QUERY
UniRef90_A7AUJ5 UniRef90-Q9SIL3
UniRef90 W7AVY UniRef90- G3MME3 UniRef90-V7CHS3 UniRef90-N4V4RO UniRef90-V7AXW1 UniRef90-D8RJ89 UniRef90-M1GoLO UniRef90-UPI0002657220 UniRet90 W9RBY7 UniRef90-A0A059BAT2 UniRef90-B4KV29 UniRef90_U6PRR1 UniRef90 ${ }^{-}$M4ABX1 UniRef90-B4KIK3 UniRet90-U9TWN4 UniRef90_T2MFB6 UniRef90-P59910
UniRef90 B9HGR8 UniRef90-UPI0002B41D3E UniRef90_A3LXZ2 UniRef90-K3Z7D3 UniRef90-S8D404 UniRef90-M4D050 UniRet90_D6SKN4 UniRef90-U5G3V9 UniRef90-R1EJK UniRef90-1116T3
UniRef90-D5A9M UniRef90-D5A9M1
UniRef90 Q9UD4 UniRef90-S8BYR5 UniRef90-V7BQ51 UniRef90-K3XJPO UniRef90_UPIo0032AB557 UniRet90 I1NWW1 UniRef90-B9WM25 UniRef90-11KUM7 UniRef90_M4F782 UniRef90-H2U778 UniRef90-A0A022R703 UniRet90-C5GAU2 UniRef90 K5X6Z2 UniRef90-UPIOO0440F069 UniRet90-K8EQK9 UniRef90 R R YKLL UniRef90_UPIO000E13FC3 UniRef90-H1XNY1 UniRef90 UPIo002B44893 UniRef90-F4NV37 UniRefe90-T2M4C0 UniRef90_UPI0002B48F9B UniRef90-G3AK10 UniRef90-B8KG63 UniRef90_ 3 3L6C6 UniRef90-LOEXU5
UniRef90-S2JL93 UniRef90_M2YVL1 UniRef90-D8ML77 UniRef90-Q0BW83 UniRet90-Q47HK3 UniRef90-B8GNX2 UniRef90-UPI00044088F7 UniRef90-G2ISC4 UniRef90-R9NU32 UniRet90_E9GRV0 UniRef90-D3HKGO
UniRef90-D2AWD6 UniRef90- V7EQ00 UniRef90_A4BK74 UniRef90 UPIO004724BAB UniRef90 UTG9Y55 UniRe90-F4RV7 UniRef90-C4UYG7 UniRef90_D9V9Q4 UniRef90 LOB4T8 UniRef90_UPIooo37AAA14 UniRef90-l2CQW5 UniRef90 C4XII5 UniRef90 U6EEQ6 UniRef90 W5MHPS
UniRef90 Q128K1 UniRef90_UPI0004785638 UniRef90-G8ZS57


## QUERY

UniRef90_A7AUJ5 UniRef90-Q9SIL3
UniRef90 W7AVY8 UniRef90-G3MME3 UniRef90-V7CHS3 UniRef90-N4V4RO UniRet90-V7AXW1 UniRef90-D8RJ89
UniRef90 M1 GOLO UniRef90-UPIO002657220 UniRef90-W9RBY7 Unifereap-AAOAO5SaAT2 UniRef90-B4KV29 UniRef90-U6PRR1 UniRef90-M4ABX1 UniRef90_В4КК1K3 UniRef90-U9TWN4 UniRet90-T2MFB6 UniRef90-P59910
UniRef90 ${ }^{-19 H G R 8}$ UniRef90_UP10002B41D3E UniRef90-A3LXZ2 UniRef90-K3Z7D3
UniRef90 S8D404 UniRef90-M4D050 UniRef90-D6SKN4 UniRet90-U5G3V9 UniRef90-R1EJK0 UniRef90-1116T3 UniRef90-D5A9M1 UniRef90_Q9UDY4 UniRet90-S8BYR5 UniRef90-7BQ51 UniRef90_UPI00032AB557 UniRef90-INWW1 UniRef90-B9WM25 UniRef90-I1KUM7 UniRef90-H2U778 UniRef90-A0A022R703 UniRef90-C5GAU2 UniRef90-K5X6Z2 UniRef90-UPIIOOO440F069 UniRef90-K8EQK9 UniRef90_UPIoooo5845B3 UniRef90-R7YKL8 UniRef90-UPIoo00E13FC3 UniRef90-H1XNY1 UniRef90-UPIo002B44893 UniRef90-F4NV37 UniRef90-T2M4C0 UniRef90-V7AYU9 UniRef90-UPIO002B48F9B
UniRef90-G3AK10 UniRef90-G3AK10 UniRef90-B8KG63 UniRef90-M4XLP7 UniRef90-LOEXU5
UniRef90-S2JLLO3
UniRef90-UPIOOO35071F5
UniRef90-D8ML77 UniRef90-Q0BW83 UniRef90_O47HK3
UniRet90-B8GNX2 UniRef90-L1P2B6 UniRef90-UPIO0044088F7 UniRef90_G2ISC4
UniRef90 R9NU32 UniRef90-E9GRVO UniRef90-D3HKGO UniRef90-D2AWD6 UniRef90-V7EQ00 UniRet90-UPI0004724BAB UniRef90-U7G9Y5 UniRef90-F4RV78 UniRef90-F4FUl3 UniRef90-C4UYG7
UniRef90-D9V9Q4 UniRef90-LOB4T8 UniRef90-UPIOOO37AAA14 UniRef90-l2CQW5 UniRef90-C4XII5 UniRef90 U6EEQ6 UniRef90 W5MHP5
UniRet90 O128K1 UniRef90_UPIO004785638 UniRef90_G8ZS57


5

##  <br> L

50
VEVETKPGWKDGTKDTYSGG0
70
80 LKVDVKAGWKDGTK LKVDVKAGWKDGTKLTFAHEGDQASPTSPPGDLIF:IRSK
 FTI EVKPGWKAGTRVTFRHEGNQFHYGSVPGDLVFVIRDK
 LEVPIKPGLKKGSKIKFKGVGDQEEGGQGQDLHFILEEK

LTI DVKPGWKKGTKITFPEKGN

[^0]

LPV $\begin{gathered}\text { P } \\ \text { V } \\ V \\ V \\ L\end{gathered}$ L E V N I K A G WK S G T K I N






 I K L K I K P GTK D G Q LL K L K G K G NP GI N G G P N G DL L I TVVR R K L E V Y V K K G WK E G T R I T F P K E G N Q S L N KTP A DIVV FVI K D K



L







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













 $L$ E V

| QUERY |  |  |
| :---: | :---: | :---: |
| UniRef90 | A7AUJ5 |  |
| UniRet90 | Q9SIL3 | PHP |
| UniRef90 | W7AVY8 |  |
| UniRet9 | G3MME3 | P HP |
| UniRef90 | V7CHS3 |  |
| UniRef90- | N4V4R0 | PHP |
| UniRef90 | V7AXW1 |  |
| UniRef90 | D8RJ89 |  |
| UniRef90 | M1GOLO | P H |
| UniRef90 | UPIO002657220 | P H |
| UniRef90 | W9RBY7 | P H |
| UniRet90 | A0A059BAT2 | R H |
| UniRef90 | B4KV29 | P H |
| UniRef90 | U6PRR1 | P |
| UniRef90- | M4ABX1 | P |
| UniRef90 | B4K1K3 |  |
| UniRef90- | U9TWN4 | P H |
| UniRef90- | T2MFB6 | PH |
| UniRef90 | P5991 | L-HP |
| UniRef90 | B9HGR8 |  |
| UniRef90 | UPI0002B41D3E | RHP |
| UniRef90 | A3LXZ2 | P |
| UniRet90 | K3Z7D3 |  |
| UniRet90 | S8D404 |  |
| UniRef90 | M4D050 | P H |
| UniRet90 | D6SKN4 | PHP |
| UniRef90 | U5G3V9 |  |
| UniRef90 | -11EJK0 | DHP |
| UniRef90 | -1116T3 | P H |
| UniRef90 | D5A9M1 |  |
| UniRef90 | Q9UDY4 |  |
| UniRef90 | S8BYR5 | P HP |
| UniRet90 | V7BQ51 |  |
| UniRef90 | K3XJ |  |
| UniRef90- | UPI00032AB557 |  |
| UniRef90 | I1NWW1 |  |
| UniRef90 | B9WM25 | P N P |
| UniRet90 | I1KUM7 |  |
| UniRef90 | M4F782 |  |
| UniRet90 | H2U778 | PHP |
| UniRef90 | A0A022R703 | \HP |
| UniRef90 | C5GAU2 | EHP |
| UniRef90 | K5X6Z2 | P |
| UniRef90 | UPI000440F069 |  |
| UniRef90 | K8EQK9 | KHP |
| UniRet90 | UPIO0005845B3 |  |
| UniRet90 | R7YKL8 | DHP |
| UniRet90 | UPIOOOOE13FC3 |  |
| UniRet90- | H1XNY1 | P H |
| UniRef90 | UPI0002B44893 |  |
| UniRet90 | -4NV37 | K HP |
| UniRef90 | -T2M4C0 | PHP |
| UniRet90 | vaYu9 | R |
| UniRef90 | UP10002B48F9B |  |
| UniRef90 | G3AK10 | PHP |
| UniRef90 | B8KG63 | P H |
| UniRef90 | J3L6C6 |  |
| UniRef90 | M4XLP7 | P HP |
| UniRef90 | LOEXU5 |  |
| UniRef90 | M2YVL1 | A H P |
| UniRef90 | UP100035071F5 | P H |
| UniRef90 | D8ML77 | PHP |
| UniRef90 | Q0BW83 |  |
| UniRet | Q47HK3 |  |
| UniRef9 | B8GNX2 |  |
| UniRef90 | L1P2B6 | Q H |
| UniRef90 | UP100044088F7 |  |
| UniRef90 | -G2ISC4 | R HP |
| UniRef90 | R9NU32 | P HP |
| UniRet90 | E9GRV0 | EHP |
| UniRet90 | D3HKG0 |  |
| UniRef | D2AWD6 | P HP |
| UniRet90 | V7EQ00 | DHP |
| UniRet90 | A4BK74 |  |
| UniRef90 | UPI0004724BAB | P HP |
| UniRee90 | U7G9Y5 | EH |
| UniRet90 | F4RV78 |  |
| UniRef90 | F4FUl3 |  |
| UniRet90 | C4UYG7 | P HP |
| UniRet90 | D9V9Q4 |  |
| UniRet90 | Lob4T |  |
| UniReigo | UPIOOO37AAA14 |  |
| UniRet90 | -2CQW | PHP |
| UniRet90 | C4XII5 |  |
| UniRet90 | U6EEQ |  |
| UniRe | 55M | A HP |
| UniRet90 | Q128K1 |  |
| UniRet90 | UPI0004785638 | E H |
| niRet90 | G8ZS57 | P H |
| niRef9 | UPIO00479 |  |

UniRef90_UPIO00302E17E UniRef90_G4CLH3
UniRef90-W6MBX2 UniRef90 ${ }^{-}$E5Y3Q5 UniRef90-H8ZBY0 UniRef90-U2WSX9 UniRef90_UPIo00471D700 UniRef90-U4LGJO UniRef90-W0AB37 UniRef90-R8WOY7 UniRef90-M3ZM94 UniRef90-H5SP55 UniRef90-A7ZKA5
UniRef90-E3KVU1
UniRef90 D9SK25
UniRef90 W6LG90
UniRef90-H2A4G1
UniRef90-W6MMJ.
UniRef90-F8FFQ3
UniRef90_AOP5Z3
UniRef90-A8EXP6
UniRef90-UPI00044393F0
UniRef90_UPIO00464B86C
UniRef90-Q4YSY3
UniRef90-B8F7S3
UniRef90-UPI000361FBE8
UniRef90-A8IKR9
UniRefofo E8x581
UniRef90 TODR10
UniRef90-H6SLY8
UniRef90-EORPV0
UniRef90-EOE459
UniRef90-HOA8B4
UniRef90-LOWEX4
UniRef90-UPI00040CODF2
UniRef90-I3JKV5
UniRef90-H817S4
UniRef90-CoW2Z7
UniRef90-G3AHT6
UniRef90-F2NBX3
UniRet90_Q3B2T5
UniRef90_A0A014L7Q0 UniRef90-CON5R6 UniRef90-UPIO003FA2DOF UniRef90-A5K451
UniRef90-A5CX57
UniRef90_UPIO00395D10F UniRef90_UPIO0038C32A3
UniRef90_Q2JB01
UniRef90-M5J6D7
UniRef90-Q7V3Q3
UniRef90 X7E9N0
UniRef90_B8MBT3

UniRef90-UPIOOO36F8862
UniRef90- T1FM13
UniRef90-UPIO003688901
UniRef90_10.JP48
UniRef90_F6CPX3
UniRef90-Q7V9C8
UniRef90-GGD514
UniRet90_R5B5R9
UniRet90_V4YGAO
UniRef90-S8A9B9
UniRef90_Q31JR2
UniRef90- F7XXB9
UniRef90-E1VMU3
UniRef90_GOVDB7
UniRef90-S4RBA6
UniRef90-V2XVN8 UniRet90-A5UXV4
UniRef90_D4JE17
UniRef90_D3FXL2
UniRef90 A9WEXO
UniRef90-UPIO00478CCD3
UniRef90 - 131 HA5
UniRef90-C1DH73 UniRet90_R9PTLL

CNGTGKE\|IKEKCTTCNGNGTVKKRKK
TCHGT GKQI K D P CVK CH G A GLVK T R K T CQ GRGT I P EPCETCRGS GRVEEQKT

 TVERTCHGE GRMI RDPCADCGGRGHVHKERN VCPD ETCCEGTGKIITKKCSNCKGHRYDKTEKE CHGAGQT\ADPCNACHGEGRVDREKT CRGT GKII R KPCKK C G GTGKMRKSRT $\square$ QQTQS $\square$ CHDCQGQGEKFNAKDRCKNCNGHKMERKK K I GGTGERENPCRRCRGSGRVKVESQ
 A $\square E$ Y T F S C T LLE CHGNGKMIS QPCKP CNG
IF H GCVRK F NLSR N
MPN GQDKKE

ACQGQGQIVKDKCSTCHGAGKVKKQRK

EEVYS GCTKKMK ISHTRRLA DGRRSEDKU
TCHGSGKIIKSPCKSCRGEGYKHSHKT
 CHGTGKK\DKPCK S CHGD GRVVEKTK N Y P L E L T LIE E DF H GC L K KV A H K R K V LF S GE YV E E ERRQ
$P C T \quad A C G G Y Y G T T I P D P C P T C A G D G R V V R T R A R S$

```
T \(\square\) E R A C P
```

 C G GA GYVI ERPCRDVCGGTGVAQKTQR CH GT GEKI ESPCSKCGGS GSVRKTK T
$T C G G S$ GRGVK NPCKVCQGAGRVQRERT
$S \nabla C S D C R G Q G K T D R E S D R C K T C K G K K V T K E R K V$
HDLLVTLE EVMMQGCTK HV K DT R S R L N P CT L RTEEK V CHGRGRTMFDTPCP E CR GT GK S R HVVRK
TVCDK
$A C Q G T G R T G Q Q Q C R R R C G G R G G V V L G S E T$
D QEAELP LTVED A Y R G GRRRAVTL

GPA R R
VE R T C P V
CGGTGKM। K DPCTDCHGEGFVQENKT

ACS GTGQRIESTCNNCHGKGVVHKQKT
 D QEAELELTVEEAYRGGRRQITLAGBPGGSPRS

 QVVEK PLNLTLEELFNGTTKKVVTK SKTFDNGRRNVQDDT Q M A MP C S ACRGEGR IVRNP CPRCRGAGQVQD IRE
 CHGEGEVI KDKCKACQGRKVI KENKI
ACS GA GEI I GDPCRDCK G Q GRVN K S K K CQ GS GKI I K DKCQTCGGDGRVTKRNK
DRCRGAGRVI EKPCANCHGSGQVRRTRT

QTIVRPLALTLEEVFKGGGLKMKDQRLVFTDETCSEREKVV
EACNGTGKIISDPCTHCKGRGRVNKSNR

Q D VE $\square$ E F P VF L E E T L VD TVVKI E F MLPR DS S GRVSEVKKS
T C Q G Q G K V I K E P C $\quad$ I K C C H G H G R L


R D $\square$ E F P VD $\square$ S L E E A F FHGTTRSLQV GNRR CH GTGKKVSRSCHVCHGKGYEHRRVK CDGTGKFIKDKCSTCGGKGKVRKRKK
VT VT T C D T
A C
$R D V E L E M P$ L $L$ LE E T
$\qquad$
$\square E L S V S C T L E Q L$
KK K GSII S DPCHKCHGEGRYERSK T
CHGS GQVI T DPCADCRGEGRVVEKTK T
CRGTGSRI DDPCPVVEGNGAT $\quad$ GRTRP
ACHGRGEII DDPCPACKGTGKMKKVRK CNGAGQVITHPCRTCRGTGVKTQPKV
$\square K$ V $\quad$ LE Q $\square$ CD GT G QII R E K C S T C G G T G KV R K R R R CNGAA GENNDS $\square$ T K D P C C S G R G L I Q T K K
D R C G G T GE F $\quad$ S H P C T T C R G T G QV K K R R Q


| UniRef90_UP1000302E1 | T H |
| :---: | :---: |
| UniRef90-G4CLH3 | R ${ }_{\text {P }}$ |
| UniRef90 W6MBX2 |  |
| UniRef90-E5Y3Q5 |  |
| UniRet90-H8ZBYO |  |
| UniRef90 U2WSX |  |
| UniRef90-UP1000471D700 |  |
| UniRef90 U4LGJ0 |  |
| UniRef90-W0AB37 |  |
| UniRef90 R8W0Y7 | P |
| UniRef90-M3ZM94 |  |
| UniRef90-H5SP55 | P |
| UniRef90_A7ZKA5 |  |
| UniRef90 E3KVU1 |  |
| UniRef90 D9SK25 |  |
| UniRef90-W6LG90 |  |
| UniRef90 H2A4G1 |  |
| UniRef90-W6MmJ6 | P |
| UniRef90-F8FFQ3 |  |
| UniRef90-A0P5Z3 |  |
| UniRef90-A8EXP6 |  |
| UniRef90 UPI00044393FO | P |
| UniRef90-UPI000464B86C | D H |
| UniRef90 Q4YSY3 | K |
| UniRef90 B8F75 |  |
| UniRet90_UPIo00361FBE8 |  |
| UniRef90_A81KR9 | P P |
| UniRef90_E8X581 |  |
| UniRef90-A8MOW |  |
| UniRef90-TODR10 | E H |
| UniRef90 H6SLY8 |  |
| UniRef90-EORPV0 | P |
| UniRef90_EOE459 |  |
| UniRef90-H0A8B4 |  |
| UniRet90 Lowex4 |  |
| UniRef90-FoWJP4 | E H |
| UniRef90_UPIO0040C0DF2 |  |
| UniRef90 I3JKV5 | E H |
| UniRef90-H81754 |  |
| UniRet90_Cow2Z7 |  |
| UniRet90_G3AHT6 |  |
| UniRef90 F2NE |  |
| UniRef |  |
| UniRef90-A0A014L7Q0 | P |
| UniRef90-CON5R6 | R H |
| UniRef90 UPI0003FA2DOF | K H |
| UniRef90 A5K451 |  |
| UniRef90_A5CX57 |  |
| UniRef90 UPI000395D10F | E H |
| UniRef90-UPI00038C32A3 |  |
| UniRet90_Q2JB | P |
| UniRet90-M5J6D7 |  |
| UniRef90 Q7V303 |  |
| UniRef90- ${ }^{\text {- }}$ 7E9N0 | P H P |
| UniRet90-B8MBT3 | E H P |
| iR |  |
| UniRef90-M4Z0L5 | T |
| UniRef90-UPIOOO36F88 |  |
| UniRef90-T1FM13 |  |
| UniRef90-UP10003688901 | H |
| UniRef90--10.JP48 |  |
| UniRef90_F6CPX3 |  |
| UniRet90_Q7V9C8 |  |
| UniRef90-G6D514 | P H |
| UniRef90-R5B5R9 |  |
| UniRef90-V4YGAO |  |
| UniRet90_S8A9B9 |  |
| UniRef90_Q3IJR2 | PHP |
| UniRef90 U2EK39 |  |
| UniRef90-F7XXB9 |  |
| UniRef90-E1VMU3 |  |
| UniRef90_G0VDB7 |  |
| UniRet90-S4RBA6 | E |
| UniRet90_V2XVN8 | P $\mathrm{HP}^{\text {P }}$ |
| UniRet90_A5UXV4 |  |
| UniRef90_D4JE17 | PHP |
| UniRef90 D3FXL2 |  |
| UniRet90_-A9WEXO | P |
| UniRef90-UP1000478CCD3 |  |
| UniRet90_131HA5 |  |
| UniRet90_C1DH73 | P ${ }^{\text {Pr }}$ |
| UniRef90_R9PTL5 | EHP |
| UniRef90_UP10003B3854B |  |
| UniRef90-A2EZE |  |
| UniRef90 UPI00035F2836 |  |
| UniRet90-W9DUB7 | P H |
| UniRef90-FOV7UC |  |
| UniRet90_G90PW2 |  |
| UniRef90_J4C2S0 |  |
| UniRef90-T1JTA4 |  |
| X9 | P D ${ }^{\text {P }}$ |
| UniRef90-L1QEQ2 |  |



## UniRef90 A9auHz

 UniRef90-F7H2B3 UniRef90-V2RJG1 UniRef90 E1R5G7 UniRef90_UPIo00466A03D UniRef90-I7KW94 UniRef90-K3Y7L6 UniRef90-R5HJIO UniRef90-R6BNT3 UniRef90-DOZ2ROUniRef90-TOIUY9 UniRef90-UPIOOO22604A0 Uninefigo-F4GKJ2 UniRef90-A5CD86 UniRef90_UPIO003806B42 UniRef90-U3GZD8 UniRef90_UPIOOO377685E UniRef90-UPIO0046661889 UniRef90_UPIo00455EFFF UniRef90-R6M878 UniRef90-J3NGU1 UniRef90-I3M3E9 UniRef90-M7YXV6
UniRef90-Q6A662 UniRef90-D5A9P9 UniRefofo-F6EJ97 UniRef90-R7JYW7 UniRef90-A8PT88
UniRet90-K7FRX9 UniRet90-UPIO003B62142 UniRef90-C4XRE3 UniRef90-B81304 UniRef90-D3TLTO UniRet90-E5SAN7 UniRef90 A6WDIO UniRef90-UP1000414CEA5 UniRet90-MTNSJ7 UniRef90-DORQL2 UniRef90-UP10002E6EC48 UniRef90-D5X6G4 UniRef90-F9ZD70 UniRef90-K4AYZ 6 UniRef90-D8G3J5
UniRef90 Q14UNO UniRef90-W7TEN5 UniRef90-G2LHIO UniRef90-Q1G9R3 3 UniRef90-R7BNP8
UniRef90 A0A011R598 UniRef90-F6PKL5 UniR Refo- 88 K 9 Y 9 UniRef90_X8IRT7 UniRef90-UPIO0004C26F6 UniRef90-Q0C454
UniRef90-B4N597 UniRef90_UPI000479756B UniRet90-FOS7M8 UniRef90 W6LTN3 UniRef90-K2BGY4 UniRef90-G2KUA9 UniRef90-C71K26 UniRef90-X1Y4Z2 UniRef90-EOVKL3 UniRef90-X1HVH8 UniRet90-×5DQ73 UniRef90-E6OIP3
UniRef90 $\mathrm{D1A} 1 \mathrm{AB9}$ UniRef90-G8NX01 UniRef90_M2QH86
UniRef9O-M1PA54 UniRef90-D1CCZ2 UniRef90_-F5YN65 UniRef90-K8Z7J4
UniRet90 MoZTF3 UniRef90-B3QTT3 UniRef90-UPIOOO4797D8E UniRef90-W5KTY3 UniRef90-I7KDU6 UniRef90-UPIOOO37C470F UniRef90-UP100004025479 UniRef90-D2B2S4 UniRef90 W8EV70 UniRef90-W4M4C5 UniRef90-B5JE96 UniRet90-UPI0003F495B0 UniRef90_F8GC55-
$R K|L| T|P A G| V D D G M R||R| I G G A G D S G P S G G S A G D| L|V| N|L| R \mid Q$


 I K V LSVKI PAGVDNGDR:RLAGEGEAGPAGAPPGDLYVE: RVR
 V 1 E K I $V$ L K I K E G SQP G D L R R K G K G DN NPD SWK K G DFY CV L K
 L E I A A P A A G V E D G T R I R L S G E G Q S G G K G A P A G D L Y V L

 LDVTIP K GVVREGQHLRLTGQGAPAPGSGKA GDLYLELTFA



 $L K V K V P P G V N S G S T L R V R G E G D A G P K G G P A G D L Y V V L N V K$




 I E V HV D K G VP D GKKI I FYGEGN QSPGMKPGNVIIIIIDEQ




 LEVNVEKGME HNQKITTFEGEAD QAPDTDTGDIVFVLGQK




 LEVHVDKGMNE GQKVVFHGEGDQE PGLEAGDVVIVLVEK








 I KVVI DA GVDTGHRLRITGMGEPGERGGPS GDLYIVLYVK





 I K I TV V P A GVEED GT QMRVA GQ G QA GEN G GPY G DLYVVVFVVQ


 I H V $V$ R I P A G V D D G A QL R M T G E G E G G L R G GPA G DL Y I V I R V K


 $L K V K V V P A C V Y$ D GA Q V V R V T G E G E A G Q Q G TAAP G D L Y



| UniRef90_A9AUH3 |  |
| :---: | :---: |
| UniRef90-F7H2B3 | P |
| UniRef90-V2RJG1 | E H |
| UniRef90-A0Z117 | Q H |
| UniRef90-E1R5G7 | P |
| UniRef90-UPI000466A03D | P |
| UniRef90-17KW94 |  |
| UniRef90-K3Y7L6 | E H |
| UniRef90-R5HJIO |  |
| UniRef90-R6BNT3 |  |
| UniRef90-DOZ2R0 |  |
| UniRef90-TOIUY9 | Q H |
| UniRef90-UPI00022604A0 |  |
| UniRef90-F4GKJ2 | D H |
| UniRef90-A5CD86 | P H |
| UniRef90_UPI0003806B42 | P |
| UniRef90-U3GZD8 |  |
| UniRef90_UPI000377685E | P |
| UniRef90-UPI0004661889 | P H |
| UniRef90-UPI000361070B |  |
| UniRef90-UPI000455EFFF | P |
| UniRef90-R6M878 |  |
| UniRef90-J3NGU1 | A H P |
| UniRef90-13M3E9 | E H |
| UniRef90-M7YXV6 | R |
| UniRef90-Q6A662 |  |
| UniRef90-D5A9P9 | E $\square$ P |
| UniRef90-F6EJ97 |  |
| UniRef90-R7JYW7 | R H P |
| UniRef90-A8PT88 | P H P |
| UniRef90-K7FRX9 | D H |
| UniRef90-UPI0003B62142 | P |
| UniRef90-C4XRE3 |  |
| UniRef90-B81304 | P H P |
| UniRef90_D3TLT0 | E H |
| UniRef90-E5SAN7 | K H P |
| UniRef90-A6WDIO | P H P |
| UniRef90-UPI000414CEA5 | P H P |
| UniRef90-M7NSJ7 | E H |
| UniRef90-D0RQL2 | K H |
| UniRef90-UPI0002E6EC48 | S H |
| UniRef90-D5X6G4 | P |
| UniRef90-F9ZD70 |  |
| UniRef90-K4AYZ6 | E H P |
| UniRef90-D8G3J5 | E D P |
| UniRef90-Q14UN0 |  |
| UniRef90-W7T6N5 | K H P |
| UniRef90-G2LHIO | S H P |
| UniRef90-Q1G9R3 |  |
| UniRef90-R7BNP8 | P H |
| UniRef90-A0A011R598 | P H P |
| UniRef90-F6PKL5 | EHP |
| UniRef90-Q8K9Y9 | K H P |
| UniRef90-X8IRT7 | P |
| UniRef90_UPI00004C26F6 |  |
| UniRef90-Q0C454 | E |
| UniRef90-B4N597 | P H P |
| UniRef90-UPI000479756B | G H P |
| UniRef90-F0S7M8 | P H |
| UniRef90-W6LTN3 | P H P |
| UniRef90-F6ERR9 | P H |
| UniRef90-K2BGY4 | Q H |
| UniRef90-G2KUA9 |  |
| UniRef90-R7IK26 | E H P |
| UniRef90-X1Y4Z2 | P H |
| UniRef90-E0VKL3 | A H |
| UniRef90-R4K5U9 | S H |
| UniRef90-X1HVH8 | P H |
| UniRef90-X5DQ73 | P |
| UniRef90-E6QIP3 | S H |
| UniRef90-D1A1B9 | P H |
| UniRef90-G8NX01 | A H |
| UniRef90-M2QH86 |  |
| UniRef90-M1PA54 |  |
| UniRef90-D1CCZ2 | P H P |
| UniRef90-F5YN65 | A H |
| UniRef90-K8Z7J4 |  |
| UniRef90-M0ZTF3 | E H P |
| UniRef90-B3QTT3 | P H |
| UniRef90_UPI0004797D8E | A H P |
| UniRef90-W5KTY3 | E H P |
| UniRef90-17KDU6 | P H |
| UniRef90-G4HE07 |  |
| UniRef90-UPI00037C470F | P H P |
| UniRef90-UPI0004025479 |  |
| UniRef90-D2B2S4 | S H P |
| UniRef90-W8EV70 |  |
| UniRef90-W4M4C5 | P |
| UniRef90-Q0EZ44 | K H |
| UniRef90-B5JE96 | D H |
| UniRef90-UPI0003F495B0 | K |
| UniRef90_F8GC55 | E H |


UniRef90_H3FLD7
UniRef90_W1V7W5
UniRef90_R7HM16
UniRef90_D7E6G5
UniRef90_N9LLB5
UniRef90_S2ZR33
UniRef90_R5SBD1
UniRef90_Q7Q685
UniRef90_S3UGU8
UniRef90_A0A026WS69
UniRef90_UPI0003B44CF3
UniRef90_Q6Q8U1
UniRef90_B8CXL0
UniRef90_C0ZT88
UniRef90_H8MG06
UniRef90_M1Z0R3
UniRef90_I2IR61

UniRef90_UPI0003695553 UniRef90_UPI000379A4EC UniRef90_R1GV03 UniRef90_UPI00040F4556 UniRef90_R5E2Y6 UniRef90_R5KCE1 UniRef90_UPIO00407374C UniRef90-B5FDJ2 UniRef90_H8L5H3 UniRef90_E3DQ50
UniRef90_UPI0003F0E851 UniRef90_C3W9Q3 UniRef90_F7QJT1 UniRef90-B3ESY3
UniRef90 R5XW11 UniRef90_R5XW11
UniRef90_U3B150 UniRef90_Q7RH96 UniRef90_UPI0003B62641 UniRef90_UPI00046F8CF7 UniRef90_G8UJ09 UniRef90_W5X2V6
UniRef90_H0PVF0 UniRef90_C6PTZ9 UniRef90-G7V6G5 UniRef90_U1H2A8 UniRef90_A0LJ41 UniRef90_V4ZD92
UniRef90_R7MYV9 UniRef90_K9W8N8 UniRef90_UPI0003B3AB92 UniRef90_G4T2C6 UniRef90-T1B453 UniRef90-K9YIX5 UniRef90_R5T9S1
UniRef90 J3LI40
UniRef90_UPI0003B45FF3 UniRef90_R6ANP1 UniRef90-R1ENT0 UniRef90-UPIO003494B1E UniRef90 B9RV92 UniRef90_D0BK47
UniRef90 Q012V1 UniRef90_R6UGM3 UniRef90-Q8L397 UniRef90_UPI0003481090 UniRef90_UPI0003B75E85 UniRef90_UPI000375DFA8 UniRef90_R5HS00 UniRef90_A7BJ08 UniRef90_UPI00038109F3 UniRef90_F0XS24 UniRef90_UPI0003691D3F UniRef90_R7B7D1 UniRef90_R6GC06 UniRef90_G7LQP1 UniRef90_R5XKN9 UniRef90_U5GQU6 UniRef90_UPIO004417409 UniRef90_F9UER8 UniRef90_UPI000478E164 UniRef90_I3SEM2 UniRef90_UPI0003B60314 UniRef90_UPI00036B91C9 UniRef90_F0ZG38 UniRef90_Q21H37
UniRef90_K0RVH2 UniRef90_R6I4N7 UniRef90_EONIU0 UniRef90-K6Y3B8 UniRef90-F1L1L6


 $V P V K V P P G S Y D G L R L K V S G E G E Q G S P G A P P G D L V Y V L H V K$ LEVKI PK GMKE GQQI RLNGQGQSGDNGGENGDLYIEIQ
 L DV HI EK GMRD GQKIVFSGEGDQEPPGLQPGDIVI ALEER



 I TVVI P P G V D T G T R L R MP NE GEA G DK GAPN G DL Y I I I I E V E
 $T N L K I P A G I \quad S E G K K L R L S G K G H P G M N G G P P G D L Y F R V B V Q$
 $L S I Q I P K G V D D G T Q M R L S G K G D A G F R G G S N G D L Y V I F I T M E$ DVII P P GI H D GQKIRLKGQGS QL GRQTGQIFITVVVA $L H V H V D R G V K S G T R I E F R G E G D Q L P D C E P G D V V F E I E Q K$ 1 A $I$ NV P A G V A D G M Q L S M S G K G NVVP ER G GV A G D L L I Q I E E E
 I Q V V V P A GI D N G Q S I R I R GK G E P GI N G G E R G DL L V V V L V D I K V T I P A GI D N G Q S V R I R E K G E P GI N G GP R G DLL V V V V V




 I K V K I P P A G I D N D Q T I V LR G E G EP G T K G G P K G D L Y I M M R K L S L K I P A GVVD G S R I R L A GE G DVGM G G GPR G DL Y V F L S V K
 $V$ EVTIPA GV ET GTQMRLSNQGEAGTNGGPYGDLYVVVKVA I T L NI PA GVGEGMQLSMSGKGNAARRGGDNGDLLVVIEEE



 $V Q V R V P A G V D T G T R L R L R G E G E S G Y R G G V A G D L Y V R L H V N$

 L S V KI P A GV D S G DRIVRLA GE GEMGEQGGPPGDLYVVVRVK



 $L$ T L $\quad \mathrm{K} V \mathrm{~V}$ P G G V D S G T R 1







 $Y T V T I P A G V T D G Q R I R L A G E G G R G T G G G E P G D L Y F V V R L L$





 I K V

 I EVIV K K GMRA GQTVVFFHGES D QAP GVVAS GDDVIIEI NE K
 LEVFVEKK GMQNQQKITEPGEAD EAPDTTTGDIVFVLQLK
 L NVVI P R GVLD G E R I R R V K G Q G A P G I G G GPA G D L Y L V I R F V

 I







| UniRef90_I1XFA2 |  |
| :---: | :---: |
| UniRef90-F5SQK5 | EHP |
| UniRef90-D8K1W5 |  |
| UniRef90-S3YE80 | P |
| UniRef90-Q3AF07 | P |
| UniRef90-W9GB19 | N |
| UniRef90-S7TZF4 |  |
| UniRef90-B5W6P5 |  |
| UniRef90-F0GWQ7 | E H |
| UniRef90_UPI0003B5407D | P |
| UniRef90-FORKZ6 | P |
| UniRef90-U4L0E8 | E |
| UniRef90-N1ZX17 |  |
| UniRef90-G3AJH0 | R H P |
| UniRef90-Q2M070 | P H P |
| UniRef90-R5WEA6 | R D P |
| UniRef90-K9PKV4 |  |
| UniRef90-E3TFD8 | P |
| UniRef90_I0R910 | P H P |
| UniRef90-UPI00036F2CAA |  |
| UniRef90-E8LD10 | P |
| UniRef90-E8V5W7 | T H P |
| UniRef90-K7FKA7 | E H P |
| UniRef90-R5G018 |  |
| UniRef90-R6TAR8 | P D P |
| UniRef90_UPI0003B6EE9B | P |
| UniRef90-I2JZ65 | P |
| UniRef90-UPI00036DAD7C | P |
| UniRef90-U2XI90 |  |
| UniRef90-G2P9W9 | A H P |
| UniRef90-L8GVJ2 | D S P |
| UniRef90-B9JBI1 | P |
| UniRef90-F9N372 |  |
| UniRef90-K1RSI2 | A D P |
| UniRef90-R6D090 |  |
| UniRef90-UPI00030B93C9 | P H P |
| UniRef90-R7FEJ9 | P H |
| UniRef90-R6C8E1 | K D P |
| UniRef90-I2BK41 | E H P |
| UniRef90-W2TQL8 |  |
| UniRef90-UPI0004412F35 | T H P |
| UniRef90-UPI0003B5AF3E | E H P |
| UniRef90-B8C0D1 | K H P |
| UniRef90_UPI00031F5D91 | P D P |
| UniRef90-D4YEJ3 |  |
| UniRef90_G5G917 | P H |
| UniRef90-B2V216 |  |
| UniRef90-K8EKF9 | E D P |
| UniRef90-11PUI4 | S D P |
| UniRef90-UPI000475A935 | P H P |
| UniRef90-E4WX37 | D H |
| UniRef90-R6KTG9 | S K P |
| UniRef90-M5X0A1 | P D P |
| UniRef90-UPI000345FA2E | P H |
| UniRef90-H4GKN7 | P |
| UniRef90-T1J4D6 |  |
| UniRef90-UPI000319881A | P H P |
| UniRef90-A8UY48 | P H |
| UniRef90-L8H8X3 | P |
| UniRef90_UPI000185D5FF | E |
| UniRef90-J7IRI0 |  |
| UniRef90-R7D6N2 | P K P |
| UniRef90_UPI00037CDA67 | T H |
| UniRef90-I7MGN3 | A H |
| UniRef90-C1DW67 | P H |
| UniRef90-G4YN11 | P H |
| UniRef90-UPI000349E259 |  |
| UniRef90-I1FIR8 | D H |
| UniRef90-M1X0M5 |  |
| UniRef90-B2GHU4 | P D P |
| UniRef90-K9FUT5 | D H P |
| UniRef90-B3DUJ7 | K H P |
| UniRef90-B7KFC3 | P H |
| UniRef90-D2QNW5 |  |
| UniRef90-W3WPF3 |  |
| UniRef90-B8ELR1 | K H P |
| UniRef90-B5RM74 | P H |
| UniRef90_UPI00030F5BAD | P H |
| UniRef90-E5SQX6 | E H |
| UniRef90-Q5HNW7 |  |
| UniRef90-UPI0004630842 | S H P |
| UniRef90-Q24FD6 | K H P |
| UniRef90-K9Q310 |  |
| UniRef90-E5XSZ0 | P H P |
| UniRef90_V4TG42 | E D P |
| UniRef90-F8PY62 | S H |
| UniRef90-Q6F150 |  |
| UniRef90-U5T3W4 | P H P |
| UniRef90-C4L424 |  |
| UniRef90-B7JUW4 | S H P |
| UniRef90-W4X1G2 | P H |
| UniRef90 R7M4M0 |  |


UniRef90_B6AHG8 UniRef90-WODEM8
UniRef90_J3NIF9 UniRef90-DOAAR6 UniRef90_V4KTK1 UniRef90-UPIO003FE2262 UniRef90-UPIOOOO37916E3 UniRef90-UPIOOO35EC050 UniRef90-D5UZSO UniRef90-R7HJ83 UniRef90-E7FDL8 UniRef90-A0A023D967 UniRef90 M4V8X0 UniRef90-F71232 UniRef90 R7GJ31 UniRef90-GOUJJ6 UniRef90-UP100032A7EAC UniRef90-M1P001 UniRef90-F2NPG4 UniRef90_C5MAI6
UniRef90_M5A1Z7 UniRef90-A8PBS5 UniRet90-E3JVV8 UniRef90_M6ZYS6
UniRef90 W8X312 UniRef90-U1MRS3 UniRef90-MOMPN5 UniRef90-R5QU21 UniRef90-F2NA10 UniRef90-O8ILL88
UniRef90_R6XZZ5 UniRef90-G9PZR8 UniRef90-S5ZPD9 UniRef90-K9RD84 UniRef90-K2EPW8 UniRef90_S2JC74 UniRef90-R5U5Y5
UniRef90-B0R3H3 UniRef90-K8F665 UniRef90_L8HJD7 UniRefolo- 1 LOC4 4 UniRef90-I1GZR6
UniRef90 V4LWE6 UniRef90-UP10003B5C14E UniRef90-R5PE88 UniRef90-M2XYK2 UniRef90-AOAO11SLU4 UniRef90-T1CR52 UniRef90-W1P4T3 UniRef90-11G507 UniRef90_S9UCF2
UniRef90 14 YID6 UniRef90_C1MXG6 UniRef90-U1NPHO UniRef90 $-11 \mathrm{KJ68}$
UniRefo
C4F8A5 UniRef90-C4F8A5
UniRef90_C1BQN3 UniRef90-R7MGM6 UniRef90-A0A023BSG4 UniRef90-UPIO00382C157 UniRet90-A3LSHO UniRef90-B3T4M7 UniRef90-F9FE46 UniRef90-C7C825 UniRef90-UPIO0046F5016 UniRef90-Q4N641 UniRef90-COSHV9 UniRef90-C8N8Y2 UniRef90-UPIo004176FAF UniRef90-M1WVU0 UniRef90-D8LW78 UniRef90-A5GDA9 UniRef90-R5H4P5
UniRef90-D8RM56 UniRef90-G8LQZ0 UniRef 90 K K BMO O UniRef90-W5D816 UniRef90-G1WG04
UniRef90
MOCS8 UniRef90-N1JMK4 UniRef90-Q15U20 UniRef90_DOLOTO UniRef90_UPI0003812156 UniRef90-FOSJF5 UniRef90-UPIOOO3491483 UniRef90_U7PTF9 UniRef90-18A1P8 UniRef90_U3A2B8
UniRef90_G5AVS

L E V N
60
70
LevNid KGlpNHHKVTFHGEAD EKQGEVPGDVVFJVDEQ VKVR|PPGVDNGSRVLVEGKGHAGLYGGPPGDLYLLVKVL LEVYIPRGSMHGERIVLEGEGD QLPEQTPGDLILVLQEEK VSVKI PRGTEEGKRLRLKGKGGEAPPGGVRGDLYLKVHVE
 VTAR1PAGVKDGQKIALRGKGEPGEPGASAGDLMLQVAVE
 LIMLSTAGMKDGQKITFNGEGDQE PGLDEPGDVTIILDLK LSVTIPAGVEDGSRIRLSGEGESGGKGAQPGDLYVHLAVA LEVHIDKGMKDGQKTIFHGKEDQEPGLDEPGPII ELDQK LSVKLPEGDRDGEKDRLIGQGKHGKNGGKNGDLLI QUNDK VKLDI FRGMDNNETLKVQGEGAQDPGGHMPGGDLYVTFKVR LVVNPAGINDGMRIRMAGQGEVGHGGGPAGDLYVEVVTR VKVHVPAGMNEGHLLRVAGMGNHGPGGTIAGDLFVVVQVQ YQVDVPAGVDTGSTLRLTGRGASGPRGGRAGDLYVHLRVR LEVEI EVGVDDGGVQTFVGEGEPHDEG EPGDLKFVVKI D MTVRIPAGIESGMRVRLAGQGEVGLGGGPAGDLYVEITER LQVKIPAGIDDGMRIRSTGNGEPGLNGGPRA
LSVEVPPGIRDGQRLQLPGQGEVGEAGGPAGTLYLEMNVR LSVEVPPG|RDGQTARMEREGAPGENGGPNGDLLIEIVSVR LQVHIPAGIDTGKSLRDRGKGMPGVNGGENGDLFLKVNV IEVYVPKGAPNKHKIVFNGEAD EKPNVITGNLVVILNEK ITVVVPAGMDEGQQUR1KEKGEAGNNGGPNGDVYVEFHME VEVKIPAGVDTGTRLRVSSKGEAGINGGPAGDLFLLTEVM LTIEIKPGWKKGTKITFLEKGN EHRGVIDSDLVFIVDEK DVRIPAGAKPGSRLRVRGKGPVSPSSQRRGDLYLVVELG YTVTVERGMSSGQKIVFEEESNESPDFDTGDVVFTVNTA LQVHIPAGMETGKSVRMRGKGMPGSNGGEAGDLLLKVKVG $\operatorname{LTV} \operatorname{Vi|l|l|l}$ I QVKIPAGVDDGANIRLVGQGDAGMKGGKPGNLFLRVHVS
 VNVTIPAGVDSGDTVHVPEAGNSGGHGALPGSLYVKLRVA LKVTPAGIDTGQRVRINGKGNPGTLGGGHGDLLVEVSLL

 ID LDVTVSPGMSHNHKIPMRGAGD QSPDMESGDVIVVLQEQ FEVVVEKGTHRGDSVTFRGDGDQIPGGKASGDIIIIFDQK VEVKI PAGVEDGMKVRVTGQGDGPISGGPPGDLYVRISVK LTLAVPPGCENGRRFVFEGEGNQRPGMEPGPVVYVAAAL LTVEVPAGVETGQTLRMDGEGAPGENRGPPGDLLIDIEVQ MEVEIPPGVNDGDTMQLQGQGNFDKKRQTTGDLYVVLHV
 YTVEVPRGVDTGDRVRMSGKGEAGINGASNGDLYIVETVS

 IVTVDIPAGIEDGMRLRVDGAGDAPATGGQNGDLYVEVRVA VDLPVPKGAEDGQVLRLRGMGEPGLNGGPRGDAYVELTVR
 LATHERGMPKGTKITFENEADESPDWVAGDLITTLDER
 I

## -




 I $\mathrm{K} V \mathrm{~V} V \mathrm{~V}$ P P G V V H D G A T M Q V R G E G N D D D K K S S $L D V Q I P A G G V T G R Q L R V S G Y G E A G Y R G A E S G N L I V T V Q V$
 FS L NV E K GLIPS GKVVVVFENDAD E S P D Y DA G DL Y V V K I L E K


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





UniRef90-UPI000367D26F
UniRef90-B1N5Y5
UniRef90-11GKT8
UniRef90 UPIO0036FBEE7
UniRef90_UPI0002D7A94D
UniRef90-M2V4S5
UniRef90-S7R6D5
UniRef90-X1TD27
UniRef90_KOYIG1
UniRef90-D1AVP1
UniRef90_LOGXI5
UniRef90_FOPOY4
UniRef90_A9SLS0
UniRef90-L7WC10
UniRef90-E2MXB4
UniRef90_A0A059G8K8
UniRef90_W9G717
UniRef90-R7A0R6
UniRef90_UPIO00363DC78
UniRef90_Q4STP4
UniRef90-B1M0E7
UniRef90-K9YTH3
UniRef90_A5UM87
UniRef90_R4WD81
UniRef90_E6MK03
UniRef90-D5E4M0
UniRef90-W0J1B3
UniRef90_R6S9U8
UniRef90-F1SWF4
UniRef90-C5G833
UniRef90_UPI00036D6898
UniRef90_UPI0003F5EC4F
UniRef90-A0A059G7S3
UniRef90_UPIO0036AF4D0
UniRef90_L8LNX9
UniRef90-A6CVH2
UniRef90_Q8NNB4
UniRef90-S8ERA5
UniRef90_G2DXK3
UniRef90_A4SWS7
UniRef90_UPI000363EDA5
UniRef90-H8GKT6
UniRef90-R6WGT7
UniRef90-R7F7X1
UniRef90_UPI0003787BD8
UniRef90_11R7Y2
UniRef90-C8XC88
UniRef90-I1MAX8
UniRef90-D7A1Y5
UniRef90_A9B4C4
UniRef90-F2Z8C2
UniRef90-W6L115
UniRef90_Q12EC0
UniRef90_D2R408
UniRef90_Q5GRK1
UniRef90-H2ZCH0
UniRef90-A0A022QCY3
UniRef90-UPIO00467A989
UniRef90_UPI0004718DFF
UniRef90 K9S5Z8
UniRef90_UPI0002192670
UniRef90_UPI000289351F
UniRef90-UPIOOO2892535
UniRef90_UPI0003F5FE3E
UniRef90-KOBBW4
UniRef90-B4R183
UniRef90_G6F1W0
UniRef90_SOATR1
UniRef90_COW480
UniRef90-13TMH1
UniRef90_H0Q380
UniRef90-R4XG73
UniRef90-E2SF88
UniRef90-C1BVK8
UniRef90-X1TBG3
UniRef90-F4PB19
UniRef90_D8S5R4
UniRef90-A6GXF1
UniRef90_СЗХМА5

## UniRef90 G6ADT4

 UniRef90-UPIOOO36AADD8 UniRef90-A6EMK5 UniRef90-H3G867UniRef90 A5FPS9 UniRef90-UP10003FC84EE UniRef90-K9TW92 UniRef90-U6GU08 UniRef90_G7YEP3
UniRef90_R6SJG8 UniRef90-UPIOOO30506F2 UniRef90-UPIO00367D26F UniRet90-B1N5Y5 UniRef90-I1GKT8 UniRef90-UP100036FBEET UniRef90-UP10002D7A94D UniRef90-M2V4S5 UniReffo-S7R6D5 UniRef90-KITD27 UniRef90-D1AVP1 UniRef90-LOGXI5 UniRef90-FOPOY4
UniRef90 AgSLSO UniRef90-L7WC10 UniRef90 E2MXB4 UniRef90-A0A059G8K8 UniRef90-W9G717 UniRef90-R7AOR6 UniRef90-UP1000363DC78 UniRef90-Q4STP4 UniRef90-B1MOE7 UniRef90_K9YTH3
UniRef9O_A5UM87 UniRef90-R4WD81 UniRef90-E6MKO3 UniRef90-D5E4MO
UniRef90-W0J1B3 UniRef90-R6S998 UniRef90-F1SWF4
UniRef90-C5G833 UniRet90-UPIOOO36D6898 UniRef90-UPIO003F5EC4F UniRef90-A0A059G7S3 UniRef90-UP100036AF4DO UniRef90-L8LNX9 UniRef90 A6CVH2 2 UniRef90 O8NNB4 UniRef90 S8ERA5 UniRef90-A2DXK3 UniRef90-UPIO00363EDA5 UniRef90-H8GKT6 UniRef90-R6WGT7 UniRef90-R7F7X1 UniRef90-UP10003787BD8
UniRef90_C8XC88
UniRef90-I1MAX8
UniRef90-D7A1Y5
UniRef90-A9B4C4
UniRef90-F2Z8C2
UniRef90 W6L115
UniRef90-W6L115
UniRef90-Q12EC0
UniRef90-D2R408
UniRef90-Q5GRK1
UniRef90-H2ZCHO
UniRef90-A0A022QCY3
UniRef90-UP1000467A989
UniRef90-UPIO004718DFF
UniRef90 ${ }^{-K 95528}$
UniRef90_UPIO002192670
UniRef90 UPIOOO2889351F
UniRef90-UP100008892535
UniRef90-KOBBW44
UniRef90-B4R183
UniRef90_G6F1W0
UniRef90-SOATR1 1
UniRef90-Cow480
UniRef90
UniRef90-13TMH1
UniRef90_C5Z6V7
UniRef90-HoQ380
UniRef90-R4XG73
UniRef90-E2SF88
UniRef90-C1BVK8
UniRef90- 1 ITBG3
UniRef90 F4PB19
UniRef90-D8S5R4
UniRef90_A6GXF1
UniRef9O_C3XMA

VEIIKIIPAGVAEGMVVINVPGKGNAGKHNGDTGNTQVYTEEE MNIKIPAGI DDGYRLRLAGYGESGTAGGPTGDLY VN| KIPAGVVDGMQLKVAGKGNDAPGNGDAGDLLVADEEX
 VSVNVPAGVEEGMQLKVPNKGNDAPGDGVPGDLLVA: ETE LKVNDPAGVSEGSLLRVEGEGSKSADGGQPGDVYUSVNVE LELEVEAGMRDGQLYPFVSEGEPHMDGGEGDLKFRVRQQ LSVNVPAGMDTGKRLRMTGKGNPGTNGGPNGDLYGEFYVE
 VSLNV VPGTDNEDTHKVLRQGQADPDGLRPGNLLVTIKVR LNVKIPKGRTEGQQi RLAGQGLPGYNGGANGDLYLKIKFH
 HQLEEKGMPNGVRITYENEADESPDYVAGDLIVHLAEA LDVEIPPGCRDGARIRVPGAGNQRRDGSLSQDVVFLVVQR
 LNVRIPAGVTQGQQLRLAGQGMPGVGGGSAGDLYLED DLA LDVKIPAGARDGIQLQVRGKGNDAPFDGIPGDLIVVI EEI VTIQI PAGVESDMRLKVSGKGNDAPGNGVSGDLLVDI EVK LTVNVPAGISDGMR:RMAGQGEVGPGGGPAGDLYVEVAMD VTARIPPGVKDGQKVRLRGKGRQGDPGAPAGDLVLTVTVD

VVVVI PRGVVDGQTMRLRGEGGQGGPRAEPGDALLTVR1胃 IVKIREPAGVDEGDRLRVSGEGNCGDQPGYEGDLYANVELUQ LEVEIEAGMQDGQEVKFVAEGEPHDDGDPGDLVLRIKTQ IIEIKIPAGVNNDSVLPLRGQGHAGANGGGKGDILVYMSIA MS: VHVRIPAGVDTGTRLRSSGNGEAGVGGGQPGDLY:VLTVK
 LSVKI PAGVDTGDR1 RLNGEGEAGEAGAPAGDLYVQVMBR LDVDPAGIDSGQTLRLKSQGQPSPNGGAPGDALLEVEVR


UniRef90 S7VBY2 UniRef90－D2QAE1 UniRef90－K1Y784 UniRef90－U2U0B0 UniRef90－D8FDE9 UniRef90－I0ROS9 UniRef90－R5XT39 UniRef90 A8F850 UniRef90－C7M7M7 UniRef90＿G4N1N5 UniRef90 AоСТМ 1 UniRef90－F2NEHO UniRef90－B6JXC5 UniRef90－J9G2Y9 UniRef90－J3JVH1 UniRef90－K2DDLO UniRef90 H8X7D6 UniRef90－R5IW80 UniRef90－U6GWE3 UniRef90－UPI0002558784 UniRef90 A0A021VQPO UniRef90－M7 $\times 591$ UniRef90－A5K2C3 UniRef90 UPI0003FDBA3B UniRef90－FORHQ9 UniRef90－W118J2 UniRef90－FOZLE1 UniRef90 ${ }^{-}$QOCYX1 UniRef90－T1K9L6 UniRef90－C7LK59 UniRef90－F9QDW2 UniRef90 S7XTH1 UniRef90＿U2TAR2 UniRef90＿E2L975 UniRef90＿U5H2Y9
UniRef90＿UP100042B22EF UniRef90－W5CG29 UniRef90－B6QPB7 UniRef90 A4RUN9 UniRef90－UPIOOO3B5F218 UniRef90－R5R3L9 UniRef90 G3B5H7 UniRef90－W6K0X1 UniRef90－S2ZP26 UniRef90＿D8QIJ1 UniRef90 W4LJ20 UniRef90－J6F0E6 UniRef90－UPIO0044093EB UniRef90 B1ZN14 UniRef90－UPI0004414303 UniRef90＿U1GR37 UniRef90＿A3UIM3 UniRef90 J3K5M4 UniRef90－B4JDP9 UniRef90－Q2LU36 UniRef90 W5XB53 UniRef90 A9V7Z9 UniRef90－18A612 UniRef90－A8SNJ3 UniRef90 W6L2B2 UniRef90－R6BUD1 UniRef90－A1SHX9 UniRef90－K6WNB1 UniRef90 R5Y711 UniRef90－R6NTU8 UniRef90＿V9EA60 UniRef90 UPIO00308040E UniRef90－－11PSM2 UniRef90－TOZ662 UniRef90＿LOKRY1 UniRef90 Q6C1X9 UniRef90－B9IEF5 UniRef90－M5W8P5 UniRef90－UPI000472C6DA UniRef90－B4KGM6 UniRef90－14MDC8 UniRef90 E9BSH3 UniRef90＿UPI000368FD37 UniRef90＿B8BR60 UniRef90－CPIOOO42B2C8D UniRef90－A8TVY8 UniRef90 E6X0L4 UniRef90＿V4KVJ8 UniRef90－FOSFU7 UniRef90－UPI0003734590 UniRef90－UPI000406F1F5 UniRef90＿TOY3E2
UniRef90 R6EPZ9 CHGEGAMVTNPCNDCHGTGLVEKTKK
VCPE TCKGLGKKINKFCHECNGQKTKKVKVT QNLIYELPMTLEELTQTTSKTITYQCDECRAQGRVGAHEQ QDAAYS पDVDF पDAAKGAEKSI －TCGGTGRVIKEKCRVCGGSGRDRNRFR QD $\square F A D M S \square P \square R E V A T A Q R T F T V \quad N G K N$ QQVQMQC DACGGRGKS CKHKCKACGGARVVRKPTT GTIFPEKDRCKKCKGNKVMDQEKVV CSGSGVIEGDPCPDCQGQGLQKQKRK DQHDELETSPAEAASGGEKQVTYKR QDFHADLHLTLREAAQTHKQVLN $\square$

D पT QD LLLEPED पMGD TTKSVR TS CYKCGGSGVMSVSKT TCQGSGVSISDECGTCHGNGVQEVPKS DAQAE $\square \mathrm{N} \square \mathrm{SFDDAAFGADRUITDS}$ DDSCVDQGRAWIQGCKECPSGMTELESDE ACQGFGTVIPDPCPECSGDGRVRSRRT QQMQMHC

DRCGGRGKSUKHVCPSCKGARIVDSHSD
D NCIDRGKAWNQKCS
$V C G G S G Q I V K K P A$
TCGGSGQIIDKKPAGADAQGLI AKEET CHGEGQKVASACGACSSRGYHEEPDT

DVI IDDWVT पE DECGGKGKKVTSKCPHCNGKKVETGEET G
C
N C G D GC CGGTGKVVKKSCNACGGKGYKEEVKVK QQVQMHC DQCAGRGKKTGHVCDSAREKKQVPDKKV DVIVELDATLEDLYMGGTLKVKRRCNCC

DVCNGSGMVTPRGCGTCS QNVEGELQVTLEEAYAGSDEVINVVGRTRKVVQKSHV DLNAEVTIEFDEAALGGKKRINF DGKR

## QTTVDCT

 TCKGSGKVFSTK ACQGFGETITHPCFECSGQGRVRTQRT
$\qquad$ DACGGRGTVVKKVCGACG促 CAGKGQKDTKLCHQCNGDRVVQRDHT LCTECEGVGEKDREKDRCKKCK NVEGDLLVSLEEVLNGGTREVGV KFADPATGEARTKS
 TCGGRGSYVETPCQECDGAGRVRKTRD DUVMNMYVS配ELYSGCRQEMVTRCDECPNVKLVNEERT RDVEKVVETPLEETDQGMKSTLASLCRKCSGRGKVRSSKT DVHDDLDVTLSDLYKGCRTEMRTQCDDCPNVKLTHEHVE

EELC

 DQEVEFELPFADAYAGTRRS EDS GAGG $\square T \square P L T D T E A \square F G K K D \| K T P K Q V$

EKCHGKGK $\square$ YTSTCPVCGGRKVEMTD $\mathrm{C}^{K} \mathrm{~K}^{K}$ CGGYGTVIDDPCQNCHGDGRVRANET EVYHGMYQQMTEQCDQCANVKYVREGDF CGGSGRTFERACRSCSGAGKKVVEQN D $\square \mathrm{NVT}$ VDVT $\square \mathrm{E}$ EAANAEK VTAMFPDGRK
EVCRGS GEQTKDGCGSCHSNGVVRETRE CSGEGEVITDHCRKCGGNGKIRSKRS
 $D \square H A E V A V T F D E A V F G C E K I D T L Q \quad N Q D G M T A P V Q S$传 V V RQTVSECPRCRGTGTVAKPEDQCHKCHGKGYRTVSQD DLQMHVRLSFTEAVMGAKKDLHLRYQDHNKKNNQMEVKD VCRGFGEVIPEPCLQCNGEGRVRTRRT
 CQGRGQVVKEPCPECQGRSYQLRGKI
QTCNGTGHIVKEYCKSCRGSGIVEATKT CGGRGQVVKEKCQSCWGSGFEDETVD $D \square Q T E A S T S F K D S \square Y G T E L N L R L S$ PAGSAPTS QDFNAELHLNLREAYKTHQRTLTV NGKN DLRAMLEVDLATAFAGG

UniRef90_STVBY2 UniRef90-K1Y784 UniRef90_N9VEU1 UniRef90_U2U0B0 UniRef90_D8FDE9 UniRef90-R5XT39 UniRef90-A8F850 UniRef90-C7M7M7 UniRef90-AоСТМ1 UniRef90-F2NEHO UniRef90-B6JXC5 UniRef90-J9G2Y9 UniRef90-J3JVH1 UniRef90-K2DDLO UniRef90-H8X7D6 UniRef90- 5 IW80 UniRef90-UGGWE3 UniRef90-A0A021VQP0
UniRef90-M7 5591 UniRef90-A5K2C3 UniRef90-UPI0003FDBA3B UniRef90-FORHQ9 UniRef90-W18J2 UniRef90-FOZLE1 UniRef90-T1K9L6 UniRef90-C7LK59 UniRet90_-F9QDW2 UniRef90_SXTH12 UniRef90-E2L975 UniRef90-U5H2Y9 UniRef9O-UPHOOO42B22EF UniRef90-W5CG29 UniRef90-A4RUN9 UniRef90-UPI0003B5F218 UniRef90-R5R3L9 UniRef90-G3B5H7 UniRef90-W6KOX1 UniRet90-S2ZP26 UniRef90-D801J1 UniRef90-W4LJ20
UniRef90-J6FOE6 UniRei90-UPIO0044093EB UniRef90-B1ZNI4 UniRef90-UPIOOO4414303 UniReffo-U1GR37 UniRef90-Аз UniRef90_J3K5M4 UniRef90-B4JDP9 UniRef90-W5XB53 UniRef90-A9V7Z9 UniRef90-18A612 UniRet90-A8SNJ3 UniRef90 W6L2B2 UniRef90-RGBUD1
UniRef90 A1SHX9 UniRef90-K6WNB1 UniRef90-R5Y711
UniRef90_R6NTU8 UniRef90-V9EA60 UniRef90 UPIIOOO308040E UniRef90-ITPSM2
UniRef90
TOZ662 UniRef90-LOKRY1 UniRef90-Q6C1X9 UniRef90-B9IEF5 UniRef90-M5W8P5
UniRet90_GOUIV8 UniRef90-UPI000472C6DA UniRef90-B4KGM6 UniRef90-l4MDC8 UniRef90-E9BSH3
UniRef90-UPI000368FD37 UniRef90-B8BR60 UniRef90-C8XF81 UniRef90-UP100042B2C8D UniR Refo ABTVY UniRef90-E6XOL4 UniRef90-V4KVJ8 UniRef90-FOSFU7 UniRef90_UPIOOO3734590 UniRef90-UP1000406F1F5

 VGVSIPAGI GNNTRLRLANQGEVGENGGVAGDLYVDVRI VALK PAGVDTGARMRLRGEGEGGRRGGPSGDLYVVVHVH QRVEIPGGVEDGDTDRIKGLGKPSSYTNNPGDLYLVFSIT VVVDIPAGSHDGDTVRVPGKGNAGTNGETAGDFVCRI I SVRVPAGIKGGQKLRLQGKGQPGPNGGPPGDLYIRIKEA LDLDIPAGVSDGLRLHLEGQGEVGFGGGPSGDGYL TTVNIPAGVSDGARIKIUESGNAGYGGGPYGDLYVLI HVR TRITVPAGVYEGLQLKLKGHGYEGYNGGPNGDLYIVFHDE I EIPLERGVPDEHDYQFYGESD EMPGVMAGDLYVRIKIK IVHLKPPGVDEGTRLRLRGEGEAGRRGGPSGDLYLDLKI T VAVDIPAGIQDGMHLRUQGGDNAAPNARPGDLFVTVRIR LMVKIPPEVKPGTKIRLRGMG AKKGKKSGDLYLHVKVK VRIVTVPAGVADGQVIKLKGYGAEGVNGGPAGDLYFVVAE LDVHVDKGMKNNQKILFRGEGDQQPDVPEPGDVVIVLQQT
 LKVHIPAGINEGQS| RLKGKGNPG|GGAEAGDLLLKVHV LSATVERGMQTGEKIMFEGMGENRIGHEPGDLLLIVEELV
 LILHVDRGMPEGAEVVFEGEADESPEVVAGDVIVRVRSK
 YTLEVEKGMNDQSTIRLEQLGE EAPDDTPGDVVFKVVTI
 IV SLKIPPGVTEGDQLKISGKGNEAPFGGDSGDLIVVIEET I EVDILPGTENKSVHKFERCGDEKLGCDPGDLIIVIMVA
 LTLDDDRGMPENSEVVFEGEAD ESPDDAAGDVIVRVRSK VTVVDEKGMQDGQEVVFYEDGEPVIDGQEPGDLKFR|ATAB
 LSLRVPAGTRDGARLRLAGQGND PGG GDVMFVTRER
 LEFED DKGSMGGESITLKGESD EYPGKETGDVVMTLSCK MTVA:PAGVDTGTRIHLVGEGEVGPGGGPPGDLYVEVSVN

 QEVFVEKGMTDHQRIVLAGEGDQSPDAPAGDVIFVLKLQ YTLEVTAGMPEGHEVVFEGEGDESPDWEPGDVVLRVR
 VQVDIPGGVEDGMRLRLAGEGDPGEPGKQRGDLFVFIRVA LELEVEQGMVDGQETRFVAEGEPHIDGGEGGLLVRVQQM VEVKIPAGISDGKKLRVPGKGAAGANGKAG DLYVVIKWA LDLEIEPGMVQGQELKFHAEGEPHADGEPGDLIFHINTL
 QTLRVPKGIDHKERLRVSGRGEVGVRNGPPGNLYVEVTVE
 VEVNIPAGVTDGQRVRIAGQGGRGSGGGPAGDLYLIVRLA
 FDVDLDKGTPDGFEVELENYADETAGQPAGHVRLQVLTA MTVKVPAGVRDGNRIQLAGRGEVGPGGGPRGDLFEEVIVE
 VAVKLPAYVEDGQTLRLKGQGEQGP MKVVFPAGVNDGATMRIQGEGSFNKKRGIAGDLFISLHV MSVVIPAGVNDGATMQLQGEGNFDKKRGTVGDVFVVLHV LQVRIPAGIETGKSIRLRGKGMPGSGGGEPGDLFLKVQV RDIVVERGVPHMLKLPFAHEGMHQLRNGEYGDLFVVIVQA
$F K T H I P A G V K N G Q K I R L K S K G K G R G G S A G D L Y L Q V H V E ~$ VTMEIPAGVPSNVTLVVRGEGGT DPGAPPADMHLHVELS LNVSIPPGVTTGQVLRLKSQGQASQTSGPPGDALLELHVR VTVDIPAGIDNGMNLRLTGQGAEGDPGAPRGNLIVQV VRANDPAGVGDGDRVRLAGQGEVGPGGGAPGDLYVEVQED
 VEVIPGGVESEATVPIRGAGNVRSRTSQPGNLYMKKVA LEVTVPAGVDNGMQLCLRGEGNPGRGGGPRGDLYVQVVVK VTTRVPTGIKDGAKIKIKGRGAPGAAG PGDLYVLVHVT IRTTIPAGIENGQTIKIKGHGGPGTNKGPNGDLYINFKI


| UniRef90_S7VBY2 | P H |
| :---: | :---: |
| UniRef90-D2QAE1 |  |
| UniRef90-K1Y784 | E |
| UniRef90-N9VEU1 |  |
| UniRef90-U2U0B0 |  |
| UniRef90-D8FDE9 | P H P |
| UniRef90-IOROS9 | A D P |
| UniRef90_R5XT39 | S H P |
| UniRef90-A8F850 |  |
| UniRef90_C7M7M7 | P |
| UniRef90-G4N1N5 |  |
| UniRef90-A0CTM1 | K H |
| UniRef90-F2NEH0 | P H P |
| UniRef90_B6JXC5 | K H |
| UniRef90-X1ER19 | D |
| UniRef90-J9G2Y9 |  |
| UniRef90-J3JVH1 | P |
| UniRef90-K2DDL0 |  |
| UniRef90-H8X7D6 | K D P |
| UniRef90_R5IW80 |  |
| UniRef90-U6GWE3 | P |
| UniRef90_UPIOOO2558784 | P H |
| UniRef90-A0A021VQP0 | P H |
| UniRef90-M7X591 |  |
| UniRef90-A5K2C3 | K |
| UniRef90-UPI0003FDBA3B |  |
| UniRef90-FORHQ9 | E |
| UniRef90-W118J2 |  |
| UniRef90-F0ZLE1 | P D P |
| UniRef90-Q0CYX1 |  |
| UniRef90-T1K9L6 | P H P |
| UniRef90-C7LK59 | H |
| UniRef90-F9QDW2 |  |
| UniRef90-S7XTH1 | E D P |
| UniRef90-U2TAR2 | P |
| UniRef90-E2L975 |  |
| UniRef90-U5H2Y9 | R K P |
| UniRef90-UPI00042B22EF | P H |
| UniRef90-W5CG29 |  |
| UniRef90-B6QPB7 |  |
| UniRef90-A4RUN9 | P |
| UniRef90-UPI0003B5F218 |  |
| UniRef90-R5R3L9 | E K P |
| UniRef90-G3B5H7 | E H |
| UniRef90-W6K0X1 | P H |
| UniRef90-S2ZP26 |  |
| UniRef90-D8QIJ1 | K |
| UniRef90-W4LJ20 | P |
| UniRef90-J6F0E6 |  |
| UniRef90-UPI00044093EB | P H P |
| UniRef90-B1ZNI4 | R H P |
| UniRef90-UPI0004414303 |  |
| UniRef90-U1GR37 | P D P |
| UniRef90_A3UIM3 |  |
| UniRef90_J3K5M4 |  |
| UniRef90-B4JDP9 | P H |
| UniRef90-Q2LU36 |  |
| UniRef90-W5XB53 | E H |
| UniRef90-A9V7Z9 | K H |
| UniRef90-18A612 | D H |
| UniRef90-A8SNJ3 | S |
| UniRef90-W6L2B2 |  |
| UniRef90-R6BUD1 | K |
| UniRef90-A1SHX9 |  |
| UniRef90-K6WNB1 | P D P |
| UniRef90-R5Y711 |  |
| UniRef90-R6NTU8 | E D P |
| UniRef90-V9EA60 | P H P |
| UniRef90-UPI000308040E | E H P |
| UniRef90-I1PSM2 | P H |
| UniRef90-T0Z662 |  |
| UniRef90-LOKRY1 | R H P |
| UniRef90-Q6C1X9 |  |
| UniRef90 B9IEF5 |  |
| UniRef90-M5W8P5 |  |
| UniRef90-G0UIV8 | E H |
| UniRef90_UPI000472C6DA |  |
| UniRef90-B4KGM6 | E H P |
| UniRef90-14MDC8 |  |
| UniRef90-E9BSH3 | P H |
| UniRef90-UPI000368FD37 | P |
| UniRef90-B8BR60 |  |
| UniRef90_C8XF81 |  |
| UniRef90_UPI00042B2C8D | D D P |
| UniRef90-A8TVY8 | A H |
| UniRef90-E6X0L4 | E H |
| UniRef90-V4KVJ8 |  |
| UniRef90 FOSFU7 | D H P |
| UniRef90-UPI0003734590 | P H P |
| UniRef90-UPI000406F1F5 |  |
| UniRef90 T0Y3E2 |  |
| UniRef90_R6EPZ9 | E K P |


|  | UniRef90_R7D8R7 |
| :---: | :---: |
|  | UniRef90-S2KBK7 |
|  | UniRef90-H2K2S3 |
|  | UniRef90-16XS85 |
|  | UniRef90-UPI00037DDE8A |
|  | UniRef90-D6Y8H6 |
|  | UniRef90-U7U141 |
|  | UniRef90-UPI000237BCCA |
|  | UniRef90-I2H4W8 |
|  | UniRef90-I2G3G0 |
|  | UniRef90-UPI0003784598 |
|  | UniRef90_Q0U691 |
|  | UniRef90-W6KGR9 |
|  | UniRef90-I2GY18 |
|  | UniRef90-L5L9K0 |
|  | UniRef90-J3NNR5 |
|  | UniRef90-D8LPJ2 |
|  | UniRef90-X1NLL0 |
|  | UniRef90-C8XFD2 |
|  | UniRef90-G0RUT3 |
|  | UniRef90-A6Q486 |
|  | UniRef90_M3J318 |
|  | UniRef90_D6THT3 |
|  | UniRef90-B4JA50 |
|  | UniRef90-D6P878 |
|  | UniRef90_L2GRJ1 |
|  | UniRef90-UPIO0040E361F |
|  | UniRef90-UPI00036B1589 |
|  | UniRef90-H6C084 |
|  | UniRef90-B4LT03 |
|  | UniRef90-A2EJ81 |
|  | UniRef90-H2UQ10 |
|  | UniRef90-B8H6P9 |
|  | UniRef90-X7X1M3 |
|  | UniRef90-R9XIU7 |
|  | UniRef90-UPIO00374738E |
|  | UniRef90-L7VQS1 |
|  | UniRef90-A0A015KF91 |
|  | UniRef90-J0V6X1 |
|  | UniRef90-H0A8F6 |
|  | UniRef90-A4C0C5 |
|  | UniRef90-H0QLS6 |
|  | UniRef90-A9C1Y6 |
|  | UniRef90_UPI000471F37B |
|  | UniRef90-UPI00038275DA |
|  | UniRef90-N1Q144 |
|  | UniRef90-B5ZBQ4 |
|  | UniRef90-H2LJS9 |
|  | UniRef90-UPI0003669EE3 |
|  | UniRef90_Q1WLJ6 |
|  | UniRef90-C7NDW5 |
|  | UniRef90-Q1K4H5 |
|  | UniRef90-F9MWP3 |
|  | UniRef90-X2JFM7 |
|  | UniRef90-G0W624 |
|  | UniRef90_A0A014NQY5 |

1
20
30
40
VVCPE CGGSGKVI SDPCPDCAGTGRTPVVTE QACGGAGSSIDAKCTTCDSVGKVRERKQ CPDCATTGDETKVLDCPTCRGEGRVVSKRHT TCQGFGTII PNPCGECSGEGRVRSSRD ATHAR $\square T \square A \square E D S Y N G A Q R H I N V$ GGRT SYE CGGYGTVIRHL TRRT K S Y E T E T S L S LiE EAYK GTEKKLKL K G QK
$\square C N G N G W V I Q E T C Q G C N G V G F Y N E M K I$ DRCGGAGSVIAHRCSKCHGQK VVQEAAS CGGSGFADPSSCNTCSGDGADKQRKS CHGTGTLAKDQCHKCHGKGYRNLAQD CRGQGHLIKNFCKVCNGAKVQQKLK D
TCHGSGKIIKNKCKNCKGKAKYQQKQD
TCSGTGSVAPRGCRTCDGEGDTRDRKT TGK LDRKIGDPCSACKSTGMSTERVM CHGEGRTI TEPCPQCRGTGKEKRQRS YHGTERSVTVS DHCGGSGKTIKNKCSVCHGSRVERKPTT CHGQGEVAQEHCEECSGKGYRDEKEK NLEQTVEVTDEEAY乌GSQRTFTDTCSACRGMGQNGQGKR ACDGRGFTDKDRCKPCTGTGFVEQEMT DVCHGRGKEIKEPCTTCHGTGHEKQAHS CRGSGHIVVGBCSECKGQRYCQKQES DTRAKLAVALESVYEGRSVRI SV

CQGRGWVVEEACTTCRGRGKVQRERK


GYMUPPEVRCHHCHGHKLINSKKE
TCQGAGEVITDPCHKCGGDGRVRARRE
ACSGSGTIVEDTCTSCSGAGYLRERKV
 D VEAELY $\square$ T P E E GLE GVEKTFTVR
 RD DHFDLPVTPSEAALGAK】KVNAP AGP QDQHASIELDLLDSYQGAQRSLHLRTTVLDEDHPVARDKE



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


| UniRef90 R7D8R7 UniRef90 S2KBK7 | P |
| :---: | :---: |
| UniRef90-H2K2S3 |  |
| UniRef90-16XS85 | E H |
| UniRef90-UPI00037DDE8A | P |
| UniRef90-D6Y8H6 | P H P |
| UniRef90-U7U141 |  |
| UniRef90_UPI000237BCCA | P D P |
| UniRef90_12H4W8 |  |
| UniRef90-I2G3G0 |  |
| UniRef90-UPI0003784598 | P H P |
| UniRef90_Q0U691 | S D P |
| UniRef90-W6KGR9 | P H |
| UniRef90-I2GYI8 | P |
| UniRef90-L5L9K0 |  |
| UniRef90-J3NNR5 | A D P |
| UniRef90_D8LPJ2 |  |
| UniRef90-X1NLL0 |  |
| UniRef90-C8XFD2 | D H P |
| UniRef90-G0RUT3 |  |
| UniRef90-A6Q486 |  |
| UniRef90-M3J318 | E H |
| UniRef90-D6THT3 |  |
| UniRef90_B4JA50 | E H |
| UniRef90_D6P878 |  |
| UniRef90_L2GRJ1 |  |
| UniRef90-UPI00040E361F | A H P |
| UniRef90-UPI00036B1589 | P H |
| UniRef90-H6C084 | P H |
| UniRef90-B4LT03 | E H |
| UniRef90_A2EJ81 |  |
| UniRef90_H2UQ10 | K H P |
| UniRef90_B8H6P9 | P H |
| UniRef90-X7X1M3 |  |
| UniRef90-R9XIU7 |  |
| UniRef90_UPI000374738E | K H |
| UniRef90-L7VQS1 |  |
| UniRef90-A0A015KF91 | P |
| UniRef90-J0V6X1 | P L P |
| UniRef90_H0A8F6 | P H P |
| UniRef90-A4C0C5 | P H |
| UniRef90-H0QLS6 |  |
| UniRef90_A9C1Y6 | H D P |
| UniRef90_UPI000471F37B |  |
| UniRef90-UPI00038275DA | P |
| UniRef90-N1Q144 | Q H |
| UniRef90-B5ZBQ4 |  |
| UniRef90-H2LJS9 | E H P |
| UniRef90-UPI0003669EE3 | D H |
| UniRef90-Q1WLJ6 | P H P |
| UniRef90-C7NDW5 | K H |
| UniRef90-Q1K4H5 |  |
| UniRef90-F9MWP3 |  |
| UniRef90-X2JFM7 | E |
| UniRef90-G0W624 |  |
| UniRef90_A0A014NQY5 | K H |
| lupas_21 |  |
| lupas_14 |  |
| lupas_28 |  |
| jnet |  |
| conf | 899 |
| sol25 |  |
| sol5 |  |
| sol0 |  |
| jhmm |  |
| jpssm |  |


[^0]:    $\qquad$而

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

