAG \\
\hline UniRef90-89L0 & QAADEFVLLHGHLD \\
\hline UniRef90-UPI000381EB5D & \\
\hline UniRet90-A0A010R875 & \\
\hline & \\
\hline B3RJ & TLDPK AKEKFVLACHYDSKYFKISPTGKSFLGAIDSAA \\
\hline UniRef90 G7CN & PGADPSRGALLVHGHLDVVVPAEPADWSVHPFA V \\
\hline UniRef90-W5J & LGVAEPEHFLMLSSHFDSVPQ GATDSASGA \\
\hline UniRef90-A0AO23C & DAPVVLVG \\
\hline UniRet90-E3QNT6 & QDQKSII \({ }^{\text {a }}\) \\
\hline UP & \\
\hline A0AO2 & PPANTDHPFVLLSGHHDTW \\
\hline UniRef90 U9V & ERTGTNSGQQLLLGAHYDNAPSSATLDRTNLEGVNDNAS \\
\hline UniRef90-G412R8 & RLPGSDRSRGALLIHGHLDV VPAEPADWSVHPFAVDMKD \\
\hline eef90 B5Y765 & RLNPSEKAN \\
\hline iRef90-K1XDH2 & QTKGGDPENVLMVGAHTDSV QAGPGINDNGS \\
\hline UniRei90- UPPIO0042A96E8 & V KGFEEPDRYIVVGAQR \\
\hline UniRef90-ВЗМЗК8 & NP QAQNFLALACHYDS \\
\hline 990-289 & KRDNHSNEKKTHLTAHYDTTDFTKGVTDNGTG \\
\hline ef90-S2J4 & RLTGSNNTNESFLVNAHYDSVSTSHGVIT \\
\hline ef90 - 3 YAQ6 & VI RGRVEPDRYVIMGNHRDSWTLGSVDPTSGT \\
\hline f90 & KGTDPSLEALLSAHYDS \\
\hline & Q \\
\hline & \\
\hline
\end{tabular}



FAEDHAELLKKAVAYVNVDNVVGS FVSSGGTPS VA S VWA GALERDWVYDRTDINGKRFEDELIDRGGKGTVPA \(M A S M P H S P G P T R D Q A D E L F V L L D L L G A P S P T F Y S H F P H T N\) \(Y\) VDD DK P E V E D L L L Y M N F D MV GV H Y V F D GVG D R VA P G G P P DWTVGAWEMINTLLHPEWVGKTLAFPAYEFATYTTTYSAPE
 K F A \(\quad\) ELDE NYYAVI NLDDMVGGSESDRSNSTMIMUVRTPLS
 M G S
Y A D TYAQDLPNCVAHVNCDSPGCRWATEYRDVAVMAEAAA FA DHPTVPRDS IVAE DDQDMVGRGTVHDFPRGGTGAGGDA \(M A G H L T A K G L Q A V T Q S G L T V G N\)
FVEHNDELLRNAFAYVNLDSAV AGSEFHAAGSPVFKQA
 Y E E A T GT K LDD SIRALVLLDLIGGSKQMRFYNGYPATS QYF E WLVD HRPDL
E QDPSRKMLDGMDVMVLLDLLGAKNPTFPNFQFRGSAEKW \(F V A Y H P L \quad F Q R D R T F I N M D V A A \quad N G G R D \square M F Q A G P K Y S F\) \(\square G S\) R A MA GT L S A E A L Y Y Y Q D A N G
NAFAY DNDDSAVAGTEFHAAGSPVFRQTVYRVIDRVFDAN WGENFKSVLQK NAVAYVSFHSPDRGNSSLYSVASPS WY A DEHWDELDNRRCAVHVNVDSTGGAGASVLAANSA YANSSK QE DLD TLLMMANLDSLVVVGDKMYFNAGRGATEKPS FMEHPWS KL \(\quad\) V H YVINLE GTGDGGKAVLGFRTSDVSTA WLVDNRPDL
\(K D A T L P M E L D M \square G A S Q L L S N S A D N L N H N P W P L L H B P S D A Y\)
 WQE GY LS S LUKAVAY N LDR GSETFRASASPVLYNLIDESV



 FFEHP WSDKVKYFVNLEGTGTGGRA VLFRATDTG AADTV DVDRVKAIINID GAGRSG
\begin{tabular}{|c|c|}
\hline UniRef90 UPI00037B & \\
\hline & \\
\hline UniRet90-S3DJ60 & GSAAAEKR GQALLAPLG \\
\hline UniRef90-U1PR91 & \(\square G A A A R R V A D R F D H P V E V V P E H V P\) HSD \\
\hline Ref90_V2W & \\
\hline UniRef90-B4LGC2 & RMADLEHLFERYVNSGVARRDPSRYFQDDHDPFDRRNVP正 \\
\hline UniRef90 A8PF & GSAQVERLYEDYYRERKLKSAPSNFTRSDYGPFLEVGUPA \\
\hline UniRef90-UP10002BC8573 & AQDLFKSGAVKSATDFQVYQELAG \\
\hline UniRef90-Q852M4 & DVTRQVKDPDVEGGGTIERDARTDSD \\
\hline iRef90 AOAO10R & GSDVIEKDFEGFFESKGLGHVPTEF \\
\hline ef90_S3 & \\
\hline niRe990_E8X3L6 & \\
\hline & G \\
\hline UniRef90-14BDF & GSAGIERTFAGRLNLAGVRPDMPLGRATDYAPFLAAG\|PV \\
\hline UniRef90 UPIO0028D0994 & \\
\hline UniRef90 A0A023BZP1 & \\
\hline UniRef90_B601D & \\
\hline A0A & \\
\hline & KTGRLADVALAAAEIGGDFPLGALLGSGDYSAFLQHGLPA \\
\hline UniRet90-E9C &  \\
\hline UniRef90 & Ev \\
\hline UniRef90-F6SU3 & AKQVRAPGTSNLTVYDNGSLGSGSDYAAFVHFLGDS \\
\hline UniRef90_UP10002 & \\
\hline UniRe990_H3E085 & D T D F R \(\square\) F R D \\
\hline UniRet90_C7Q9D3 & 1 LAALDA \\
\hline UniRef90_R4G & - \\
\hline UniRef90-UP100047C0626 & \\
\hline ef90_M3K &  \\
\hline ef90_D5UG77 & \\
\hline UniRe990-UPIoo03090 & \\
\hline UniRet90-H1V1R8 & AYMKRLIDA \\
\hline UniRetao - 3 3M3K
UniRet90 J8Q336 & \(K \amalg Y Q Q S V K E N P F G N S \square Y Q Q G F Y S T Y V R S D Y K \square Y E E N G\) \\
\hline
\end{tabular}

GSAQTEKVFEKFFASRKDPTVASDFTRSDGAFDDVNTPA LINDIRTKVGKEFVSSLRIEIKKS YKGSDNVMFEMRGIPA ASPMLYKVMEQTLMGVKHPVNGRSLYDSDWPFLAYAGIPA

\(P V N A Q V L A A G E R \square G Y R A R M S D V T Q R G A S D H Q S F S E V G V A S\) LWKQVRAAARRVGTES \(\square F P S A T E T G \square L D D H T P F D R A G V P A\)
 GNDRVFGTAQVLGYSDUFVRDTGQTMDDDHLAMNTQGHDA HGPADAD F VEA YLAASGDVGGLEPLGSGSDFTPFQRLGVAS GQRKDGAMFE


\(\square\) ANF \(\square\) QA T A QLIPGNAFQG VDQF \(\square G S G T D F T A F Y Q H G \square 1 / S\)
 GSEKVE ELLA ES LDA QGKDVRPTGTGGTDYVPFMQDNKPV MF S L L R DF TT R Y F P D GVLT E G Y Q T Y T Y S D D F S Y Y A A GVP S


\(L V R T A D R D V T G L E A T T A R P P R A G D Y\)
S F T N L G \(\square \mathrm{T} G\) YLEVVANA RQP IP F VF DYTYDQPGYCRADHYSYARYGUPS \(V L R V I D R V F D A G L N A T V R D L W N Q L G M D G D W V P F \quad Q N T A G\) I GDAFREASDEGAVPDSVQSDDRP HSDHWPFVQEGIAG KM Q N \(\quad\) E K R L R K QL L Y P HP Q Y F N R P L G VA D D H A P F V

Y N R L A K K L LD E H Y S S NQ Y G R Q Y N G R D E D H \(\square P \mathrm{~F}\) LER G VN LME YYRDV P HP YCT AVAEELFQA DLVPSETDYYVYTKFGN
\(L N A T L R G L W D Q H G S D L E \quad D L G M G G D Y V P F \quad Q N V V G\) \(L Q Q L V M E K S K R R A P C P K P N V S C D Q D Q G D A D Y F D N H L G V P T\)
 WFRYRNGIAA ESNPGFNAFYPKGTGCCSDDLESF K \(\square\) Y Q N A VK S N P F GNS LF QQ GFY E G GVGS D YR \(\square\) Y E S N G
MWF Y LQQQLANHPSNMLKVA EQGYGDGSDHAPFTDKGTPG FSAEAEKLWEDYFKNEVAIPTNPFDGRSDYGPFLDVGI A A LQ QVK S PT S S E Q S DY A AVGGGEDWPM KMDD Y T F LT T F S G I P S

 LA S S GARLLLHASPDGND LLQAKLLKSDTDYTTETKHGVPG LAHFVVRSTAQEDTHPTDPRTDNGPYYQSDFVVFDQHGVAS TQPRIDD LLGSGSDFAGFVHRDVVSCDDLGV 11 S HYSNVRSPFANSFLQQAFNGGMIHS DYRVYAEHGRRG



UniRef90_V2W8G5 UniRef90-B4LGC2 UniRef90-A8PFK7 UniRef90 L8HZE5 UniRef90_UPI0002BC8573 UniRef90_-Q852M4 UniRef90-A0A010R1K7 UniRef90 S3UlJ5 UniRef90-E8X3L6 UniRef90-BOW2E0 UniRef90-14BDF2 UniRef90-UPI0002BD0994 UniRef90-A0A023BZP1 UniRef90_B6Q1D9
UniRef90 A0A016PUP6
UniRef90_UPI000287D2F1
UniRef90-E9QEV8
UniRef90-D3T1S2
UniRef90_O94479
UniRef90_F6SU34
UniRef90_UPI000287EAD9
UniRef90_H3E085
UniRef90-C7Q9D3
UniRef90-R4G3V9
UniRef90_UPI00047C0626
UniRef90-M3KGW7
UniRef90-D5UG77
UniRef90_UPI000309C3C0
UniRef90-H1V1R8
UniRef90-B3M3K5
UniRef90_J8QB36
UniRef90-A1UHW2
UniRef90_F4F793
UniRef90-XOWQG5
UniRef90_UPIO00388BAEA
UniRef90_L8HKC9
UniRef90-G0M8A1
UniRef90-E5S2X3
UniRef90-F4GP74
UniRef90-F4GP74
UniRef90-UPI0002DDA414
UniRef90_UPI000406E531
UniRef90-F1NHG1
UniRef90-W1QDM9
UniRef90-SOEUQ0
UniRef90_M4ZGG9
UniRef90_UPI0004623163
UniRef90 A5EP65
UniRef90-K0AUN6
UniRef90-M9SLB0
UniRef90-W6QXQ0
UniRef90_D0NL83
UniRef90-X0XIY1
UniRef90-G5AUX5
UniRef90 G4N5Y2
UniRef90-R71A55
UniRef90-G3BCS8
UniRef90-K5XED1
UniRef90-F0LJS1
UniRef90-D1C7C2
UniRef90_F8G5T7
UniRef90_B9L070
UniRef90-W0REQ2
UniRef90_UPI000381EB5D
UniRef90-A0A010R875
UniRef90 V4GTM6
UniRef90-B3RJS8
UniRef90_G7CMI4
UniRef90_C3XZ72
UniRef90-W5JPF6
UniRef90-A0A023CIZ4
UniRef90-E3QNT6
UniRef90_UPI0003333C62
UniRef90-A0A021XIB8
UniRef90_U9W5J4
UniRef90-C5E0G6
UniRef90_G412R8
UniRef90-B5Y765
UniRef90 K1 XDH?
UniRef90-W5MJ70
UniRef90_UPIO0042A96E8
UniRef90-B3M3K8
UniRef90_Q899V9
UniRef90_S2J4M9
UniRef90_UPIO00440E147
UniRef90_C3YAQ6
UniRef90_C4R628
UniRef90_D3T1R4
UniRef90_J7S5Q4

UniRef90_UPI00037B3BCE
UniRef90 S3DJ60
UniRef90-W1S4F9
UniRef90 U1PR91
UniRef90_V2W8G5
UniRef90-B4LGC2
UniRef90-A8PFK7
UniRef90 L8HZE5
UniRef90 UPI0002BC8573
UniRef90_Q852M4
UniRef90-A0A010R1K
UniRef90 S3UlJ5
UniRef90-E8X3L6
UniRef90-B0W2E0
UniRef90 I4BDF2
UniRef90-UPI0002BD0994
UniRef90-A0A023BZP1
UniRef90_B6Q1D9
UniRef90 A0A016PUP6 UniRef90_UPI000287D2F1
UniRef90-E9QEV8
UniRef90_D3T1S2
UniRef90 O94479
UniRef90-F6SU34
UniRef90-UPI000287EAD9
UniRef90 H3E085
UniRef90-C7Q9D3
UniRef90-R4G3V9
UniRef90-UPI00047C0626
UniRef90 M3KGW7
UniRef90-D5UG77
UniRef90_UPI000309C3C0
UniRef90 H1V1R8
UniRef90- ВЗМЗК5
UniRef90_J8QB36
UniRef90-A1UHW2
UniRef90 F4F793
UniRef90-XOWQG5
UniRef90_UPI000388BAEA
UniRef90 L8HKC9
UniRef90 G0M8A1
UniRef90-E5S2X3
UniRef90-F4GP74
UniRef90 UPI0002DDA414
UniRef90-UPIO00406E531
UniRef90-F1NHG1
UniRef90 W1QDM
UniRef90-S0EUQ0
UniRef90-M4ZGG9
UniRef90_UPIO004623163
UniRef90 A5EP65
UniRef90-K0AUN6
UniRef90-M9SLB0
UniRef90 W6QXQ0
UniRef90-D0NL83
UniRef90-XOXIY1
UniRef90-G5AUX5
UniRef90 G4N5Y2
UniRef90-R7IA55
UniRef90-G3BCS8
UniRef90 K5XED1
UniRef90-F0LJS1
UniRef90-D1C7C2
UniRef90-F8G5T7
UniRef90 B9L070
UniRef90 W0REQ2
UniRef90_UPI000381EB5D
UniRef90-A0A010R875
UniRef90 V4GTM6
UniRef90-B3RJS8
UniRef90-G7CMI
UniRef90 C3XZ72
UniRef90 \({ }^{-}\)W5JPF6
UniRef90-A0A023CIZ4
UniRef90-E3QNT6
UniRef90-UPI0003333C62
UniRef90_A0A021XIB8
UniRef90_U9W5J4
UniRef90_C5E0G6
UniRef90-G4I2R8
UniRef90-B5Y765
UniRef90_K1XDH2
UniRef90 W5MJ70
UniRef90-UPIO0042A96E8
UniRef90-B3M3К8
UniRef90_Q899V9
UniRef90- S2J4M9
UniRef90-UPI000440E147
UniRef90-C3YAQ6
UniRef90 C4R628
UniRef90-D3T1R4
UniRef90_J7S5Q4

MTLRANA
TYGIS FAS
VTMNLVANAS
ALVVDLA

E V I L Q \(\square \mathrm{AN}\)
A L L I
ALLALRAA
AMSWE
\(S L L L\)
A
TYAQS IE GANG
EVILQiAN GVMKSLAK
\(R M V L R \nabla A D A\)
\(\mathrm{VF} L \mathrm{~A} E\)
\(\mathrm{L} I \mathrm{~F}\) E Q
V

\(\underset{\mathrm{V}}{\mathrm{G}} \mathrm{Y} \underset{\mathrm{A}}{\mathrm{V}} \mathrm{Y} \mathrm{H} \mathrm{L}\) A Q H T

ATVWE \(\square\) A N
E VAGQMA

A Y A L
Y ATLQQAN
HSVATYAKS 1 YT ETAN
L Y
1 VLLRL

LIT LR LVD S A
VF L A E
\(T V L L R T \square N A P\)
A \(V T \square R \square L N A P\)
DAAGSIANADA
LLILELA A GVVKLAEA
A ECLLHL
AF VYE \(\square\) A S A
LL! LELA
EVVALVAN
AVLSRL
H T A WQL
\(\square \mathrm{NA} \square \mathrm{D}\)
\(L M A D R \square\)
\(E V A\)

GSSVLDDNS
DLIVRGFA
VL

UniRef90_E4ZRQ6 UniRef90 B9NV68 UniRef90_UPIOOO4433680 UniRef90-Q29E61 UniRef90-F7DAX8 UniRef90_Q6FK15 UniRef90_UPI000440D37D UniRef90 HoVNPO UniRef90-UPIOо03B32786 UniRef90-S9WQT3 UniRef90-UPIO00328BEDC UniRef90 UPI00045E5699 UniRef90-QUUH16 UniRef90-K2M265 UniRef90 A3X4F8 UniRef90-A0A022HOY9 UniRef90_UPIOOO37B49E5 UniRef90-M9MDF5 UniRef90- J7IMA7 UniRef90-M7WNZ1 UniRef90-Q11GN9 UniRef90 UPI0003AD4FE7 UniRef90 \({ }^{-}\)VKQ43 UniRef90-UPIoo03761EF9 UniRef90-G4UFQ1 UniRef90 K5V932 UniRef90-A4BBR6 UniRef90-X5W4W9 UniRef90-I3MLW2 UniRef90-V9XCG6 UniRef90-S7MP51 UniRef90 \({ }^{-1 D 1 D Y 8}\) UniRef90-UPI0003B4E156 UniRef90-D5BRE3 UniRef90-W7SX39 UniRef90 A0A017RZN7 UniRef90-W6WB15 UniRef90-F9х3в0 UniRef90 F2IKE4 UniRef90 H9JSS9 UniRef90-M3DPY4 UniRef90_UPI00046F867C UniRef90 A0A024UJ27 UniRef90-K5VR74 UniRef90- \(\times 5\) VUB1 UniRef90 F61K67 UniRef90 \({ }^{-}\)W6UHI2 UniRef90-UPIO0047EB8FC UniRef90-UPI00047CCC1E UniRef90-UPI0004790561 UniRef90-K0ES99 UniRef90-A0A011QUJ1 UniRef90 UPI0001DD08BB UniRef90 D6XY47 UniRef90_UPIO003F0C326 UniRef90-J7RHT8 UniRef90- B5ZSX7 UniRef90-A1HLX9 UniRef90-D5QE94
UniRef90 U2NP70
UniRef90 UPI000381FE9D
UniRef90-J31473
UniRef90-UPIOOO288772C
UniRef90_UPI0003B6E58B
UniRef90-S7W3E1
UniRef90_U4LEA5
UniRef90_11B0Q2
UniRef90-A1UU19
UniRef90-E3EZ49
UniRef90-M5CH88
UniRef90 UPI00040F5832
UniRef90-B8LZW9
UniRef90-Q560F9
UniRet90_D4M2B7
UniRee90-TAALD02
UniRef90-UPIo0032AD92B
UniRef90'M2WUS9
UniRef90- UЗROM3
UniRef90_UPIO0047507C4
UniRef90-UPIO003B723E8
UniRef90-UPI00036BEOC8
UniRef90-A813S3
UniRef90-F6TKK1
UniRef90 C6K2C9
UniRef90-B4EEG1
UniRef90-H9CY 13
UniRef90-UPIO0029A041B
UniRef90-UPI0003754A76
UniRef90-ROJZ14
UniRe90 Uno
                                    SUNATRLMSTLDASCSWGNRLALND

\footnotetext{
\(\qquad\)
\(\qquad\)
}

MPPDRNATAAPEF

TFSSERALSHVKVLADDGYRVVGSR R ID GARLWHTLMRLAEI GARLALTD

 MPPDRNATAAPEF

\(E \square D G A R \square W Q S L A D M A R V G R R L A L T D\)
ESEVVDLCSELIRTDTSNYGDP
S \(\square\) NENRLWDSLMEMAK \(\square G N R Q T V T F\)

DDQ\ARDLFTRWCEEAGCTVKFDR\GNM
RENRTNYNVI A
DDQUARDLFTRWCEEAGCTVKFDRLGNM APTPGA GNSKVRQFLEDELRALDA GWQVKVDAFSAPTPDGPVAFA GHQQVRDYLVQSLNGLGFQTEVDEFKQRVPVELTFGNVVG GADCPKTWQVPFKLGPQMKDTQNIKDEVTNEKKDYNVFG
 AKVLLAEIKEGGSNRTVKLVNHVDDKVMPDWNTMG

A DKDARQQLSAWLKELGCE \(\square H V D\) \(T \vee T N V \square G\)
GMGNIFA GPVAPQEWLPVSPYRLGPGPGLHDGVNNHRASTPDSNIVG EGALGCDYLGPGFRPGDNFTANSQVNLSVMNSRNSSNVLGG
\(\square D R E S R D \square F \square K W C K A E G C T \square R \square D\)
FVDA DRENRTNYNVIGA \(\square K\) AEKRQTPGHPMVVG A DRLGRDWTVARMQALGMTVADDAIGNG GERVAAEYVAAQLEEVGVRARLFE SHPGRTSVVA EHVEAENWL EDVLRRYGAHRFDFMSSTVWKRYYSMSNLVV NERQDAD ILKSRLVGLGMEVTEDEAGQKF GGNCGNVL／A VN NVDDK【TP \(\square\) WNTYA EDGQARHLFKKWCEEAGMSVSVDAMGTM

HGKRSSANVIA W RGR\PSTLYYLGPNLKSPGLRVQMMKSTMDYNVFG \(P C R E A A Q L L V D E E N G G L G\)
\(D V V R M G Q W L A D E L T K L G A T E D R P L Q A S V R P T D G Q P M V V A A\)
\(D\)
 EDGEGRHLFKRWCEAAGLEMGLDEMGTM QNDIVHDYILSRTRSIMAGKAFVDVDDDTVSNVTFNNVLV GNIQVRKFLEATLRTLTA GWHVELDPFTALTPLGPLDFG



F A

DCRKAAEWLVAELKDLG
FEASVRDTAGHPMVVG WNLHG Q \(\square\) N \(\square\) CADF \(\square\) F NDFQEYADTVFYQSYQ \(\quad\) VRGDTYKNV \(\square A\) GERKAAEYVAEKDAEVGLEPRDFESHPGRAST，VAA SWKQAQTALNDRMKQAGLKVYFDEVGN \(\quad\) G GA K K A QVL EDRGARRLLAE LDALARGFAVFQDA EDMAARAWLREQFESLG

ESRAAVNYLKTVMEEAGLLVQEDAAGN
\(\vee \vee G\)
EDRQARKYLSARME ELGLDVKVDADGNDRAAYR
A MVMAEEYVTGELTAAGWQVHREPFTARWAVGCTDRHLRA EEREAKNLVAGWMKEAGLMVRQD

GAGNNL
PELEAKAYDRVLMEECGLDVYTDAVGN DTMMVG YHEAARNFIKSTFEDNELDVNMVAFATSDPQTMGYN VVG GNDYGFRYFSG PSPEDVQVQLYNEQNTS VVKMTNLVV
 AEDREVADDWLATHGEALGCSGTEDNVGEKD GGNCGNVFA DCHKAABWLKAYし口RMG \(F D A S V R T T P G H P M V V A\) GEDAA WRRVI GWAFEAGLTPSTDTAGN
EHAEANRYFI ELCKQEGMNVRDDA GN CGNVFIA GEREAAEYVAEALRRAGLEP Q DYESAPGRANVVA AYRASREWTRSRMEAAGLETRRDSAGN A Y A DVRD I LLS RMEAAGLETRRDSAGN SNDDVRDFLLLKRUTMDGGDGEDE\｜VDDNSSNYFEGTNIVMV ACRQTADWLVENLKTIGG FEASRRETSGHPMVVA DVANAADWLVDELNSLGGFEATSRPTPGHPMVVA PE \(\square\) AARRYVLD \(\square\) AAARGFRSF VDP \(\square G N\) DDKKVRDWFVEETGKYG

CHHKDDEMGNTFA VDLHLVNEVNTRVMPDWNTMA \(D V \operatorname{VMGEWLAGELKKDGAQVEDRPLGKQPHKEHDLPPVVL}\) DRLDELAQAGANAVLKTDLEEGWFPSPIVV SCQHIMQRI QKLQADWVVEVDTFLSRTPYGFRNI I S GLEQGQRYIMDQLEQULNRKEGADVANFHTVYTDDENVIM
 EDAEGRHLLFARWCEEAGMTVGIDDMGNM

 DDRRGRDLFAQWCRDAGMTVSVDTVGN

HAEVDTGWHQT
HAEVDTGWHQT P■LVA
GERSAAEYVAEKLAEVGLEPRDLESHKGRAST\(\quad\) VGA

UniRef90_E4ZRQ6 UniRef90-B9NV68 UniRef90_UPIOOO4433680 UniRef90-Q29E61 UniRef90-F7DAX8 UniRef90_O6FK15
UniRef90_UPIOOO440D37D UniRef90-HOVNPO UniRef90_UPIOOO3B32786 UniRef90_S9WQT3 UniRef90-UP1000328BEDC UniRef90 UP100045E5699 UniRef90-Q0UHI6
UniRef90-K2M265 UniRef90-A3X4F8 UniRef90-A0AO22HOY9 UniRef90-UPIO0037B49E5 UniRef90-M9MDF5 UniRef90-J7IMA7 UniRef90-M7WNZ1 UniRef90-Q11GN9 UniRef90-UPIO003AD4FE7 UniRef90- V9KQ43 UniRef90-UPIo003761EF9 UniRef90-G4UFQ1 UniRef90-K5V932 UniRet90-A4BBR6 UniRef90-X5W4W9 UniRef90-M5FYW6 UniRef90-I3MLW2 UniRef90-V9XCG6
UniRef90-S7MP51
UniRef90-X1DXY8 UniRef90-UPIOOO3B4E156 UniRef90-D5BRE3 UniRef90-W7SX39 UniRef90-AOAO17RZN7 UniRef90-W6WB15
UniRef90
F9X3BO UniRef90-F9X3B0
UniRef90-F2IKE4 UniRef90-H9JSS9 UniRef90_M3DPY4 UniRef90_UPI00046F867C
UniRef90-A0A024UJ27
UniRef90-K5VR74
UniRef90-X5VUB1
UniRef90- F61K67
UniRef90-W6UHI2
UniRef90-UPIO0047EB8FC
UniRef90-UP100047CCC1E
UniRef90-UPI0004790561
UniRef90-K0ES99
UniRef90-A0A011QUJ1
UniRef90-UPI0001DD08BB
UniRef90-D6XY47
UniRef90-UPIO003FOC326
UniRef90-J7RHT8
UniRef90-B5ZSX7
UniRef90-A1HLX9
UniRef90-D5QE94
UniRef90-U2NP70
UniRef90 UPI000381FE9D
UniRef90-J31473
UniRef90-UPIO00288772C
UniRef90-UPIO003B6E58B
UniRef90-S7W3E1
UniRef90-U4LEA5
UniRef90_l1B0Q2
UniRef90-A1UU19
UniRef90 - E3EZ44
UniRef90
M5CH88
UniRef90_UPIOOO4OF5832
UniRef90-B8LZW9
UniRef90-O560F9
UniRef90-D4M2B7
UniRef90-T5AD62
UniRef90-UP100037DOED9
UniRef90-UP100032AD92B
UniRef90-M2WUS9
UniRef90-UЗRомз
UniRef90-UPIO0047507C4
UniRef90 UPIOOO3B723E8
UniRef90_UPIO0036BEOC8
UniRef90-A813s3
UniRef90-F6TKK1
UniRef90-C6K2C9
UniRef90-B4EEG1
UniRef90-H9CY 13
UniRef90-UPIO0029A041B
UniRef90-UPI0003754A76
UniRef90-ROJZ14
UniRef90 Dзвзіо

90
ETKQGDH
90
100 RRPGRNPDDP
SVVATLSPERRLTLASHCDDQPHGGRFDGVYGVMAGPCAL TINPR AQNFAALACHYDSKYFPNDPG FAVGATDSA TIQGFEQSDHYVVVGAQRDSWGPGV KVVGSNNELDALLISGHFDSVPTSYG VLPG HITKDEVVLVGNHRDAWVTGYG YVKGLTSPDRYI IVGSHHYASYSYNGQAW ASSTAADPSS VLPGKDRSDPPVMTGSHGDSQPDGGRFDGMDGVVAG CIEGRSEPDHYVVIGAQRDAWGPG IIRGAVEPDRYVLYGNHRDSWVHG ADDPSS VIKGFVEPDHYVVVGAQRDAWGPG ETKEGDHEENVLMIGGHSDSVYAGPGINDDGSGTI HDGEENADAPHVLFYGHYDVQPVDPLNDWKTPPFASDDKG VYPGSEDLLP VMIGSHIDTVRTGGRYDGNYGVLAG RIEGEDPTRDALLLHGHLDPFGGEDADGCVWGRGAVDMKD RIDGTEEKANSLLLNAHLDSTLPSPGGADD YL KGNHIKDEVVVIGNHHDAWTFGASDPNSGTSSMHETVR QREGTDPDALPVYVGSHDDTQPTGGRYDGVLGVL DTARGRAGNVVVAGAHLDSVPAGPGDNDN GTGAAALLA SDEGLQEPDRYI I MGAQRDAWGPG HYPGEGDPDKRVLFYGHYDVQPVDPDEDWDSDPFAADDKG
ARYGNDKNKRTVLVYGYDVQPAEKSDGWDTEPFATDDKG ARYGNDKNKRTVVYYGHYDQPAEKSDGWDTEPFATDDKG ESRWGNPDNVVMLGAHLDSVFEGAGDNDNGTGSAAD RREGADPSLPPVYVGSHLDTQPTGGKYDGVLGVL
KVEGERSDLPAVLLSAHFDSVPTAPGATDDGMGITSD NIVATLDPAHHLTLACHYDSFPPGSGPFVGATDSAVPCAL RLPGSDPSRGALMLHGHDDVVPGAVENGYVWGRGAVDMKD
 HHEGATTDAPHVLFYGHYDVQPVDPLNLWENDPFTSDDKG HHEGATTDAPHVLFYGHYDVQPVDPLNLWENDPFTS
HRDGTDPTLPPVMDGSHLDTQPTGGKYDGVLGVLAG MHTGPHFDCAGDNAS
 HHPGASADAPHVLFYGHYDVQPDDPDEDWEDDPFVADDKG
 AADPGS
TGASDDGA
R TEGEDPSRPALLIHGHTDVVPANADDWTHHPFAVDMKD RIEGTEPNRGTILTGSHDDTVINGGKYDGAFGDAAG TWKGKDPT LPSILLNSHYDVVPVMEQFGMDVGRGAQDMKS VDPG YDKDEVVLVGNHRDAWVMG RREGTDATLPPLLI GSHLDSQPTGGRFDGALGTLSA RYGPADKP AVVIASHLDSVPASGMFDGVLGVIAG NTKGNTKPNERFVYSAHV QEPGANDNASGVGTLAEQRTL HIRGAK乌PKERLVFSAHDQEPGNGGDFDGTAG KDDNKPSIMIGSHHDTVKNGGKYDGLTGVLAA
ELPGA APGPAVVIGAHDDTVYGGBPGADDNAS RLKGRDKNAPVLMSGSHVDTVPDGGHFDGTDGVLTA RLPGRVPGAGAVVLDAHWDHLGDDCGPPDATCNGAVDNAS VYQGREPDLPVI MTGSHVDSVIDRGGAFDGT LGVLGA LLPGKTEDDEYLIVGAHFDTTP DWNGVGGGEKPIMIGSHIDTVINAGIYHGCYGVLAG YLKGSIPTAPVLMLSAHLDCVGIEPVLKDGIITSASDDKS RLEGSDPTLPPLMMGSHLDTQPTGGRYDGIYGVL
TKKGERP QQVIMMAHFDTYTPDNNLGGLTGQGVDDNAS HHDGANSSAPHVLFYGHYDVQPVDPDDLWDNDPFTADDKG TLAGRDRTAPPFLLGSHLDSQPTGGKFDGAAGVMAA
RRQGAEPELPAVACGSHLDTVQQGGRYDGTVGVVAA
RMRGTDPDAGALVVHGHLDVVPAQAEDWQVDPFAADMKN VLAGRDRQAPPLMTGSHTDTVHGGGRFDGIVGVLSS LVRGTDATLSPVLVNAHYDSV HVDGADGTGPHILFYGHYDVQPVDPLDLWARDPFAADDKG HHPGPSDDCLHVLFYGHYDVQPVDPLNLWKNEPFASDDKG
 HDRD

\section*{}
 VIPG HDTDEVIILGNHRDAWVLG ASDPNS YLPGTEGDGRMGLSAHYDSYFDGFQDDN TlPGTEDPEAFVLLHGHYDSWDYGVG TLNPT AKKRHLVLACHYDSKYF PHWDNRVFVGATDSAV RI QPKYMSRNAVLVNCHVDSAVG SPGASDDAA RRAGRDDTLPPVMIGSHIDTQPTGGKFDGNYGVFAG RLEGRDKSAPMLRTGSHI DSQPYGGRFDGVIGVI RMKGWDAAAPALILHGHIDVVPADAAEWSVDPFAADMKG RHEGTDPSLLPVMVGSHLDTQPTGGKYDGVLGVLAG
 SLNPKATRN LVLACHYDSKYFPGQQFTGATDSSVPCAM RRDGADAHAAPVLIGSHLDTQPEGGRFDGVYGVLAA ELPGAAADYPFVLFSGHHDTW R EGEDPSRPALLTHGHTDVVPGEDADGCVWGRGAVDMKD KREGDENDALPVVLGSHDDTQPTGGKYDGILGVLAG


\section*{UniRef90_E4ZRQ6} UniRef90_B9NV68 UniRef90_UPI0004433680 UniRef90_Q29E61 UniRef90_F7DAX8 UniRef90_Q6FK15
UniRef90_UPI000440D37D UniRef90_HOVNP0 UniRef90_UPI0003B32786 UniRef90_S9WQT3 UniRef90_UPIO00328BEDC UniRef90_UPI00045E5699 UniRef90_Q0UHI6
UniRef90_K2M265 UniRef90_A3X4F8 UniRef90-A0A022H0Y9 UniRef90_UPI00037B49E5 UniRef90_M9MDF5 UniRef90_J7IMA7 UniRef90_M7WNZ1
UniRef90_Q11GN9 UniRef90_UPI0003AD4FE7 UniRef90_V9KQ43 UniRef90_UPI0003761EF9 UniRef90_G4UFQ1 UniRef90_K5V932 UniRef90_A4BBR6 UniRef90-X5W4W9 UniRef90-M5FYW6 UniRef90-I3MLW2 UniRef90-V9XCG6
UniRef90 S7MP51 UniRef90-_X1DXY8 UniRef90_UPI0003B4E156 UniRef90_D5BRE3 UniRef90_W7SX39 UniRef90-A0A017RZN7 UniRef90_W6WBI5
UniRef90- F9X3B0 UniRef90-F9X3B0
UniRef90-F2IKE4 UniRef90_H9JSS9 UniRef90-M3DPY4 UniRef90_UPI00046F867C UniRef90_A0A024UJ27 UniRef90_K5VR74 UniRef90-X5VUB1 UniRef90-F6IK67 UniRef90_W6UHI2 UniRef90_UPIO0047EB8FC UniRef90_UPI00047CCC1E UniRef90_K0ES99 UniRef90_A0A011QUJ1 UniRef90_UPI0001DD08BB UniRef90_D6XY47 UniRef90_UPI0003F0C326 UniRef90-J7RHT8 UniRef90 B5ZSX7 UniRef90_A1HLX9 UniRef90_D5QE94 UniRef90-U2NP70 UniRef90_UPI000381FE9D UniRef90_J31473 UniRef90_UPI000288772C UniRef90_UPI0003B6E58B UniRef90_S7W3E1 UniRef90_U4LEA5 UniRef90_-I1B0Q2 UniRef90_A1UU19 UniRef90_E3EZ49
UniRef90 M 5 CH 88 UniRef90_UPI00040F5832 UniRef90_B8LZW9 UniRef90_Q560F9 UniRef90_D4M2B7 UniRef90_UPI00037D0ED9 UniRef90_UPI00032AD92B UniRef90_M2WUS9 UniRef90_U3R0M3 UniRef90_UPI00047507C4 UniRef90_UPI0003B723E8 UniRef90_UPI00036BE0C8 UniRef90_A8I3S3 UniRef90_F6TKK1 UniRef90_C6K2C9 UniRef90_B4EEG1 UniRef90-H9CY13 UniRef90_UPI00029A041B UniRef90_UPI0003754A76 UniRef90_ROJZI4
UniRef90 \({ }^{\text {D3B3V }}\)

T L VT A LA LTTE F NDT N A V R R Li \({ }^{130}\)
40
150
160
GFWGAEEF GKLLGSYY

 GTSSLLLELAK LLLSDMVFRPRRSIVVFASWGAGBFGSVGATE
 \(Q P K R R\)
\(G W K P R D R\)
\(G W R P D R R\) \(\square R A L M\) \(V E \vee \frac{K}{V} N T \square R D A G \square T L L R\)


QLMT F
 \(M D A M L A A V L R D R M R E G R R R P R R D V V L A B E L A D E E A G G S W G A K\)
 PISGDIQVIFSVAEEGGL
 \(\square A G K F R E L G A G N V R N R V R\)





\(L L E \square A Q A\) \(\overline{M V G M M D A} V \operatorname{LLL} S R A K E Q A A P V T L Q L L F L D E W Y G S R H L A Q Q\)


 GI AVLLETAGILSKEN QL MT F V EACRAYK DVVHGS S GSAVLMEVVNDFGQLRWRP

 MDAMTLAVVRDRMRSGRKPPRDIVLAFLADEEAGGTYGAK L A AL Q F L L E R Y GRP K C N L EI V S F C E E E G S R F P L T Y







\(G \square A \square M\)
 E E A \(V\) V \(R\) DA \(\square\) \(\mathrm{G} L \mathrm{~L}\)
\(\mathrm{G} C \mathrm{~A}\)
A MLEALRRQLKAMS C LEVIQTLKSEGFEPRHPIVVAAFTNEGGVRYAPDM GVEA M M A L R VV R E Q Q L P H G DI QVVVFTVAEEGGLN GS K N

 QLMTFVEACRAYKEDNGALP DRVTILLEGEEES GSPSLKP L E A AVSSLA E Q GEKPARDLIVVA WMNEE GSRFAPGM L E V V R S L N D R QVVT R HP L EII I S FACEESARFGVST MDAMULAAALRMSREGHQPTRDDIFAFFADEEDNGTYGAG


 \(G L G E L\) CLEAID DAGLVHRPPVEVVAWTNEEGSRFAPGAMGS I EVLVVLHQHDDTTYAPVAVVNWTNEEGARFPPAM GTAS Q F EVI R T L L R K GWK P L R T I M L A S WD A E E Y G L I G S T E AVSMTFGGI K AL I D S GYQPRYTI A V CALAA EE WGVVCDKF \(P V L G W L N A I E A H Q K A G \square D F P V N L L M C F E G M E E T G S E G L D D\) GDATVL EVVARNLLWNHRAELRRSSVRIDAWWPGHSTGRYA GS T


\(\mathrm{G}_{\mathrm{G}} \mathrm{L}\) \begin{tabular}{l|lll} 
L & N & D & A \\
L & L & \(K\) \\
L & \(A\) & \(T\)
\end{tabular}
LEIVVRSLNDMGlKTKRAAVVVNWTNE EAGGRAAPAM
\(M L A B A R A L L D A R P P A S L P A V P L V L L F D G G E E S D C Q\)

 MD AM T L A VVRERMRTGRKPPRDIVVLAFLAADEEAGGTYGAR



UniRef90 E4ZRQ6 UniRef90-B9NV68 UniRef90_UPIO004433680 UniRef90_Q29E61 UniRef90_F7DAX8 UniRef90_Q6FK15 UniRef90_UPI000440D37D UniRef90-HOVNP0 UniRef90_UPIO003B32786 UniRef90-S9WQT3 UniRef90_UPIO00328BEDC UniRef90_UPI00045E5699 UniRef90-Q0UHI6 UniRef90_K2M265 UniRef90-A3X4F8 UniRef90-A0A022H0Y9 UniRef90_UPIO0037B49E5 UniRef90-M9MDF5 UniRef90-J7IMA7 UniRef90-M7WNZ1 UniRef90_Q11GN9 UniRef90_UPI0003AD4FE7 UniRef90 \({ }^{-}\)V9KQ43 UniRef90_UPIO003761EF9 UniRef90-G4UFQ1 UniRef90-K5V932 UniRef90-A4BBR6 UniRef90-X5WWWW9 UniRef90-M5FYW6 UniRef90-I3MLW2 UniRef90-V9XCG6 UniRef90-S7MP51 UniRef90-X1DXY8 UniRef90_UPIO003B4E156 UniRef90-D5BRE3 UniRef90-W7SX39 UniRef90-A0A017RZN7 UniRef90-W6WBI5 UniRef90-F9X3B0 UniRef90-F2IKE4 UniRef90-H9JSS9 UniRef90-M3DPPY4 UniRef90_UPIO0046F867C
UniRef90-A0A024UJ27
UniRef90-K5VR74
UniRef90_X5VUB1
UniRef90-F6IK67
UniRef90-W6UHI2
UniRef90_UPI00047EB8FC
UniRef90-UPI00047CCC1E
UniRef90_UPI0004790561
UniRef90-K0ES99
UniRef90_A0A011QUJ1
UniRef90_UPI0001DD08BB
UniRef90-D6XY47
UniRef90_UPIO003F0C326
UniRef90-J7RHT8
UniRef90-B5ZSX7
UniRef90-A1HLX9
UniRef90-D5QE94
UniRef90-U2NP70
UniRef90-UPI000381FE9D
UniRef90-J31473
UniRef90_UPIOOO288772C
UniRef90_UPI0003B6E58B
UniRef90-S7W3E1
UniRef90_U4LEA5
UniRef90_I1B0Q2
UniRef90_A1UU19
UniRef90-E3EZ49
UniRef90-M5CH88
UniRef90_UPIOO040F5832
UniRef90-B8LZW9
UniRef90_Q560F9
UniRef90-D4M2B7
UniRef90-T5AD62
UniRef90-UPI00037D0ED9
UniRef90-UPI00032AD92B
UniRef90-M2WUS9
UniRef90-U3R0M3
UniRef90_UPI00047507C4
UniRef90_UPI0003B723E8
UniRef90_UPI00036BE0C8
UniRef90-A813S3
UniRef90_F6TKK1
UniRef90-C6K2C9
UniRef90-B4EEG1
UniRef90-H9CY13
UniRef90_UPIO0029A041B
UniRef90_UPIO003754A76
UniRef90-ROJZ14
UniRef90_D3B3V0
 VA S
FMQEHAAELKADTALIC
MGSLVYMPLEDALATAG \(\square D\)
\(D T S M V S R G V P S \square S S Q\) WLVDEHPEL
\(Y I T Q H N Q T N A G V K A V V N L E A C G T S G P E \quad L L F Q A T S Q E\) GAKYLDDRTLLKADLGFVMDCVG
FGEDFAPWLKNVVAY LNVDELNASPSFADLLRNVSAQVPD LASGVFAGMHDLWAYDRRDAQGKRFGDE WER WL E GY LMMHLLKAAAYFNLD
FLNAHADELKAGAALVCDTGMWDKDTPADSVSLRGLVTQE VMAEGKKYFADADAVCISDNYWLGTERPCLTYGLRGCN FAEDFAE WIENVVAYYNLDDPGKTDWDARSDNGPYAGDAD

 \begin{tabular}{l}
\(F L P H P W A S\) \\
\(L M E S \square P H R\) \\
\hline\(W M Q T\) \\
\hline
\end{tabular} WLVEHRPEL
LMESAPHRUQA DELFMLLDLLGAPHPTFYSHF PRTARW ILGWNWCEGS
FLDSHKEEGKADVA LVCDTSMWNRDTPADCVGDRGLVGEQ MSSSVFAGMYSTEWVYDREDADGKTVGDELARIGGWLGDED HARQLAGEGWRPEVLNVDMAGKFNGTVAVELGPD YVSKLTTRDDNNDISMUNDDMAGVGNTLYLHTLNSDNPS FLDANAAEDK ADYALVCDTGMWDTDTPADTASLRGLV YVEDNTDALKDATSYLNVDVGVAGLEPQFAASGSPMWTRA HAK S LK K SNTELVGMVCLEMIGYFNRGNY ITVVNKFGKGK FITQHKWA KSVRAFINIEACGA GGREVLFQAGPDDPW HLVHKHPEL
WGSG NVSGRYSVDQVPEDCDSEGVSDREAMMSAG
 WGEDFAFDGDHVVTYVNLDSHLVRGAAEEDPHPTKPGKSP VM G S MA FTGA DI CA W
GAQALS GHLLTREWLDSAADEHGLMLRDAMAAVGLDYRRPE



 TGSEAMMGDSDI EA
\(F\) VA DPPVPDPTDAAAFNLDTMADAPRGTPVVVLGBAGKTA \(M G S K A L A G K L D D R F L T L T D Q E G\) ESYETVLTKAGYEPS F V EVWLLKE GS K V K GI I I LD T DM N Y D K G D F L F GVGGRK S D S K Y ID EHS DVLQRALDA YLSLLDKAVT GSQ FTBAA HPLL \(M G S L V Y S G G L D V A A\)
M


 \(M G S E A F T G E R D M D A\)
\(I G S K A M T G K W K A E A E ~ G W K D K N G\)
\(\square G S K A M T G K W K A E A E G W K D K N G\)
\(W M V Q N H P E L D V D A T E A D S E V G G F\)
\(M G S R A D A G Q L A V E H L Q R T D S H G Q T L G D A M S E F G L D P S R A V\)
 FMTENADELK
\(L V P F L K E N V D E \square K A D C A L V C D T S M W D A N T P S \square S V G \square R G L V\) FMVENADELRADVA LI C
WGEDFRDWLKNVVAYLNVDKSTSGSADR \(\quad\) KRGTPSHYSRPE MAYSGGAPLA ELLASSRDAE GDAVADALPAVLAATPEAAP


 WYA DHLDLYYNCVVQINCDSPGCRWATEYDVSVMAEAT G W MASTPHPPGATATNQLHLDLIGAPNPTFPNFFPNTARWFS \(F\) VA Q H R WA K D \(\square A V L\) L \(L\) LLESS G S G G L A L L F R S GP K N G W
 RLE E D E LE RKD RYGT T RKEALIDE GCDPK QFSKWEYK DEE WL VANRPDL
LA SVVFA GVH T Q D WA Y S REDAE GK K F G DE LK R IGF \(\square G D E P V\) AGHGFFNASTHARGLGAFDNLEAMGAGGLPDLAQHTGAWT \(F \| T\) QHHWANL DRAFDNLEAAGVVGGKELVVQTDRNER LAERMERDGTLLXRMDMLVLLDDLLGTPEPTYFYSYAAETENW LGSAVFTP LDDALAKQDADGVTGLAALDACGYRGTRATGG WY A D H H F A EARCVVAHVNVDSVGA IN A ES LV LI D D G G S A G F LVVDRHPELFEGVTEA GGEVGGFSFT



UniRef90-UPIO004433680
UniRef90_Q29E61
UniRef90 F7DAX8
UniRef90-Q6FK15
UniRef90_UPIOOO440D37D
UniRef90 HOVNPO
UniRef90-UPI0003B32786
UniRef90_S9WQT3
UniRef90-UPIO00328BEDC
UniRef90- UPI00045E5699
UniRef90-Q0UHI6
UniRef90_K2M265
UniRef90-A3X4F8
UniRef90 \({ }^{-}\)A0A022H0Y9
UniRef90_UPI00037B49E5
UniRef90_M9MDF5
UniRef90-J7IMA7
UniRef90-M7WNZ1
UniRef9O-Q11GN9
UniRef90-UPI0003AD4FE7
UniRef90 V9KQ43
UniRef90_UPIO003761EF9
UniRef90-G4UFQ1
UniRef90 K5V932
UniRef90-A4BBR6
UniRef90-X5W4W9
UniRef90-M5FYW6
UniRef90-I3MLW2
UniRef90_V9XCG6
UniRef90_S7MP51
UniRef90-X1DXY8
UniRef90_UPIO003B4E156
UniRef90_D5BRE3
UniRef90-W7SX39
UniRef90-A0A017RZN7
UniRef90-W6WBI5
UniRef90-F9X3B0
UniRef90 F2IKE4
UniRef90-H9JSS9
UniRef90-M3DPY4
UniRef90_UPI00046F867C
UniRef90-A0A024UJ27
UniRef90-K5VR74
UniRef90-X5VUB1
UniRef90 F6IK67
UniRef90 \({ }^{-}\)W6UHI2
UniRef90-UPI00047EB8FC
UniRef90-UPI00047CCC1E
UniRef90-UPI0004790561
UniRef90-K0ES99
UniRef90_A0A011QUJ1
UniRef90_UPI0001DD08BB
UniRef90-D6XY47
UniRef90_UPIOOO3F0C326
UniRef90-J7RHT8
UniRef90-B5ZSX7
UniRef90-A1HLX9
UniRef90-D5QE94
UniRef90-U2NP70
UniRef90_UPI000381FE9D
UniRef90-J31473
UniRef90_UPIO00288772C
UniRef90_UPI0003B6E58B
UniRef90-S7W3E1
UniRef90_U4LEA5
UniRef90-I1B0Q2
UniRef90-A1UU19
UniRef90-E3EZ49
UniRef90-M5CH88
UniRef90_UPIO0040F5832
UniRef90-B8LZW9
UniRef90_Q560F9
UniRef90-D4M2B7
UniRef90-T5AD62
UniRef90-UPI00037D0ED9
UniRef90-UPI00032AD92B
UniRef90-M2WUS9
UniRef90-U3R0M3
UniRef90_UP100047507C4
UniRef90_UPIO003B723E8
UniRef90-UPI00036BE0C8
UniRef90-A813S3
UniRef90_F6TKK1
UniRef90-C6K2C9
UniRef90-B4EEG1
UniRef90_H9CY13
UniRef90_UPIOO029A041B
UniRef90_UPI0003754A76
UniRef90-ROJZ14
UniRef90_D3B3V0

GS D TII ERDFEIIF YE QRGLNHIVPS|LIFFRSDYAAFDENG\|AS GAHELGAFLE

 YKKAVKS RRPFGNS
 FPRPVHAAFEDHDEQGPVLEEPQGUVCDRWYNVRVQGVPN LISSLIENN ILKQARAGPAAGDEPQGUVCLRWYNVRVQGVPN W GS D KIEK DFEQFYENRGQAHVPSLFS RS DYAAFLENGUPS
\(\square R G M V K D E F T L V G P R \square D L H S G H Y G G P\)
GKPRVDSFVELHDEQGPV
M \(\square E A Y S H V P H P F G T V L A N D V F S T G L I L S D T D F F V E Y G \quad D K\)
PSREGKT \(\square A D V W E N G D D E E P V A A \square G S G S D F T V F Q R \square G \square A S\) GGRKMKAFFELHDEQGPDLEDEG
GSGA \(\square E R M F R E Y F K R R G L A T E A E F N G R S D Y G P F \square E R G \square P A\)
FT
\(\square E A \square E \square Y E K E Q R A Q S L S T G \square Y P L G S G S D Y T A F L Q R \square G \square A S\) GSAATESLIEDYFA LRGQPSEGSDSFRSDYAEFFLQDVAF GDRKDHAFFEDHDEQGP LDEDEG VTSAYHRVPHPHGNSVSADAFKRGVIRSDYTVYETMGWEG RLRS \(\square E K L L Q S H P Q E V M Y P G E P P G S V E D D H L P F L H R G V P V\)
FHR L KS \(\square E K R \square H R \square N \square P G E P P G S V E D D H \square P F \square R R G V P V\)
\(1 T\)
VGA RKMAAFFELHDEQGPILEDENDDVGVVTHGQGLKW TRPIDDALDRAGRLLRDPLAA GQVASDNRQYAGVGMPA \(F V A D \square S E E C \square K R S G Y N Y T \square F D Q D S S D H V P F E N A G \square P F\) GEEDIVTAANRDLHSGMYGG
LLH VLDRVLRKFWDETQSRLTSSSSTFTDDLPFQHAGTSS GSRKFTKKMDYFTQLPVKKFNGPGDDFSDHLNYWKMGFSA \(\square\) MEYAAAVPHPFAS SLAAQEDFQSGLDPADTDFRDFRDFGK
FGSKAGRAAKR
VKEEVRETHEAEVQQADA \(\square G \square N P \square G S\) GS DYTVFQR \(\square G \square A S\)
\(T \square R A F L E L H V E Q G P V L D T E K \square T \square G\)
YNDLVMKICNDQGKYANWKVNYNPFEGSDHTPFDKSKDPG GGESLEDMKPHY LNDFMDDHFKNQGAFSDHTPFLNAD』PG EARW
1 L Q
FGPAVAQVREAGHRGRDPRPDGP \(\square G G R S D H A A Y W N R R \square P A\)
LD Y G \(\square\) SEVARVQGREVVPSDLQDAFPRQDGWALLVEGVPA AYPKAKRDSRE\GAFLEMHDEQG
LMAAFRKAWNEGAPSEDQMNAYPRLMDSDHKYFWTNDYSA LENVIKTAADEWTRTSNATVDHDNGDSDYGGFQYHLGDPS
 AHRYGIEAA
GE EVVVTAADRD
L
 \(\square G\)
GEE I ITAADRDLHSGYFGG
SGDT LWDARKDRGP \(\square P\) W \(L V T E K T \square G S G S D Y T V F L Q Q G \square T C\)
WE QFMEK LGNHVGLGVPDSEKKGLGSGSDFTPFQRYGDAS LKKFCENGVPKEAYPDGLTVLAPGETWSDDFS \(\square A \square S G U P S\)
AGD I R DVAERPVRAGDYSFNN DGTMPDD \(\square R\) R AEKGYYA \(R L K A D E Q E L Y E L N L L K D H S L E R G G V I Q D D H D P F D R K G V P V\) LTRFAKSVKRPHGSSVSQDFFDADLVPXXXXXXXRLIWFL L G A Y FEAHI E Q

GQRKDHAMFELHDEQGP LLED
VAA WASGAPNAHGAR \(\square A Q D \square F D T G L I P T D Y R M F S A R H F G T\)
 AVDAYF EA H \(\quad E Q G P V L E A N G T T Q G\)
GLFDLAAAA LLAESGQKLSGKRKARSADD SFPGVGDAS
LRLYLVETAEKGMHWMRLTVDGTAGHGS
GKQKF
GSAEAEHEFAAYFDS \(\square\) G \(L\) NHTE \(\boldsymbol{G}\) EFDRSDYGPF \(\square E A G T K A\)


UniRef90 E4ZRQ6 UniRef90-B9NV68 UniRef90_UPI0004433680 UniRef90_Q29E61 UniRef90_F7DAX8 UniRef90_Q6FK15 UniRef90_UPIO00440D37D UniRef90-HOVNPO UniRef90-UPI0003B32786 UniRef90-S9WQT3 UniRef90_UPI000328BEDC UniRef90 UPI00045E5699 UniRef90-Q0UHI6 UniRef90-K2M265 UniRef90 A3X4F8 UniRef90 \({ }^{-}\)A0A022H0Y9 UniRef90_UPIO0037B49E5 UniRef90-M9MDF5 UniRef90 J7IMA7 UniRef90-M7WNZ1 UniRef90-Q11GN9 UniRef90_UPI0003AD4FE7 UniRef90 V9KQ43 UniRef90-UPI0003761EF9 UniRef90-G4UFQ1 UniRef90 K5V932 UniRef90-A4BBR6 UniRef90-X5W4W9 UniRef90-M5FYW6 UniRef90-13MLW2 UniRef90-V9XCG6 UniRef90-S7MP51 UniRef90 X1DXY8 UniRef90-UPI0003B4E156 UniRef90-D5BRE3 UniRef90-W7SX39 UniRef90 A0A017RZN7 UniRef90-W6WBI5 UniRef90-F9X3B0 UniRef90 F2IKE4 UniRef90-H9JSS9 UniRef90-M3DPY4 UniRef90_UPI00046F867C UniRef90 A0A024UJ27 UniRef90-K5VR74 UniRef90-X5VUB1 UniRef90 F6IK67 UniRef90 W6UHI2 UniRef90_UPI00047EB8FC UniRef90_UPI00047CCC1E UniRef90-UPI0004790561 UniRef90-K0ES99 UniRef90_A0A011QUJ1 UniRef90_UPI0001DD08BB UniRef90 D6XY47
UniRef90_UPI0003F0C326 UniRef90-J7RHT8 UniRef90 B5ZSX7 UniRef90-A1HLX9 UniRef90-D5QE94 UniRef90-U2NP70 UniRef90 UPI000381FE9D UniRef90-J31473
UniRef90_UPIO00288772C UniRef90_UPI0003B6E58B UniRef90-S7W3E1 UniRef90_U4LEA5 UniRef90 I1B0Q2 UniRef90 A1UU19 UniRef90-E3EZ49 UniRef90-M5CH88 UniRef90 UPI00040F5832 UniRef90-B8LZW9 UniRef90_Q560F9 UniRef90-D4M2B7 UniRef90 T5AD62 UniRef90_UPI00037D0ED9 UniRef90_UPI00032AD92B UniRef90-M2WUS9
UniRef90 U3R0M3 UniRef90_UPI00047507C4 UniRef90-UPI0003B723E8 UniRef90 UPIO0036BE0C8 UniRef90-A813S3 UniRef90-F6TKK1 UniRef90-C6K2C9 UniRef90-B4EEG1 UniRef90-H9CY13 UniRef90-UPI00029A041B UniRef90 UPI0003754A76 UniRef90-ROJZ14

LHVIPTPFP VVWHTAADTEAND HAPTVHNDSR LHLVATPFPD TWHTPRDNAANLH WPSDRNFNRVFR VS FSFQKENKPYAYLGTKMDTLENFKQLVDLDRMCRTAA

 HAGPTPMTSRHDA \(\square Y\)
SMD \(\square\) AYTYDRSYPTYHTAFDTFGYVDPGFSSHQAVARTAG VSFCFCEDTDYPYLGTSMDTYKELVERDPEDNKVARAAA GGLFTGAGAPLDACYHQKCDD \(\square\) NNLDAYLLNTQSIANSVA
\(\square T G L D M A L V G N S Y F Y H T R K D \square P K Y \square E P G A T Q H F G E N T \square A \square\) ANFMRRSKKSPVYHYHSNYDSFHWGDPTYQRH \(\square\) AVSKVLG AMFGGRAGAAYDPCYHRKCDR \(\square G N V N R K L L D \quad G N T D A \square A\)

MQGFAQTPSDAVYHYHS \(\square\) Y DSQRYADPGFHRHVAVAKHDG GGLFTGAGDAFDPCYHAECDDVFNV SERAVEVNSDAL LDV AFYKGRSWYHTMGDNV LHL \(\square\) STPFP TVWHTPSDSEANLHPPTVY N \(\square S R \square L A\) \(\square H L I S T P F P S \quad V W H T A E D S E A N L H P P T V H \quad N \square S R \square L A\)
\(\square Q V^{T} L^{T}\) GKSS
 AGIGLGA CDNYHTDNDVPSKISKNFNVCNVVTKVAF
\(\square D F G F S S P Q P Y P K \quad G S C Y D T \square E W V D P D M S S H R T \square A Q \square W A\) CMVTDTAF YRNKNYHQKTDEMGTLNDS
\(\square S G V D L A W S S N G Y V Y H T G L D T A D N \square P K S A L Q R T G D N V L A L\)

MDVFENTVNDPPYHYHS \(\square Y\) DSERYGDPGFFRHVAAAK

LLMWHFTDV FYHTDNDRDDKVSATTMKNVGDSALTT LLLDWHFTD QFYHTDNDKIDNVSQETLRNVGUGALVS
\(\square \mathrm{M} \square \mathrm{T}\) GTANFR NAHYHQASDVPQTLDYG
VLVSSADFESFMSDYHRASDAPARG VELGGAAEDTLLHA \(\square Y \square S D T D D K R G R Q C Y H S D C D N S T V M D S K D T F D A K S T \square A V T\) ASFNFAQNNDA \(\square\) YHWHS \(\square\) FDS \(V D F \square D G D Y K \square H N T \square A T F T G\)
 MAVEATNWSLGDKDGYQQRATSPNFPQGDTWHR
GLHDDTGRITLDGFYNGVEETPEN \(\square\) KASWE

MRGLDVAFWEPRSRYHTVDDDVKHTTHRSLWHM


SEDGHGGPKDAVYHYHS DYDSFKFGDVGFHRHTDAAKV
TVNDFSAGPFMETHYHSQYDNEEFYQEAVYHHEDYTRLLV


\(\square P G \square D \square A F \square R D S V A Y H S S \square D C V D R V R R G S G Q D M G E A L L G G\) LHVIPSPFPEVWH

VFGSFSYQNALGWWWHTPHD LIDK \(\square\) DPA N \(\quad\) I ARDTR \(\square\) T
DMFGGGAGVPYDVNYHEDGDTVNN \(\square\) N \(\square D\) AEFTRA \(\square\) AHMTA

UniRef90 E4ZRQ6
UniRef90-B9NV68
UniRef90_UPI0004433680
UniRef90 Q29E61
UniRef90 F7DAX8
UniRef90_Q6FK15
UniRef90-UPIO00440D37D
UniRef90 HOVNPO
UniRef90-UPI0003B32786
UniRef90_S9WQT3
UniRef90_UPI000328BEDC
UniRef90- UPI00045E5699
UniRef90-Q0UHI6
UniRef90-K2M265
UniRef90 A3X4F8
UniRef90-A0A022HOY9
UniRef90_UPI00037B49E5
UniRef90-M9MDF5
UniRef90 J7IMA7
UniRef90-M7WNZ1
UniRef90 \({ }^{\text {Q11GN9 }}\)
UniRef90-Q11GN9
UniRef90_UPI0003AD4FE7
UniRef90 V9KQ43
UniRef90-UPI0003761EFs
UniRef90-G4UFQ1
UniRef90 K5V932
UniRef90-A4BBR6
UniRef90-X5W4W9
UniRef90 M5FYW6
UniRef90-13MLW2
UniRef90-V9XCG6
UniRef90-S7MP51
UniRef90 X1DXY8
UniRef90 UPI0003B4E156
UniRef90-D5BRE3
UniRef90 W7SX39
UniRef90 A0A017RZN7
UniRef90-W6WBI5
UniRef90-F9X3B0
UniRef90 F2IKE4
UniRef90-H9JSS9
UniRef90-M3DPY4
UniRef90-UPI00046F867C
UniRef90 A0A024UJ27
UniRef90-K5VR74
UniRef90-X5VUB
UniRef90 F6IK67
UniRef90 \({ }^{-}\)W6UHI2
UniRef90_UPI00047EB8FC
UniRef90-UPI00047CCC1E
UniRef90 UPI0004790561
UniRef90 \({ }^{-K 0 E S 99}\)
UniRef90-A0A011QUJ1
UniRef90 UPI0001DD08BB
UniRef90 D6XY47
UniRef90_UPI0003F0C326
UniRef90-J7RHT8
UniRef90 B5ZSX7
UniRef90_A1HLX9
UniRef90-D5QE94
UniRef90 U2NP70
UniRef90 UPI000381FE9D
UniRef90_J31473
UniRef90_UPI000288772C
UniRef90 UPI0003B6E58B
UniRef90-S7W3E1
UniRef90_U4LEA5
UniRef90 I1B0Q2
UniRef90 A1UU19
UniRef90-E3EZ49
UniRef90-M5CH88
UniRef90 UPI00040F5832
UniRef90-B8LZW9
UniRef90_Q560F9
UniRef90 D4M2B7
UniRef90 T5AD62
UniRef90-UPI00037D0ED9
UniRef90_UPI00032AD92B
UniRef90-M2WUSS
UniRef90 U3R0M3
UniRef90_UPI00047507C4
UniRef90-UPI0003B723E8
UniRef90 UPIO0036BE0C8
UniRef90-A813S3
UniRef90-F6TKK1
UniRef90_C6K2C9
UniRef90 B4EEG1
UniRef90-H9CY13
UniRef90-UPI00029A041B
UniRef90 UPI0003754A76
UniRef90-ROJZI4
UniRef90_D3B3Vo

K Y A LDS FANST
VFAVF \(\square A E Y \square G\)
NFVYE
NFAAQ1
A
LQ I IRMADS
EVI LQDAN

S VLLR \(\square S D S\)
\(E \vee \sqrt{A}\)
KYALS FANAT
\(\square\)
\(\square A\) A VRL
HVLQHLARTT

LVADRDTDA
A FVTS

VF L A E
VF L A E

E \(\square\) AWS HA
VT \(\square\) A H L A A R T
LL I L E V \(A\)

A Y T L VT A
\({ }^{A} A^{Y} T \mathrm{~T}\) LTNANATA

A LIRYFAS
NClSEMA
\(1 \vee \mathrm{~A} L \mathrm{M} \mathrm{M}\)
\(\square \mathrm{AADVAAAHG}\)

LVLLRMADS

LSAYRTANQT
```

VFVLE
SLLLE L A

```
\(\square \mathrm{MSDAAAMAA}\)

R IVWPL

K Y A V

EDEVVDLAGELDRFDTTNTGDP AE \(\square \mathrm{DGAKAMDYLVEIAD} \mathrm{\square GAREASTQ}\) T LDAVLAR DDADRLFDLLR \(\prod P S \prod S T D P A Y K A\) VTAVLSRVDADRLFDFLR I P S I SADPAYAG \(A V A A V S E G R L W D R L M A M A R I G N R P C L S A\) \(R \square D G D R \square W D S \square M E M A R I D G T S N Y G T P\)

R \(\square\) NGDRLWDALMEMAK \(\square G N R Q T \square T D\) V NTANLE ILLEHFNDFRRHD IN IT
VQQQPELQALVAEVTA F S K KI NSDRLWDSLMEMAK \(L\) GA R \(\square A D T\) D EVNLERIKADILELSQIGRRMAFTD




 NADVAA L RANKERLQKY


NVDGDRLREDTETNAAFGTVFAGTE


VDKAVRVWLVSSVKSLGCSVKVDE MGNIFA
 AERPAAEYVAEKLGEAGFETTYVESGDTPGRG NVVA QELET GAWIYDKLTGFGYDVT IQPFTYTKKVGGVDTILIY ECREPKEREDHHSWTVFG ECDRAADWLVADLASFG \(\quad \square A A E K R P T P G H P M V V G G\)
 GERTAAEYCATVLADAGLPVEI DEPRPRRTT A VAM EDGEGRRLFQEWCEAAGCTMGLDTMGNM
TPGPREEVYC

ADAEGRADFKTWCDEAGLSMGVDKMGTMFMT
 GAWLSQDWLVDTYPAAHAAMTRETV\(\quad\) V GERAAAEYTAGLIEEVGDE
 PNRRARDRFVERLKQAGLDVRVDSVGN KI AG DCDRAADWLVADLKSMGGVEAEKRATPGHPMVVG GDQDARWKVFDEFADYGQTTFPKDYEK LTTQEKVNSHGLLY




\footnotetext{
lupas_21
lupas_14
lupas_28
jnet
conf
sol25
sol5
solo
jhmm
jpssm
}



\footnotetext{
lupas_21
lupas_14
lupas_28
jnet
conf
sol25
sol5
sol0
jhmm
jpssm
}

\begin{tabular}{|c|c|}
\hline UniRef90_UPI0003D0811D &  \\
\hline UniRef90-W9WA33 & \(V\) VS GVWSGRYTLDFAHAL \\
\hline UniRef90-LOMEI4 & YLQMSAEERANTLLVINLDSLITGDKDYFHAGRNTPPAKQ \\
\hline UniRef90-W7HIC0 & WVEEHRAYLKNAVAYINVDVAGS WADTSAAPLMYKVLT DS \\
\hline UniRef90-UPI000376332C & \\
\hline UniRef90-Q1Z5 & YVKNA\DELDNVIGMINYDTVGGGD\VYVHAAHSDYTETK \\
\hline UniRef90-Q75F35 &  \\
\hline UniRef90-X7F8J2 & \\
\hline UniRef90_UPI00040256FA & FLEANKEELSVDVALVCDTEMWDRKTPADT T M L R G L VGEE \\
\hline UniRef90_UPI00035DFD15 & GSMSFTGFKPMSAFD \({ }^{\text {SIIT DVE }}\) \\
\hline UniRef90-E3IU30 & \\
\hline UniRef90-X7ELN7 & LASVFA GVHEQDWAEAREDADGKRFGDELDR \\
\hline UniRef90-W0RSA3 & YVDQRKYPEPKWDGMDQHDMMMFDHGMPNIEFQSNSKMAD \\
\hline UniRef90-G1N1E2 & FITQHEWA KSIRAFINLEAAGV GGKELVFQTGPENPW \\
\hline UniRef90-UPI00036F5BD8 & MASVFAGELTLDYAYGRKDHEGKSFG \\
\hline UniRef90-UPI0003F & CYWNVPCGSQRFVEDWLVSFLQDRDS \\
\hline UniRef90-A8PLA7 &  \\
\hline UniRef90-R9PKF8 & M GS GVRFSLQEILDSRDVDGLRLGDELQRIGFAGDVTGRQ \\
\hline UniRef90-F2AZN5 & GSQSVCGQI NPEMDATMTDMNGVRLQEEMSRHGYDPVAA \\
\hline UniRef90_H2K1C4 & \\
\hline UniRef90-B4KRW8 & F ITT Q HKWAPK \\
\hline UniRef90-UPI0003EC591E & WLE GY LS M L H K V VA Y F S LDQAVM \\
\hline UniRef90-A3WNR8 &  \\
\hline UniRef90-A0A031FXI2 & VEGSQLVVRDRADWFAGATEA 1 S EVGGGYS\|GVGD \\
\hline UniRef90-TOLUL9 & EQKWGNNSMALILDEGGM GLQQLDSK \\
\hline UniRef90-K6YEN9 & Q I A AFL A K K N T F EFVLDEGGVVT Q M M P GVa EPV \\
\hline UniRef90-C5PFV8 & VSS GVWAECDPLSAAHNL \\
\hline UniRef90_A0A059GA44 & \\
\hline UniRef90_Q29E62 & F VRMET \(\square P L E S \square E \square A \square A L N F \square G A P A Q A Y L S H Y D N T Y M L H N\) \\
\hline UniRef90_J3WWK2 &  \\
\hline UniRef90-M0LVR9 & LGSSVAAGNRSAEALQLTDDAGTDLETALSEDGYNGTDRV10 \\
\hline UniRef90-A9E972 & FMKENAEELKADVAM1 C \\
\hline UniRef90_A0A016PV05 & \(\square A S F L L Q R Y G E N G V S L I \quad D E G A P \square L P \square W G T H F A \square P G V S\) \\
\hline
\end{tabular}

\footnotetext{
lupas_21
lupas_14
lupas_28
jnet
conf
sol25
sol5
sol0
jhmm
jpssm

}
\begin{tabular}{|c|c|}
\hline UniRef90_UPI0003D0811D &  \\
\hline UniRef90- W9WA33 & \\
\hline UniRef90-LOMEI4 &  \\
\hline UniRef90-W7HIC0 & MKRVKDPLADKKRHLIEKGHSRSVGSGSDFTGFQDAMIPI \\
\hline UniRef90_UPIO00376332C & \\
\hline UniRef90-Q1Z5W5 &  \\
\hline UniRef90-Q75F35 & VQALIS SEREKFGFDMQVRDVEQYG D WTPFMANGUPV \\
\hline UniRef90_X7F8J2 & \\
\hline UniRef90_UPI00040256FA & \\
\hline UniRef90-UPI00035DFD15 &  \\
\hline UniRef90_E3IU30 & \\
\hline UniRef90-X7ELN7 & GERKMHAFFE \\
\hline UniRef90-W0RSA3 & S SQKLA W \(\square\) FHRANEKYATDYPAQVGPHTDSDPFKDL VA A \\
\hline UniRef90-G1N1E2 & LVQYVFAAKHPFASVVAQE \(\square\) F QS GIIPADTDFR \(\square\) YRDFGN \\
\hline UniRef90_UPI00036F5BD8 & \\
\hline UniRef90_UPI0003F08F9F & \\
\hline UniRef90-R9PKKF8 & FHAFFETHIEQ \\
\hline UniRef90-F2AZN5 & \\
\hline UniRef90-H2K1C4 & \\
\hline UniRef90-B4KRW8 & \\
\hline UniRef90-UPI0003EC591E &  \\
\hline UniRef90-A3WNR8 & WPP SRLKA FYE \\
\hline UniRef90-A0A031FXI2 & QRAYLLQVGEKALIWDRLHATGQAGHGSRHHP \\
\hline UniRef90-T0LUL9 & TLYALPAVMEKGHVDI WLELHVT G GHS SVPFPHTG\G\|VS \\
\hline UniRef90-K6YEN9 & AV \(V\) G 1 A EKGFVNLRLTVNAPGGHSSQPPAHTAAGILA \\
\hline UniRef90-C5PFV8 & \\
\hline UniRef90-A0A059GA44 & \\
\hline UniRef90-Q29E62 &  \\
\hline UniRef90_A9WSJ6 & \\
\hline UniRef90_J3WWK2 & VT N T A VA T S K A \(\square\) G K S VVLT G K F D S S HVP F Y E A G \(\square\) S S \\
\hline UniRef90-M0LVR9 & DADEWDA W \(\square\) E \\
\hline \begin{tabular}{l}
UniRef90_A9E972 \\
UniRef90 A0A016PV05
\end{tabular} & EKGYVDVE\|VIRTKGGHSSMPPVHTSAG\A \\
\hline UniRet90_A0A016PV05 & K GYVDVE!VIRTKGGHSSMPPVHTSAG】A A \\
\hline
\end{tabular}
```

lupas_21
lupas_14
lupas_28
jnet
conf
sol25
sol5
sol0
jhmm

```

\begin{tabular}{|c|c|}
\hline UniRef90_UPI0003D0811D &  \\
\hline UniRef90-W9WA33 & \\
\hline UniRef90-LOMEI4 & MAVEATNWDGYQQRWHRPYDNVQY LD R H L K R S R D SVQVL \\
\hline UniRef90-W7HIC0 & VDFFRQGAGGAVYHYHSNYDS FDWMDPGFTYHRVATNLLVG \\
\hline UniRef90_UPIO00376332C & AYVEATNFNKWGK \(\square\) WHTEYDK \(\square\) DK DDAFPRVAKQVSDNV \\
\hline UniRef90-Q17555 & AVVEASNFNKWGKDWHTEYDKLDKLDEAFPRVAK QVS DNV \\
\hline UniRef90_X7F8J2 & \\
\hline UniRef90-UPI00040256FA & \\
\hline UniRef90-UPI00035DFD15 & \\
\hline UniRef90-E31U30 & \\
\hline UniRef90-X7ELN7 & \\
\hline UniRef90-WORSA3 & \(\square S \square R E N E G A G W D P H W H Q P T D V F A T F D K D F R \square G L N A A Q T T L ~\) \\
\hline UniRef90-G1N1E2 & VP G \(\square \mathrm{D}\) L A F \(\square \mathrm{EN} \mathrm{G} \mathrm{Y} \square\) Y H T K Y D T S D R \(\square\) \\
\hline UniRef90_UPI00036F5BD8 & \\
\hline UniRef90_UPI0003F08F9F & L \\
\hline UniRef90-R9PKF8 & LTLSHFSHTDSGRN \\
\hline UniRef90-F2AZN5 & \\
\hline UniRef90-H2K1C4 & \\
\hline UniRef90-B4KRW8 & \\
\hline UniRef90-UPI0003EC591E & \\
\hline UniRef90-A3WNR8 & \\
\hline UniRef90-A0A031FXI2 & \\
\hline UniRef90-TOLUL9 & EMVVALEAHPYSPQLT T K S P L Y E H M \\
\hline UniRef90-K6YEN9 &  \\
\hline UniRef90-C5PFV8 & \\
\hline UniRef90-A0A059GA44 & \\
\hline UniRef90-Q29E62 & MYL A P Y Y P QVWHTAADNAAHL \\
\hline UniRef90-A9WSJ6 & \\
\hline UniRef90-J3WWK2 & A LI \(\square\) WM D VES WN P L I H T P Q D TVEN \\
\hline UniRef90_M0LVR9 & \\
\hline \begin{tabular}{l}
UniRef90_A9E972 \\
UniRef90 \({ }^{-A 0 A 016 P V 05}\)
\end{tabular} &  \\
\hline
\end{tabular}

\footnotetext{
lupas 21
lupas_14
lupas_28
jnet conf sol25
sol5
sol0
jhmm
jpssm
}

```

UniRef90_UPI0003D0811D R A LY QLA G G N G
UniRef90 W9WA33
UniRef90-LOMEI4
UniRef90_W7HICO
UniRef90-UPI000376332C
UniRef90-Q1Z5W5
UniRef90-Q75F35
UniRef90-X7F8J2
UniRef90-UPIO0040256FA
UniRef90-UPI00035DFD15
UniRef90-E3IU30
UniRef90-X7ELN
UniRef90 WORSA3
UniRef90-G1N1E2
UniRef90_UPI00036F5BD8
UniRef90-UPI0003F08F9F
UniRef90 A8PLA7
UniRef90_R9PKF8
UniRef90-F2AZN5
UniRef90 H2K1C4
UniRef90-B4KRW8
UniRef90_UPI0003EC591E
UniRef9O-A3WNR8
UniRef90 A0A031FXI2
UniRef90-TOLUL9
UniRef90-K6YENg
UniRef90 C5PFV8
UniRef90-A0A059GA44
UniRef90_Q29E62
UniRef90-A9WSJ6
UniRef90 J3WWK2
UniRef90_MOLVR9
UniRef90_A9E97a
UniRef90_A0A016PV05 K Y L L
$$
\begin{array} { l } { \text { lupas_2 _14 _luas_14} } \\ { \text { lupas_28} } \\ { \text { jnet } } \\ { \text { conf} } \\ { \text { sol25 } } \\ { \text { sol5 } } \\ { \text { sol0} } \\ { \text { jhmm } } \\ { \text { jpssm } } \end{array}
$$
PLLKELAAQA
NMALLQLL
N|VIEL
G A V A T LT G A
VY V LNLP N A
99999743899

```
```

