

## QUERY <br> UniRef90_Z4X497 UniRef90_UPI0002ED5DEB

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UniRef90- S5KRG9 UniRef90_U2VKC9 UniRef90_B1MZU1 UniRef90_U2T115 UniRef90-K6DQL9 UniRef90_C3WEQ3 UniRef90_G5JL68 UniRef90_A0A024QD92 UniRef90-UPI0003810787 UniRef90_UPI0003740078 UniRef90_L5N2Q8 UniRef90_R5NUI3 UniRef90_UPIO0034B2138 UniRef90_W3ANW6 UniRef90_C1CH64
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UniRef90_R7J0R6

RYVEA TTYRSHEATGPYYVVG
60 P $\quad$ M P HAR ${ }^{70}$
80
GYV D D

 S Y V D A I F K C H Q E I G P Y Y V I G P Gll AMP HARRPE D G V N R L S L G



 D Y LTA A FR QYQ AL GPYFVLAP GI AMPHARPEEGARALGLS Q Y I E A M I N T I K T L G P Y IV V I T T P K V



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







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



 $R Y V D A M V N T V K K M G A Y I V I A K G I A M P H A R P E D G A K K V G M A$



 | $E$ | $Y$ | $T$ | $Q$ | $A$ | $M$ | $T$ | $S$ | $V$ | $E$ | $E$ | $N$ | $G$ | $P$ | $Y$ | $I$ | $V$ | $V$ | $A$ | $P$ | $G$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## R

EFKEA L K R R EA QS T T KYTDAMINTVKNMGQYIVI

Q | $Q$ | $D$ | $V$ | $Q$ | $K$ | $E$ | $D$ | $G$ | $P$ |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $Q$ | $V$ | $D$ | $L$ | $R$ | $E$ | $A$ | $S$ | $G$ | $T$ |

 | $M V I V$ |
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EYLQAVRAREEEGTTG
 - YVLA MI DNIVKMGPY IVI A

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 EFKKGILAAREESGSTG VGGGIAAIPHSKNAAVKQPGLA E Y DQAMIDNVNELGPY VVMAPNIALDPHARPEAGVERLGMS
 D YVVEAMLERETUTSTYM GNNVAI PHGTENAKKAVI K S G RYKEA
AYKKK LA REAQSTTG
A KKKVFAREEESTTG

EYVTA IVVEQHHK LGPYYVLAPGLAMPHARPEEGAKGLGLS
 P Y IDE G MI A S V E K L G A Y IV L

KYT QVVLEREEE GSTG $\quad$ G

## QUERY <br> UniRef90 Z4X497 UniRef90＿UPI0002ED5DEB

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QUERY

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UniRef90-R0EQF7 UniRef90_Q040V8 UniRef90_U7PDP2 UniRef90-D6M878 UniRef90_UPI0003F5CD8D UniRef90 R2QTG6 UniRef90-UPI0002F9638F UniRef90-H3LR87 UniRef90-W7C6J7 UniRef90_R7ITM9 UniRef90-W1SSP7 UniRef90_H6CII9 UniRef90 UPI00041AC03D UniRef90_D6S9T9 UniRet90_S5KRG9 UniRef90-B1MZU1 UniRef90_U2T115 UniRef90_D9SMT0 UniRef90_K6DQL9
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UniRef90-FOIJY7 UniRef90-R6VZV1 UniRef90-R6NPR4 UniRef90_R7J0R6

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QLFDTASDVQALLNAKTPQDTLSVIARY

ELLSDPDFFAQLEKAQSPKDVVDLV
 ELLFMNEEHI EAAI CNASNVAEARSSII NKYY



 QLLLSDDAFYQVLDGAKVPQDIMNYVNK

 EL L E RKDFYELLDCAEKPSEMMNFI KN
 DLLEDQNFFQLLNQARNRTEVLDYV EISSHENVACFTKAVSKTEIMDVI E
 EVLMDEEKVARLIAANSEQAFYEELTK ELINDEEKI DRLSGETDDERFKEDL NVLMDEENVDKLVESKNASEFLRLLLNE KLVGKKAVRARLDAAKTPAELLEI I AE KVLGDPARRAALDSAKTPAEVMELL
 ELESSDEDMALLHQANNLEE: QKIII N

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 ELLS E E E KVTHLI KAESDEDVQHMMKQ EVGUSDDK SKQLLLDTHDSDQIIQQLINK VICSEQDNVDRMVQAKTAKELKDIS VLGMDEDFTNAMKSAKTVDEFLS S C DK
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UniRef90-B2TQJ5


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| :---: | :---: |
| UniRef90-N1ZUT6 | QVLMNPDVVNA |
| UniRef90-UPIOOO466E734 | T L M P P A F |
| UniRef90-H3NClO | RILRDNEMVEQ |
| UniRef90-UPIO00466492C | VLLMDEQFSEKLR |
| UniRef90-UPIo0041A85F3 | RKL DDEFRQGL |
| UniRef90-N0f | VMLMDDTFQSAL |
| UniRef90-G5H3A7 | GFLMTEG |
| UniRef90-U0G1E7 | SKLIEEGF ERF |
| UniRef90-D3QGD4 | SVLGDKDTVQQLLATQD |
| UniRet90-K6TAW4 | T L M EETFRNNL |
| UniRef90-UP10002EC1358 | SVLGDANKLQGUMEAATFSEL |
| UniRef90-X8HRZ2 | SICMEESRVEDL |
| UniRef90-UPIOOO4087215 |  |
| UniRef90-Q92717 | NLIMKHHLLLEQUEQAESAAE:AAM |
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| UniRef90- W4QG83 |  |
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| UniRef90-UP10001E89D8F | SMLMDMEFRTALLNASTK |
|  | RLLDDQEFVQQLKQAETP |
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| UniRe990 UPIooo3b50862 | LSNPEN NRLKNTE |
| E1 | CDS |
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| UniRef90_UP100035D |  |
| UniRef90-F7T |  |
| UniRef90-R6C | TNQRFKEELWNAESPRETAA |
| UniRef90-C9QJR6 | SKLTEDGFVESFINATSPQQALE |
| UniRef90-W7BN50 | KP ${ }^{\text {a }}$ |
| UniRef90-EOE2G7 | VKP |
| Uni | RKLVDDELVDRLLKQVQSAKEVQALI |
| UniRef90-R5GNL2 | KLLMKKEF |
|  | EIGDEENLKRLL |
| UniR | QMLMDDKFKSDL |
| UniRef90-K1LGM3 | Q MMDDESTVAKLLEASNSEEA |
| UniRef90 K8E7L4 | QLMHQEFRNRLYEAKSPEEV |
| UniRef9 R6Z4 |  |
| UniRef90-E1L178 | TLFADPANDEAVAKAPDVQAV |
|  | CAEADNVAAMAN |
| UniRef90-UPIO003B36A13 | RQDLLNAESEDEIMA |
| UniRef90 Q6 | L EDED |
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| UniRet90-A6LQT3 | NLLMDDESLEKMFSAKSE |
| 4 | QDSSM |
| UniRef90-UPI | QMLMDESFRQELMKAETKEQV |
| UniRef90-K8BC | NALDDESVIVERLAHTESVDEV |
| UniRet90 UPIOOO3E |  |
| UP10003 |  |
| 4BS |  |
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| UniRef90-B8EN06 | REPAITTKLRAARDVNALYSV |
| UniRet90-10BV78 | TVMEEENEKLVKAQSAQEVIDVIGE |
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| UniRet9 | NLLGNPEKRPELDADACSGELLQYMME |
| UniRet90-UPIoo021 |  |
| UniRef90-M1JD17 | D |
| UniRet90-E2 | DVFMDEDKMSSLLHANCVED |
| UniRet90-F5RPL5 | ECLSDETVVAKLLAAKTPEDLRA EEDF |
| UniRei90-B3GYS6 | QVLDDPDDLAKI LRCQTKEDVYAVITDQ $^{\text {a }}$ |
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UniRef90_B1C8J3 UniRef90-F3L739 UniRef90-ROG416 UniRef90_C9LYU3 UniRef90_C7RG2 UniRef90-U2B16 UniRef90-UPIO002899BF6 UniRef90-LiNYTO UniRef90-B5EV90 UniRef90-T4FK89 UniRef90-N9V6F2 UniRef90_BLL9J5 | UniRef90-F9T805 |
| :--- |
| UniRef90 C3WD | UniRef90- 66 LNN3 UniRef90-UPIO00467BDEB UniRef90-UPI000311F151 UniRef90-G21H76 UniRef90_UPI00036EEAB1 UniRef90-UPIOO047CCA2F UniRef90-K6RKG2 UniRef90-Q9KGB4 UniRef90_G9ZD35

UniRef90 A4XM82 UniRef90-UPI0003F9150D UniRef90_K7T2L3 UniRef90-JOZB87 UniRef90-UPIO0036B2913 UniRef90-D4MZZO UniRef90-E5Z2W1 UniRef90- A6TLI4 UniRef90-B8G623 UniRef90-UPIO00363619B UniRef90 LOIPM1 UniRef90-J3JAUO UniRef90_C1CYR5 UniRef90_UPIO0039A0620 UniRef90-UPIO00408A54D UniRet90_UPIOOO47CF9D6 UniRef90_UPIO00465205F UniRef90 C9P8M2 UniRef90-UPIO0046D10A7 UniRef90_R5ELT9
UniRef90 Q45420 UniRef90-G018J3
UniRef90--18QZ52
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UniRe90-A9B4K6
UniRef90-L8NAK
UniRet90 UPI0002D7579C UniRef90-A6CVWO
UniRef90-C5D9V6
UniRef90_G21H30
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UniRef90-UPIo003780F60
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UniRef90_UPIO00369752B UniRef90-D4E159
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UniRef90 A3XSX
UniRef90_17QVT8

UniRef90-UPIO0016A7809 UniRef90- SoLHF5 UniRee90_UPIO0037CC9D1 UniRef90-J8TSB2 UniRef90-W6M1N3 UniRef90_DoGPU5 UniRef90_B4U0A5 | UniRef90-13YQP5 |
| :--- |
| UniRef90 |
| $15 C 109$ |

UniRef90-I3VTZ1 UniRef90_- 38 WTTO UniRef90-C4Z9H6 UniRef90-FOYZC2
UniRef90 W 1 INF 1 UniRef90-R7GA98 UniRef90-V6Z463 UniRef90-F3A917 UniRef90_UPIo0031A3A6E UniRef90_O03HS3 UniRef90-UP10002FEC22D UniRef90-UPIO00415D3DE UniRet90_UPIO0040878DF UniRef90-s2XC92 UniRef90_UPI0002E1D48D UniRet90_B1C6X3 UniRef90-UPIO00407DFD3 UniRef90-N2A562 UniRef90-UPIO003605D2A UniRef90-FOH2L5
I RDLLKPELMIFDLQANDKMSAIEEIASKFFEKGYVKE
LDKLNESHIRIKEKAADWEEAVRKAGAVLVEEGSI RP
TDLLTAATVNLDLKKTTKKDVLDELLAGTLDKAGKLND
LIGDILPLTHILLDSDAGSKKRLFEQAGQLLENEAGVPR
LLDSDAGSKKLFEQAGQLLENEAGVPR
M L
$M L T$ LAPEQILLGQRAASKGEAIALLAGRLEAAGLVES
LEKLFSPGCMSFDLRSKSKDEVIDELLDLLHKSGKITE
I TNLVQAETMCLDLKATTKEEALKELVELLDAAGNLAD
MLKDI ABNI TVLTKVESWQKAI EDAAT PLDEKNKIK E
MLDEYFPEGTVMYRDQVADWVEAVDVVAEMAAQQGKVKA
DKELFSPN RLCFDAKAKTKEEVVDEELIDDLEYNDGKLTE

MLQURHVQLLRUADDWQDALRRAANPLLDDASIES
LSELIA PEAIMAGKANSKKQVLQULAEKAAEATGLNE




MI EELLLDKDMMMFDLKSKDKLSVLKESGELLVAKGVSIDD
MI 1 RDLLDKDVMIMDLKATYKAAAIVDELVHQYYVKGIIND




MCDLLDPRAI RLNVKVKTKEQAI NYLVDLIMSNTDCLSD
MSMPILKKENIVLHARVENKTEAI RLAGQULVNNGYVED



Cr K N


S F


MSNLLTAELVRLGAEAGSKHDA:SQAGALLVAAGVI EP
DDLLKQEAIIPALKANSKKQLLQELAARAEAVTGIPE
NDVLAEESVVLDGRATTQEDAINEAGRLLVERGAVDS
$G L$
$R$
$R$
AD


S MA Q S A V D K T A A L L K L I A D H L V A A D G L V

L $\quad$ L Q L S D A V V

L L T A E L V
ML

| $M$ | $S$ | $N$ | $L$ | $L$ | $D$ | $E$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $M$ | $R$ | $K$ | $I$ | $L$ | $T$ | $P$ | $D$ |
| $M$ | $K$ | $Q$ | $L$ | $L$ | $A$ | $K$ | $E$ |
| $I$ | $T$ | $E$ | $L$ | $I$ | $T$ | $R$ |  |




I I NENLI TLDDLEAKDRGSAI DELSQQLAFNDGKVT D


LS SVLSSECTRNNVPCSSKKRALEVI SELLASK QLDNLPE
$M \operatorname{L}$

LT E I I

IT D L L S K D GVVS L N QTVA D Q N A A I D L M V S L H D K VG NLL K A

MLE





UniRef90_B1C8J3 UniRef90-F3L739 UniRef90-ROG416 UniRef90_C9LYU3 UniRef90_C7RG21 UniRef90-U2B161 UniRef90-UPIo002899BF6 UniRef90-LINYTO UniRef90 B5EV90 UniRef90-T4FK89 UniRef90-N9V6F2 UniRef90_-G9T805 UniRef90_C3WDH8 UniRef90-Q6LNN3 UniRef9-UP1000467BDEB UniRef90_UP10003
UniRef90 G21H76 UniRef90-UPIO0036EEAB1 UniRef90-UP100047CCA2F UniRef90-K6RKG2
UniRef90-Q9KGB4 UniRef90-G9ZD35 UniRef90-A4XM82 UniRef90-UPIOOO3F9150D UniRef90-K7T2L3 UniRef90- JoZB87 UniRef90_UPIoo036B2913 UniRef90-D4MZZO UniRef90-E5Z2W1 UniRef90-A6TLI4 UniRef90-B8G623 UniRef90-UPIO00363619B UniRef90_LOIPM1 UniReffo -j3JAU0 UniRef90-C1CYR5 UniRef90_UPIOOO39A0620 UniRef90_UPIOOO408A54D
UniRef90_UPIOOO47CF9D6 UniRef90_UPIOO0465205F UniRef90-C9P8M2
UniRef90-UPIO0046D10A7 UniRef90-R5ELT9 UniRef90-Q45420 UniRef90-G01833
UniRef90-180Z232
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UniRef90-JJUW87
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UniRef90-L8NAK1
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UniRef90-C5D9V6
UniRef90-G21H30
UniRef90_UPIO004777C89 UniRef90-UPIO003780F60 UniRef90-C8NBS1 UniRef90-D4EI59 UniRef90-UPIOOO3161651 UniRef90-A3XSX1 UniRef90-17QVT8 UniRef90_UPI00016A7809 UniRef90_SOLHF5


|  |  |
| :---: | :---: |
| UniRef90_B1C8J3 UniRef90 F3L739 |  |
| UniRef90 RoG4l6 | KEPIS SVDKQ HPIKLVFFLAAVDQ |
| UniRef90 C9LYU3 | MTVPAGMDFEAMDQKPSRLFFEI |
| UniRef90-C7RG21 | ARKVGGDDYEADDGEPTEIFFAIGAPEN |
| UniRef90-U2B | PVEFGSP NDPVSVLLCLGCTDS |
| UniRef90_UP10002899BF6 | GRSKQGVDFQSLDGKPAHLFFMI AAEENATHLEAL |
| UniRef90 L-L1NYT0 | RTKEPVPFDAPDGKPVSLAVVLLVPEDSTHLEVL |
| UniRef90-B5EV90 | VA HHEPQGVNWGDDNVVYVAIGI AAK SDEHLGILKQ |
| UniRef90-T4FK89 | AAVSKEGDDYESFDGSLSNLFFMIAAPDNNTHLEVLSR |
| UniRef90-N9V6F2 | VQVAQFPDGVEWDDGQKAYLVIAI AAK SD |
| UniRef90-B1L9,5 | GVSKNGVDFDSMDGKPAYIFFLI AVPESDEHLRILSFIS |
| UniRef90-F9T805 | VGISRNGIDYGAEDGELSDVFFMLASPDGDDHLEVLAQLS |
| UniRet90-C3WDH8 |  |
|  | GLEYGAEDGLDSKLFFM ASPDGNHH EVLAELS |
| UniRef90 UPIO00311F151 | QHINFSEEGHYASLVFVLSATDNEGHLEVLRS |
| UniRef90-G21H76 | N EDKFDKENAVARLFLTLAAVDSSGHLNA |
| UniRef90- ${ }^{\text {P1000 }}$ | DQPVDLAFLLLAPEGAD |
|  | N |
| UniRef90 K6RK | S |
| Q9KGB4 | QKGVSFA |
| UniRef90 A4XM82 |  |
| UniRef90-UPIO003F9150D | DEPVEFGSEQNDPVDIVIVVASTSNDAHL |
| UniRet90-K7T2 |  |
|  | SPVD |
| f90- UPIO0036B2913 | GVDYASLDGQPTDLFFMIAAPENDTHLA |
| UniRef90- 4 MZZZ0 |  |
|  |  |
| UniRet90_A6TL14 |  |
| UniRef90_B8G623 | $D$ |
| UniRef90_upioonz | WA GLLAVPVAFGHAQNDPVHLVI GLAAVDHDAHSS |
| UniRet90_LOIPM1 | GGSKEG NYNSMDGKPAHLFFLIAAPENSDHLKIL |
| UniRef90 C1CYR5 |  |
| UniRef90-UPI00039A0620 | DPTFAHSRYDPVIYVI CLATTSSKDHLNA |
| UniRet90_UP1000408A54D |  |
| UniRet90_UP100047 | $0 \mathrm{Di}$ |
| UniRet90_UPIOOC | EPKKE DGYNVRVMVTLAATDSD |
| UniRet90_C9P8M2 | GVSRQG DYGAEDGLPSSQLFFMIASPDGNHHIEVL |
| UniRef90 Uploou46D10A7 | SPEGVEFDSMDGAPVHLFFLLMAPENSTHLKALL |
| UniRef90-Q45420 | SII QDPDGVDFGDGNIVKLLI GIA GKNNEHLEI |
| UniRef90 G018J3 | GVDYESLDGQATDLFFMIAAPENDTH |
| 8QZ52 |  |
| UniRef90-F9S913 | YP |
|  | QDGQKAR |
| UniRef90-A9B4K6 | I AVVQFPAGVEWEPGELAYLVIG\|AA NADEHVGVLAN |
| UniRef90 L8NAK1 | QFPEGVDWGDGQMVY |
| UniRet90 UPIOOO2D7579C | VCQYPGIQFGEDKDDAEMVIGGAAKNDEHUQVI |
| UniRef90 C5D9V6 | FGVKRSGVDWDSLDGEKAQLAFMIAVPEGNEHLKIL |
| UniRe990-G2ll | AGVSKDGIDYESLDGSNAHLFFMIAAPENND |
| UniRef90-UP10004777C89 | SDEHLDILRRL |
| UniRef90_UPI0003780F60 | ARMEKPIDFDALDDQPVDL FLLLAPEGADHLKAL |
| UniRef90-UPI000369752B | MSILVL SDaVDFGGEPVRLVIGLAAV GDEHLEV |
| UniRef90-D4E159 | KMKKMEDAEVAVFFVLGLSDGTQHLQL |
| UniRef90_UPIO003 |  |
|  | EGVD EPVDVL |
| UniRef90_170VT8 | LQLKEPVSFDGDPDKQVQLIFVLAAVDSSSHL |
| UniRef90 UPIooor | VPDGVERGGERARLVVA A A Q S E |
| UniRef90_SOLHF5 | LITLKQP T F GNKDNDPVS VIALASVNHSDH |
| UniRef90 UP100037CC91 | FVRLKEAIPYDAPDAKPVR |
| UniRef90_J8TSB22 |  |
| UniRet90 W6M1N3 | A DDRPVDLFGLLVPDHD |
| UniRef90-DOGF | NYGDEKVYIVVI VASKDSDS |
| UniRet90-B4U | VTLSQPVT GVDFDGEKA |
| UniRef90-15C109 | RLETPVDFEATDDQPVDLVFLLLAPEGAD |
| UniRef90-I3VTZ1 | GI EWNSLDGNPVEIIFLLGIPNENDHLK |
| UniRef90-Q38WT0 | FAKSQNGVEYDALDGQPVYLFFMIAAPENDTHLQA |
| UniRef90-C479H6 | AMVVKDGVDFESLDGTPAK |
|  | LVKLKNPVEWETLDGRPVDYVIMLAAPNDNV |
| UniRef90 W W1NF1 | FLHLEQPUTMDALDNQPVDLLFALLVPSNQUHLHSLSLI A |
| UniRef90-R7GA98 | AKSNS ${ }^{\text {a }}$ |
| UniRef90-VZ463 | AKSNE GVEWESFDGQPAKHIFMMAAPDGDEHLKA |
| UniRef90 -3A9 | ${ }_{\text {F }}$ |
| UniRef90 Q03HS3 | VLKLKQPIEWKTFDNQPVDTVISFLIPERD |
|  |  |
|  |  |
|  |  |
|  | LSLLQDPD GVDWGGEEVKVVVG\\| AGKDG EHLDLLSKIA |
| UniRef90-UPI0002E1D48D | GD |
| UniRef90-81C6X3 | KNDPVKFVIALSVLEGKD |
|  | IVFIRTAA PIDWDGNEVRVVGIAGKDG GHLETLSKIA |
|  |  |
|  | $V L R L V E P V L L A D D P A H P I T V F L A L A A Q D S T H L A V M Q N L A$ |
| UniRef90 ${ }^{-}$FOH2L5 | FAKKAFGLDYEADDGEDSFVFFSIAVPENNDHVQTDAKLS |
| UniRef90 W6M585 | DALQLPGVEWNQGQKAHLVVAlIAA QSD |


| UniRef90_B1C8J3 | TLL MDENFRQDLI DSKDKDEFLAMI |
| :---: | :---: |
| UniRef90-F3L739 | LI L D D D Q Nle Al I A A K D K NElI NIM A N |
| UniRef90-R0G4I6 | ALLRDEEKLDRLLDAKNFEEIAQ I I R |
| UniRef90_C9LYU3 | TMM M D P D FKETLI A A K S K E EFLS L |
| UniRef90_C7RG21 | K MIM K E G F I D DL K K C S S EEEVVYGVID K Y |
| UniRef90_U2B161 | ETLLAA E ERID M I A K A D S VEEVVRIIMA |
| UniRef90_UPI0002899BF6 | T FLI K P DFREKLMNA A T A E E |
| UniRef90_L1NYT0 | GRFSDKSVRERLMQAQDAAEVQRILTE |
| UniRef90-B5EV90 | KVLS A D GVVE E KLK K A Q T E A D I I AL L N |
| UniRef90-T4FK89 |  |
| UniRef90-N9V6F2 | HVLGDEAAALQLRAT T DVED I I RVL S |
| UniRef90-B1L9J5 | RKLMHENVRNKLFNAKSFEDVI DAFT |
| UniRef90-F9T805 | SKL DEEEFIH QLK Q A Q S VEA ALQLIT E |
| UniRef90-C3WDH8 | EIVIDNEEKI E K L LK T N T I E E I K Q I |
| UniRef90-Q6LNN3 | S KL IE D GFile A FLA A K T P A D AL A L L L E |
| UniRef90_UPI000467BDEB | T F L S G K NQERLGKA A NVEELRTILLKE |
| UniRef90_UPI00031 |  |
| UniRef90_G2IH76 | EIL Q D K EKV N NILK S D NVETLYGYFN |
| UniRef90_UPI00036E | RLL R D QELTR KL RASDSDSAI Y AF L N |
| UniRef90_UPI00047CCA2F | RVFSDKE QVA QLENAT TVDEVLALIFGK |
| UniRef90_K6RKG2 | LV LM DEA NVEKI R S A E S E E EI M A V L N |
| UniRef90_Q9KGB4 | KLAGSKEARKAI E Q S T SEDEI F K I I |
| UniRef90_G9ZD35 | TVVGGEDVA A R L A K T T D P D Di R |
| UniRef90-A4XM82 | RKL M HEDVREKL Y N A K S F D DL I |
| UniRef90-UPI0003F9150D | TFLNEENGFDMLREARTNDDAQAlVS |
| UniRef90-K7T2L3 | HVLSDESLAARLAKTNSAEELR SVL |
| UniRef90-J0ZB87 | RILR R S EVVQKL R N T H D A N T L Y ALL |
| UniRef90_UPI00036E | K Y L L E GFAA KL R Q A G S A E EVV |
| UniRef90_D4MZZ0 | EII EDP E R L E QLK T T K NVDEI M E M F K |
| UniRef90_E5Z2W1 | RLLLDDA EFIGGKLMDTK T P E EVTE |
| UniRef90_A6TLI4 | $R$ SLMHSEI R E GL K N A K T A Q DVI GI F E Q |
| UniRef90_B8G623 | $R$ VLG $\mathrm{CA} A L \mathrm{~V}$ T RLLCQT R D P A D I V E |
| UniRef90 UPI000363619B | R MLA D R D |
| UniRef90_LOIPM1 | RSLMMEEVREELSKAE |
| UniRef90_J3JAU0 | S LL DN P DLVA ALK K A Q T P D DVQQLFA |
| UniRef90-C1CYR5 | RVL ADDALVERLSTTDNPADLQEALT |
| UniRef90_UPI00039A0620 |  |
| UniRef90_UPI000408A54D | ELIF Q D E S IE KL DN S K N Y A EI E K I I K K Y |
| UniRef90_UPI00047CF9D6 | ERFSEKSVRDELMSCQTPEQVRALLA |
| UniRef90_UPI000465205F | QLFSE Q S S V NILNARTENEIYDL F |
| UniRef90-C9P8M2 | SKLIE E G F I E R FL D A K T E Q Q ALE |
| UniRef90-UPI000461 | RLLKKRSFREELLQADSQEELYEI I A R |
| UniRef90-R5ELT9 | TLLVSDDFRKNLAECKSVDEFLN |
| UniRef90_Q45420 | IVCCSEVENVETMITKAATEEEVLSILLNE |
| UniRef90_GOI8J3 | QYLM K D GFAD K L RQA T S A D QVI ELFD K |
| UniRef90-I8QZ52 | ELI Q NESFLNSILLNAKGGDEVI E |
| UniRef90-F9S913 | NSLDDEDAVECL Q NTTNPADVLRILS |
| UniRef90_J1JW87 | RLLS D T K K L D DLA T T K DKDQI L A ALL L E |
| UniRef90-A9B4K6 | EVI E D E A I V Q Q A A T S D P S I L EQL |
| UniRef90_L8NAK1 | R AL GEEDL GQAL REAK T PEDLLKLL Q |
| UniRef90_UPI0002D7579C |  |
| UniRef90-A6CVW0 | KVLSADGVEQKLKQAKSANEI I ALLL N |
| UniRef90-C5D9V6 | RKLMDDEFREHLLQAKTKEEIMQLFEQ |
| UniRef90_G2IH30 | TMLMDEKFRNSLINAK S S G D FLS L ID K |
| UniRef90_UPI0004777C89 | HVIDREGVAEKLAAADDPEEVIALLS K |
| UniRef90-UPI0003780F60 | $R$ QL R D T KVA S GLR T A V D S Q A AFALLLT Q |
| UniRef90-C8NBS1 | NALDDSEAD\E MLK K T S D P Q AVLDIL L S R |
| UniRef90_UPI000369752B | LMV S EDEEMERILLKASSEEELLA I FEK |
| UniRef90_D4EI59 | GVI Q Q ETFVNRI KA A K T SEEVMKEIS |
| UniRef90_UPI0003161651 |  |
| UniRef90-A3XSX1 | NLI EFDEDFSKLRACKSPEEVARLI D |
| UniRef90-I7QVT8 | LVL D D DEY ID QLIQAEDS S MLDLI S H |
| UniRef90_UPI00016A7809 | RLI G D P PQLE RLLAARDPQAIVDAL N |
| UniRef90_S0LHF5 | IAFS K GVKEKILASENGAEVIEII N |
| UniRef90_UPI00037CC9D1 | ELFCS R SL REQLLTEQDPDNLYQLL |
| UniRef90-J8TSB2 |  |
| UniRef90_W6M1N3 | EMFSDQAFSQRLRES DSDQMLFDLLS GW |
| UniRef90_D0GPU5 | ELIF QDDES IE ELITKAETVEEI R R I V G K Y |
| UniRef90-B4U0A5 | ALFELEDAI SRLIACRTPEEVLALLVDE |
| UniRef90-I3YQP5 | ASFEDEELLQRLMTAT DPQVI YDALK |
| UniRef90-15C109 | RVLRDADNTAKI R G T K D A A I HS F L S Q |
| UniRef90-I3VTZ1 | KLMDEKFVERLKKANDKTEI L K A L N |
| UniRef90_Q38WT0 | SLLD $\quad$ P Q LVA DLKLLA Q T P E DVQELFA |
| UniRef90_C4Z9H6 |  |
| UniRef90_F0YZC2 | A NLMDDDFRETLK G T S TVEEIMKQLFS |
| UniRef90-W1INF1 | KRLLSDKNLCRRLRSAQS DEELYKLL |
| UniRef90-R7GA98 |  |
| UniRef90-V6Z463 |  |
| UniRef90-F3A917 | Q ALMDPEVKAGLDAATTKEDVEKVFSDF |
| UniRef90_UPI00031A3A6E | RKLMDDS YKERLL L S VQ T K E D A Y K L LD E |
| UniRef90_Q03HS3 |  |
| UniRef90_UPI0002FEC22D | HLI MDEEKRKELLN GNKEKI IELL |
| UniRef90_UPI000415D3DE | TMMMDQAFTTSSLINAKTPDEFLKLI D |
| UniRef90_UPI00040878DF | NVFNDP Q A IP ALAQA T S A D EVWRVIQ |
| UniRef90-S2XC92 | ITFS E EANVERIVNAKSADEI K A V FE |
| UniRef90_UPI0002E1D48D | HVLS S D GVEESLKNAKSAEQVLA |
| UniRef90-B1C6X3 | NTLCS K E AFEELVNAKDYMEI I Dil FKK F |
| UniRef90_UPI000407DFD3 | LVFSEEEEVEKLLAASDAAELYELL |
| UniRef90-N2A562 | 1 FCS DVSNVAKLADA QSPQEV IDLLLK E |
| UniRef90-UPI0003605D2A | QVLS DVPS RT QLL ${ }^{\text {V A T S A A E I M A AL N K }}$ |
| UniRef90-F0H2L5 | I LKEGF ID KLKA A N S P D EVY Y II D |
|  |  |





| UniRef90 IOBDF6 | RK LIHESFRQTLLTDAASAEDVLKALD |
| :---: | :---: |
| UniRef90-B6EN79 | N AL DEPGADEKLTSTNSVNEVLIVLS |
| UniRef90_L8JFY8 | EKLSNK QVCK Q L R T A K S DEELYQIL T |
| UniRef90_UPI0002E0D2FE |  |
| UniRef90_UPI00036B2B0D | KTLSNEE】RA QL Q S L D D E A A Y HLFA |
| UniRef90_UPI00036AE1E5 | RKLMDAGFRERLQAAPDAASLLG |
| UniRef90-Q6LQG9 | SKLIED GF T D K L R A A K T A E E AVTLL T T Q |
| UniRef90_V5WYG1 | KLVESKDDCEAI DQAQSAMDIHSII K K |
| UniRef90_S1NQ20 |  |
| UniRef90_U7NYW3 | HVLDREG I AERLA A A D S R A E A A L L S K |
| UniRef90-A5F778 | SKLDEEGFVE QLK A A E SVEQALALIF |
| UniRef90-R6QEH1 |  |
| UniRef90-N2IVZ3 | RALGEKS LDEAI R R A ESAEAIVQLL |
| UniRef90-U5T8C6 | ELLFRDERLCD QL R N CNS D A L L Y A I |
| UniRef90_UPI0002 |  |
| UniRef90_UPI0002E681EC | K I V E K G L I D Q |
| UniRef90_UPI0003B | RLLR D K T I CD KL R G T D S R G G L Y A I L T E |
| UniRef90_E3CSK0 | ALFEDLENSVERLKACKTADEVLAMIDE |
| UniRef90_R7PNP7 | R DLM D D D R R G L L A S S $\quad$ E D 1 K K C L |
| UniRef90-A7C005 | EMFSDDNFREKL R C T S C CDEKY HLL |
| UniRef90_UPI00036C8B8C | HVLS DD A VAEQLK TAPDAETLR A L L |
| UniRef90_G5INR8 | TIFFS $\square$ P ENIE IL N S L R T P GEVY QI L K K W |
| UniRef90-F0GTM7 | KMIMKDGFIA DLLK K A E N P E DVVYKVI G K Y |
| UniRef90_UPI00035DDBC5 | T I I N D R K L M R F K S $\square$ N N Y A D L K Q L N E |
| UniRef90-D2ELQ9 | RFLSDDNFINDWHNAKTKDDLLKLLKKN |
| UniRef90-R2R2U9 | GLI Q Q E FVQAIKEAQT TEEVMEKIN |
| UniRef90-W0HYK6 | TVLGETSKRTLLMTSRERDDLLHHLFQ |
| UniRef90_U5F5N4 |  |
| UniRef90_UPI000478 | RLL L D K A L I S K L R A A R D S A A L Y Al L |
| UniRef90-I8S | ETF Q NPKVLE ELL G A T NPKEI EEI L K |
| UniRef90_D3QD17 | A LF D L K D Al R RL NDCQT K D E |
| UniRef90-R1CML5 | EKLMDDEFRTALK K A N |
| UniRef90_U1SBH5 | HVLGDED T A T R L A T LT DVKKFRAl L |
| UniRef90_U7VA55 | RLI R DENFREKLLNCENAKEVLEC |
| UniRef90_A0NKD5 | RKLSHPDFVQQL K T G S RKEI Y QLIS Q |
| UniRef90-E8XWJ6 | K K L A K TVCRRLR GAQSDEELFQI MTE |
| UniRef90_C3XCI9 | A MFSDGTCRT FLSNEANPERIHDVIVNW |
| UniRef90-UPI00036742A4 | $\square \mathrm{A}$ LS DEE円F DKLLT T N D K G EVITYL L S N |
| UniRef90_UPI00046F2B92 | DLLM T D GVIE DLLTVK N M E D Y L V M K K Y |
| UniRef90-J7KS52 |  |
| UniRef90_D0GKH0 |  |
| UniRef90-UPI00036AD423 | ETIEDESVVHHLAKVT D S NEI Y R T F S |
| UniRef90_C1D971 | QLFS RRQLREALLAAPDAKTI Y Q L L |
| UniRef90_D1AJV6 | MLF D DEAAFEKI RKAES T DE I I GL L K |
| UniRef90-F0F1M4 | ERFADKNVRDALLLGTQDAAAARDLL |
| UniRef90-M4RHB2 | SVLS DEQAAETLAKTANLDEFDATLS |
| UniRef90-K7RJ76 | K AI Q D A D F M S L R A S T S P D E |
| UniRef90_UPI000348EE32 | RVLGGDEAHVKRLWT T P D P R Dil VEAL |
| UniRef90-A8IJQ9 | R ML R D P A T ADKL R G T REAA DI Y A L L T |
| UniRef90_T0D1E5 | R R L M H Q D FVD HLR D A S AESI TS Yi Q E |
| UniRef90-K4FIP7 | S ALA D DEVIA QLLDES DPHKI DRLLFSQY |
| UniRef90_I3CJ80 | EMFSNEKFRETLRNLP DCQAKYAFMVE W |
| UniRef90-T0AWP6 | QMFSDRTFREELLHAPDAAHDHQMFMNW |
| UniRef90-UPI00047AF18A |  |
| UniRef90- F7NGX7 | 1 M M M D A D K A K LLA AENEDDLFACLNQ |
| UniRef90-U4KCD8 | KVLS A D GVEEQRLK K A A S Q E S I Val I N |
| UniRef90-G4R9A9 | RLL R A D GVV V RLL R A T K D E T K L R D |
| UniRef90_C7LMD9 |  |
| UniRef90_A6T2R1 | EMFSDEAFRNLLASTEDPAAVHARL |
| UniRef90-F4DFV1 | T RLLEPGFlE QMKA A T TVEQALT L L K Q |
| UniRef90-14E1U7 | A L F ELENSIA RLEACKSEKEVFAMIDE |
| UniRef90-F217T8 | VVCS DMDSVVRLVNATSAQEI DA I FEE |
| UniRef90-K2LWU1 | RLLRNQGMCDKLR G A G S A D A I Y AL LT Q |
| UniRef90_R8WMR1 | RVLSS D D NVPQAL QKA K T P CEVLLTIL |
| UniRef90-T3GHX8 | EMMYEEENVKLI I N G D S S S L E L I N |
| UniRef90-R5FL82 | D LLEDEGNI SAMRRAQDAHEI ARLI R K Y |
| UniRef90-E1SCN6 | SLLLEDEETLVR\LRQAS SVA EVIDIL |
| UniRef90_UPI0004795563 | RKLM M TETREGI YSAKNFADFIKAFD |
| UniRef90_D7UWQ8 | TKLMDDQVVLDL K A A E S P EQVIQSFTE |
| UniRef90_UPI00037CA66F | KVLS A E Gll E Q QLK E A S T A Q Gl V S L L N |
| UniRef90_V4TJ05 | R L M R E P GL A A K L R S A R D A G AVY T TIL S Q |
| UniRef90-H3NNN5 | TLLKRDEI L N T FTS S N SVDEI Y EIILR N |
| UniRef90-Q0ATI8 | RLL R R E DV R Q R LR A A P N A D AV H AVL A |
| UniRef90_K8WWK6 | HVLSDETI TQAMAKA DSAELLLRSLL |
| UniRef90-A0KI69 | TKLLEEPGFIAS MQA A T S R T EV L A L L |
| UniRef90_E8UJF0 | AVFEDP Q N I E K I A Q A K K E El I NI I K |
| UniRef90-N0B0Z8 | RLVRDPATLEGLRNAKDVNELRLVLTK |
| UniRef90-W9BJ93 | ALLDNNDTMAKLRTARSREEVVALLL |
| UniRef90-F1Z318 | RL I Q D E A R L D RLA R T T D A A L I V E AL Q |
| UniRef90-A1RBC5 | KI F T N K A QVA QL EEAT T V D EV L E L F G K |
| UniRef90_U6BAA8 | VI CSDEENVERIVAA K S K E El I ALLLT |
| UniRef90_UPI000380458D | RRLV V Q P R D RLLA A A D A EVVELLV H |
| UniRef90-C3WZ63 | RLI REEEFRDNLFNCKTPKEVI DCI R |
| UniRef90_F5SKX6 | RKLMHESFRDELMMAKTKGDUL R A L S K |
| UniRef90_UPI00036F55B0 | QMFSNRAFRERLCEAEGAEATWSLEES |
| UniRef90_C8WUU0 | RKLMHDDFVSALREANEVDQLVDTIR |
| UniRef90-F0Z0M0 |  |
| UniRef90-D4GYE4 | RSLMMEDVREKLLEAESKQTV Q DVLA E |
| UniRef90_UPI00037C7809 | $R \mathrm{~V}$ L R D P S I VA T I R A T R D PS AL Y S I I A Q |
| UniRef90-UPI00047944A6 | SVFPNVNLLKQIRNSSNTE EVAKLLE |
| UniRef90-E8M6T6 | T KL I E E E Fi E Q L K G A Q S V E EARALL T |
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UniRef90 UPI00046EDE07 UniRef90-E3ZGE9 UniRef90-R2R7S7 UniRef90-E3H136 UniRef90_10x9A2 UniRef90-F2N835
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UniRef90-V5RIJ5 UniRef90-A0A011 A55

EVLRPGNRTLPSER
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LASULPAAQVLVSVDATSKKRAEEEAGELEASGEHGLSR LEDLTPGRSLVNVPGGSKKRALEYDANLVAREPDLNQ MRKLTNENLIFLNSDFKNKKEILGVFIQKLYDEGKITE IT TVYMSEELISLNDKARTKDEVLLELSKLMEASPNISK LSEVLSLDCTKSAVHCTSKKRALEMDSEIVAEHTGLNS $M L T$ NQDDVRLGCHATDWREALAQAAQALTDAHRVSA 1 K D L NQDDVRLGCHAT | 4 |
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 VLVAESVVLTGTAASRDAAIDEAGALLLARGAVNE MLEEVVLDPRLIKLDLQANSKRDAB DQLSELLKAADYI ND MLRYFLENNLLNDDEHPETWEEAI RVAGKVMKQDKLVTD

1 LINNLTPGRTQTGAPGGSKAAVLERIAELAAQELGHDA LIENULTPGRSLVNVPGGSKKRVLENLSAKLASNNATTA
 LASLEPAAQVVVNVDVTSKKRAFEEVGLLEEDLHGLSR MLE VLNAQHVMMHQVAADKPAALALLGEVLVADGLVAP
 MPTDLLTAESVRLGGAARDRADAI DQCGALLVELGAVEP KE F K RVM DLDMTAKTKDEVIRHLAGLLMEAGYIQE KELESEDHI Y| DENSTTQDEAFKELASUAKKHGYVEE $M \square K E L D$ K N Q DDSVSDWQEALSDGAYCL ZKKGFIKE TMLKYFYDNDLVRI DKTPTNWREATNVASENLKEKNIITD LIEELIRAEAVRVDVPAADRTAATAAGRLLEQEGAI EP DVLP LSSUVLGGTGSTASAAIDEAGGLLVTAGAVEP MSVLLNTKFTSINREATDRDHVLTAMADQLDESGITKP IDDLIPESHI ALDDPPNEKSACVEYLLDLLVDAGRVDD LS GYTVERIKLDQSCDSWQSAVEAAGQLLAADELIT S पS DLLPVAAVRLDVRAADWREAI RAAGGLLTETGATTG LETILPPERVLFDVPGREKRQAL LEELAQLIMWEHGYVED MLT GLPDDILLDRHADHWQAALDSAANALADAGLVAA STLDTPQQVVLDLTGADRHEATRKLAERLVATGRCTD LTELMTTELVETELKGTTRDETIEELIHKLDNEGSTKS LIDEAGAVGVQETDWKKVI ELAARPLVEGYIHA USDMTTKDFFYCNYQVSDKETLFKEMSKDLVAKGFVQE S



| UniRef90 R6Y7R7 <br> UniRef90-A1TVV6 <br> UniRef90-C1DQ51 <br> UniRef90 W5SN42 <br> UniRef90 E3H756 <br> UniRef90_C3WCC1 <br> UniRef90-W7ZET3 <br> UniRef90_U2ZFG9 <br> UniRef90_E3FX70 <br> UniRef90-F9QCI9 <br> UniRef90-W1USX0 <br> UniRef90-UPIO003A6853E <br> UniRef90_UPI0003F904B8 <br> UniRef90-UPI0003808E85 <br> UniRef90_A0A037UQY7 <br> UniRef90-M7MTX9 <br> UniRef90-B5QP68 <br> UniRef90_C7XL96 <br> UniRef90-A0A024Q8V8 <br> UniRef90-A8APF2 |  |
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## UniRef90_UPI0002D57ADC

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UniRef90 K8EKZ7 UniRef90-K8EKZ7


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| UniRef90 R61 | 硡 |
| UniRef90_A1TVV6 |  |
| UniRef90 W5SN42 | FNNETLRQE |
| UniRef90-E3 | LA DDDFREELVK |
| UniRef90 ${ }^{\text {C } 3 W C C 1}$ | RLIREESFRQGLLDC |
| UniRef90-W7ZET3 | AATKKDREVFLEASSDEDIETMIMTY |
| UniRef90-U22 | ERLNDKQLLKQLRSAQSDQELY |
| UniRef90-E3F | HVLEREG |
| et90-F90C19 |  |
| UniRet90-W1USX0 |  |
| et90-UPI | EFRTL |
| UniRef90-UF | RKMMDETFRDSLKGADTKK |
| UniRet90-UP1000380 | QLFGDDAM |
| UniRef90-M7MTX9 | VFIMDET |
| UniRef90-B50P68 | QLGHDAVV |
| UniRef90_C7XL96 | DMLME |
| AOAO | M |
| UniRet90_A8 | C E D |
| UniRef90-UPIO002D57ADC | RTLMDDET |
| Ref90-C5EF |  |
| E5BEG9 | RF REEEFRNTLSCK |
| UniRef90_HOJ9Q0 |  |
| UniRef90-Q87WT8 | SMLDRADVRERLRSAKS |
| UniRef90-G4 | ADANS |
| UniRef90-UPIO0035 | VIDETVMAA VNA |
| Uniref90-A0A037UM | KKLLNSNLRQKLKTSNKA |
| UniRef90-F8GZ98 | RALGEGDLSEALQKAESPEAI |
| UniRef90 K8EKZ7 | MKLMD |
| UniRet90_UPI00040A18E |  |
| UniRef90 G1 | GKI GKDSLVEALQG |
| UniRef90-UPI | GVLTDPERAARLRSAAGVDEV |
| UniRet90-G51L | GKLGNDSDMTKLQTAKSYDEL |
| UniRef90-UP1000422 | K |
| UniRet90-G5IQL5 |  |
| UniRet90_D5U7M1 | DFLCDNEKLNKL |
| UniRet90_D1AN04 | D |
| UniRet90_J9YJF2 | TLLMTDGMIEALSDIETLADFVQVMGQF |
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| UniRet90-UPIOOO3660 | R EFRNR |
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| 3T5V1 | QLI QNDSLLEELMRAESGKEITKVIK |
| UniRef90-D9WK78 | MVPEFRERLAGAADVGAILGV |
| UniRef90_R2QQ48 | A Patar mo |
| UniRef90_UPI0003A346B3 | ADPATARALQEAADP |
| UniRet90_B5Y739 |  |
| UniRet90_UP10003708724 |  |
| UniRef90-HOJ | DRDGVAT |
| UniRef90 H1LIY | GLFPDKETLIAKLETUNDKDEFIK MEN |
| UniRef90-E6SD2 | M K D K A A A ATSEEEV |
| UniRef90- 55 EJX4 | DLLDNKPRLERLRAAKLWQEV |
| UniRef90-R5EYA7 | ECLSNPADVERLVSC TKEEI |
| UniRef90-L2LK12 |  |
| UniRef90 ${ }^{\text {H3l }}$ | RKI DDTKFRENLLSAKTVND |
| UniRefan-H6SK13 | QDEATLQRLFTTADASE |
| UniRef90-S6C8L5 | MDESFRAKLITAADPKEMYEV |
| Rei90_D9SPY6 |  |
| niRet90-M1RV |  |
| UniRet90-UPIOOO4E | MTFGNNNFYKEFYNVKKYEDIINLTNKY |
| UniRef90 S3JMW | LLFKSPEKRQLILETQD |
| UniRef90 C5F761 | KPSFLRILAEAQKPEN |
| UniRef90-U7VCF5 | DLSNEESFLQDIKR ${ }^{\text {S }}$ KKQED |
| Ref90-UP100047 | RQLSDKALCRRLRGAQSDEELYQIIME |
| UniRet90_G4L5W6 | LGNESVVE |
| UniRet90_C8NIS0 | LMKADVKEALLSAKTAEQLEESLINSH |
| UniRef90_15BXH2 | VA A |
| UniRef90-R5F | , |
| UniRef90 UPIO0046EDE07 | K E |
| UniRet90-R2R7S7 | S |
| UniRef90-E3H136 | RSLMKKSFTASLREAQTPEEIVDLVN |
| UniRet90_10X9A2 | D N |
| UniRef90 B1CAC2 | DK |
|  | AEDLRQDLRKARSREAIAQ |
| UniRef90-F811Y3 | MHPEFVQDI RQATSPEALEA |
| Ref90_W881M8 | RLMSDAGIIRQTLTQSTDPREVHQLI |
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| ef90_UP1000373 |  |
| UP100040BB7AB |  |
|  | GYLIKQEVQAGLISAKSVDTVKTLFSQ |
| UniRef90-A0A011A55 |  |
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 TSALIN TELLELGNRLNCRPGKEAVIREVGMLCOSGVED TGD MLA
 MLLA LLKEEYCRFDAETDDWKEAI AMACEPALKNGLVKP LLD DVQHVRMKQHATDKAQALQCLLVDLLVEDQLVTP MDRKMLKPGNVELANLESKNKEDLGNQLGASSEREFGLEQ पHELINKRDISFAQTAKNKTDALTMIVHDLISKGCVDS KDIMDLDLIALNVEAEDPKSVIRELGTRMLAKNYVKD LTVVTSADI HFDHQVKTKDEALQRVVGSLTAAGHTQM LIDVLDERMIDDNAEAANKEEVLTLLAGKLKDAGYDAD HELLTPARINNVPCDKEALFSLCAATLAADKSIDQ MASALICAERI RLLQQRATDKESAIRAAGQLLADAGCIDP MSKLLSENCIVFDDDAAEKQDVLMALVKELHAAGKI TD QVITKELVDLSIDADSKMTAINLADRINQAGRLHE LLDLTNQNLWLLDTPEDNQQDLLDKLIDSPELENLI TN MNQLITNGLI SLDQPGGDAEAVIRALADRIADQGRAQD MDWEDLDKKLI HLQAEAGHANDDFDQLGTCFINEGYSRS TTELMDEGCVFDDADFTSKEDAIHALVGNLVVEQRCEQ

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UniRet90-W7AZ66
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UniRef90 G5INS9

 UniRef90-K9ERU5 | UniRef90_D1AHL2 |
| :--- |
| UniRef90 UP10003 | UniRef90-UPIO0037E1A3A UniRef90 M3GRG6 UniRef90-R6UP27 UniRef90-UPIO003FE5F05 UniRef90-G2FQ24 UniRef90-17JXUO UniReffol $=4 R K 50$ UniRef90-A6D1R2

UniRef90 R2Q7E1 UniRef90-R9LTA2 UniRef90-R2S664 UniRet90-F3YSX9 UniRef90-UPIOOO369CFE1
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TYVVEAMDDRENEVITTYM GAVLQALEGRENLGTTG TVLVDVVSRESTMSTGMQ
NFSKELTETNKLGPYYI PF KEEDVWQREEVVTYGV ${ }^{60}$ NF F AlP HGT ${ }^{70}$ GNFAPHGTDEAKTS\|HSTG TAPQI ALLHLTPKEEWKNNAI S EAVYEALLGREKLGSTG SYVDEIDQCVEEHGPYGM
DRVVEALNAREALGPTGV

 DYIHGLTGREQQSATY L FIPEIAFPHAK EYYDAMQARNQDVSVYM | $M L$ |
| :--- | :--- |
| $T A$ |$l_{G}^{A N}$



 KNIFIEDUFKRESQGDTGLESGLAIPHGKSMGGVKNTSLA GYLKGVFQREAQSSTY LGHGIAAPHGTVETRSKVNKTG EEIFSGLIGRERLGSTG IGSGIAIPHCRLENATKASGMM

 VEAFKKDVYGRESEGTTGGGNY:AAPHGKS DSVTQVGDA ATFDDLLRAREKHSTTNVGEGVAMPHAQ GSIIRAPTLL
 GYVESVVNRENLTTTG MGFGIAMPHGKS SHVKETTVA DYVESI IN LLKTHGSYMVIVEH:LLAHGRNEDNVFETSML ADALFADAWAREQKTATGVPGG|AIPHCRSESVTAPTLGF GF LADVAAREAQMPTGLDGGDGI PHCRSEHVSAPTDA DYVEALKQREAQFPTGLDDNGFGVADPHTDAGYVLHETEG AVALEQDVWAREMVFSTGLGNGFAIPBTKSEHVASSTVSIA
 SYVPAVVEREKGFPTGLSMGDYGIAIPHTDREHVNQSVLA KTQFRKAVEYRESLSETGLEDGIAI PHGVHACVNRAALS TYEQSVISREEKYPTGLKLGLNVAICHTEPKNVTKNTFFL

##  <br> E

$\stackrel{T}{G}$ GFIHDVLAREELGSTGF ENQIAMPHGKS SWVKETRIA EYUHTMICNDEKYGPYIIVGKGVALAHAKPNETVLSEGLS
SMVLRSLWRRERHGSTG E F R P A V L E R E K T F P T A L F T G S I N V SYEKAL NLREDKFPTGVVLPELSAMLPHADPVNVNKPFLA
 EFTASVLURE KVVANTS L $G H G \vee V)$ GM GYGVAVPH
 G

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|  | $\square \text { FCS T LDNVVVK\|L VN A E NEA E\|I M T\|L L D D }$ |
| :---: | :---: |
| UniRef90-B9JKR2 | RRLRAE GVLPAMRQAKTADELYS |
| UniRef90_S9QGT4 | RLFKNPRFRAS LIEASSVEA I HA |
| UniRef90_F4LNK5 |  |
| UniRef90_C7LMJ3 | NLIFSNKDFL NELEKVKNTQDILLVLQK |
| UniRef90-T6YRD0 | RKLVNKNFRQSLFA AQDAQSIL T |
| UniRef90-W1S0S2 | ELAQSPESLD KLRTA Q S E EL F N |
| UniRef90-J6FMG0 | RKLID K F R R G GVLQQ D DPDALAG |
| UniRef90_16S402 | ELLMMD GLID RLLAD T D S IE D YRVVMQEY |
| UniRef90_UPI0003B | $R \mathrm{R} L$ Q S E GVLQSMHKARNVDEFY S |
| UniRef90_UPI00046AB1D8 | R TLR D A S I C K L R S N S D A G T L Y T L |
| UniRef90-A0A011B2K4 | RSLLMHEEFRNRLLTCEDKRQLFT |
| UniRef90_D9R1G3 | QCLADPEDVNRITTRY SAQEIHTM |
| UniRef90_W7AZ66 | RKLMDPDFVAKLL KSGSEQEIL |
| UniRef90-R6RHI2 | R I L A WEN N M E R I K H $\square$ S S Y E EL L S |
| UniRef90-S3T6N5 | R AL 1 N DVAD QVK Q A Q S A E Q I I A |
| UniRef90_19L4K4 | $\square \mathrm{Y} C$ S DVA NVAKLA D A Q SEDEI I NLL K E |
| UniRef90_E2SNF3 | QLSRSSTLLQQQLDACSCAQEVLHIL Q |
| UniRef90-A0A033UU | RTLMDDDTREKLDNAESSEAI Y N I L K E |
| UniRef90-W0AJG | RLL R D R T F VA KL R G A S S T D A I Y A L L |
| UniRef90_U7VE34 |  |
| UniRef90_E3BMG3 | HLLLSDKDIDNNI A NLENDEQIVELLS |
| UniRef90_UPI00037B3760 | ELFFSRAEVLAAL R D T T S DQQL F |
| UniRef90_UPI000367CC62 | $K \\| F Q N V E L T M N I R N A T T K K E V D N L L D$ |
| UniRef90-FOPEZ3 | RKLGNDEVVREFLQS K S P E DVVKAFS |
| UniRef90_UPI00037A070F | H A L G D D RVPVALLSQANTPQAVLEILA |
| UniRef90-R6UHL2 | RKL G N DEAVERLLQQVENVEELKEIFA |
| UniRef90-C9XQG0 | T RLSNEDYMNMLLNSKTKKELFNNLD |
| UniRef90-W0IOY5 |  |
| UniRef90_B2UCZ6 | RLL NDDARLR HLFT T Q A A E L VA AL S |
| UniRef90_G5INS9 | RKLMHEEFRESLRNS SKEQVEAlLITE |
| UniRef90-R2XJJ1 | RKLVHQEFRETLA HATS DQEIVDLL N |
| UniRef90-K9ERU5 | RKLTTDSEFRQKLL Q V S D K E Q L E Q L S E |
| UniRef90-D1AHL2 |  |
| UniRef90_UPI00037E | RALVRKDFTAKLRAAQRPEEIVALLV |
| UniRef90_M3GRG6 | KVVLNEEQVSRILLSAKSHKDIVNY |
| UniRef90-N0CQG8 | $R \mathrm{RLLMDPEFTAALRAGNDPGTV}$ |
| UniRef90-R6UP27 | RII Q D N AVLEKI Y Q A S S A D EVID I V K Q |
| UniRef90_UPI0003FE5F05 | RKLVHEEFRQQLLAA P S A SEIL Dil |
| UniRef90_G2FQ24 | RLL I H G S F LEESLRSAKTPAEVKSAI EA |
| UniRef90-17JXU0 | ELI MDEAMRATLIF S G N I A DI M S CIIR |
| UniRef90-E4RK50 | ELI ENDETAEKLIRKT D DL D Y I Y N K F T |
| UniRef90_A6D1R2 | RKI M H A EFR D ALLF NA Q S S SEl E Q K L |
| UniRef90_R2Q7E1 | GLFPQDVETLK Q L E Q S S CEEMY Q L S K |
| UniRef90_R9LTA2 |  |
| UniRef90_R2S664 |  |
| UniRef90_F3YSX9 | KLALDDEEK M Q Ki K M A S S K R Di Y H Y V K |
| UniRef90-UPI000369 | RLLLKDEDFKKLFMESDTQDALWNLL A |
| UniRef90_E81 | RSLM ND QFMS GLR A A Q T P A D AVR |
| UniRef90-R2RFB5 | ELLMMTD GLVEDLVATKS |
| UniRef90-U2NW62 |  |
| UniRef90_I9BPF0 | SIGGRNPALIFSKCIQAKK T D D i Y HiL |
| UniRef90_V5WHR2 | RLLHDPAYRSRFLEAS DAES FYAVLCQ |
| UniRef90-A0AFI2 |  |
| UniRef90_W0N919 | R FVR A PLLFREEL RLLARSADEVMA |
| UniRef90-UPI000262CEE8 | ECFSNDQFRHELQMGTDASELFE |
| UniRef90_E7N4I1 | T MVVGD DEQLA ALLFA T K S A D ELLY AVVF |
| UniRef90-UPI000380176B | R GLS QPDTI A ALLRRAGDASA |
| UniRef90-R2TDL3 |  |
| UniRef90-UPI00036F9D82 | TLFGKPDVLAADLYNANSNADMAN |
| UniRef90-UPI00024919DB |  |
| UniRef90-W1KAF7 | HFLED GAFFELLQT T D S Q K Kir A IVK |
| UniRef90_UPI000467BE9D | RLFEDDDFKNFLK K K N N P DEI Y S Y I EN |
| UniRef90_D5X3G7 | RLMQDDMRLSALFSTLLNPSELASALR |
| UniRef90_S3XYR8 | QVFAEEDRRRALAEAEAPDEVLAVFD |
| UniRef90-G4L5D1 | SLIQKEEEVLQKI DK S K S CKEVLKLLLY E |
| UniRef90_W6T593 | S L L L $\quad$ K QL L T DL Q TVT S P A AVQQAFEQ |
| UniRef90_UPI00046397C2 | HLVQDDRMMEELVRAKDGKEI Y HKI |
| UniRef90-S6HRC2 | ELFSEEANRQAL RQCFDAASLYQKL |
| UniRef90_UPI0003B47824 | R T L R DEGNLA RLR GASNADAII Y ALLA |
| UniRef90_F3WY80 | $R \mathrm{RL}$ R D K GFV T K L R G A G S P D A I WALLLTQ |
| UniRef90-R6V1X9 | GMFSEKESMERIKA ST T P K Eil M N Stile |
| UniRef90-D1AHU1 | RLLEEEFSFRKKMAETNSKEEI TEELLDKY |
| UniRef90-E6QSF8 | QLFGDKTMREKLLDS |
| UniRef90_L8XS41 |  |
| UniRef90-Q65EY7 | RMLV VHEDA RQQLLEA S SPDDI LS TFSS |
| UniRef90-S0RPG5 |  |
| UniRef90-H1PQP4 | NTLREVKLLLD T L E N CQT\S EI Y ITGFKN |
| UniRef90-UPI0003B4C103 | DLLASDDALI K KI T Q M T KVSEVYSVMR |
| UniRef90_F4DR29 | RALGE G DL GQAL REATEPAQILELLLQ |
| UniRef90_S2NZ56 |  |
| UniRef90_E7NBT7 | $R \mathrm{GL}$ MQSDF TDAL RQAADAEEI ARIVTR |
| UniRef90_UPI00036DE5A0 | RNLQQVSFREKIMMAEDSAAVARLEAD H |
| UniRef90-UPI0004644DD3 | GlFS D G SVLT RI R T A G S A E E I C S L G EF |
| UniRef90-Q21FU2 | EKLQKPEFVKGLRNATSDA QLFN |
| UniRef90_A8FC83 | T LFR K E EVMTKLS DMTS Y E E AVDVLQK |
| UniRef90_G8MDY | EHFCDQRFRGLLRECSDADAVCRLFA |
| UniRef90_UPI0003B78B98 | $K K L L D K R Y L R Q L R N A K D N D S L Y Q L L Q$ |
| UniRef90_L8E7C8 | K R L L D P A File Sil S T A P TVNEFMHVL D |
| UniRef90-D5VPR9 | RVL R Q P EliRS ALR Q A S A D Al HVLLT Q |
| UniRef90-F4GQI2 | RLMS DASLRQALNTET DPTVI HRLL T |
|  |  |



## UniRef90 E6KWB?

 UniRef90-UPIOO0305A196 UniRef90-A1U900 UniRef90-E3FO999 UniRet90-DODRJ2 UniRef90-QOBV42UniRef90_R2SLF2 UniRef90-B30S94 UniRef90-R6JL69 UniRef90 Fo.JFS UniRef90-R6QRW7 UniRef90-J2DV68 UniRef90-UPIO00400DA1D UniRef90-UPI0004099DA0 UniRef90-E1R4W4 UniRef90-JoZMO2 UniRef90_R5EAS1 UniRef90-R2NNC3 UniRefefo-R3WB27
UniRef90 V5X6U6 UniRef90-UP1000366367F UniRef90-D1AKT2
UniRef90-A0JRN0 UniRef90_O5HKT2 UniRef90-H3MIT3 UniRef90-I0GSY4 UniRef90-W1SS23 UniRef90-UPIooo3792CB3 UniRef90_G7SSA1 UniRef90-K6V5W3
UniRef90 N2AFY5 UniRef90-K2G4A1 UniRe990_R4UZL5 UniRef90-E2SP70
UniRef90 C5F6Y3
UniRef90-F2GA56 UniRef90 101 IE30
UniRef90-UPI00036FDCB4 UniRef90-H1R2LO UniRef90_G8RJ54 UniRef90_UPIO003722BA4 UniRef90-Q2LSN1 UniRef90-UPIO002F072FB UniRet90-D1AIK6 UniRef90-SOSMK7 UniRef90-FOTHN1 UniRet90_A0A024HY26 UniRef90-G2H412 UniRef90_UPIO002DF996D UniRef90-M7E4Y9 UniRef90-R2PKD1 UniRef90-E3R206 UniRef90-D5T5B2 UniRef90-T4VIP3 UniRef90-K2IVN2 UniRef90_U3H253 UniRefifo-U2UBJ3 UniRef90-A4EH33
UniRef90-G4L3W3 UniRef90-E4LMY8 UniReffo-G2IH75 UniRef90-H1AQK2
UniRef90-UP10002D918DF UniRef90-R7BW36 UniRef90-R1IWT8 UniRef90-A0Аоз3UA84 UniRef90-T6H5HO UniRef90-F3KSA9 UniRef90-W7DDW1 UniRef90-C5J5Q8 UniRef90-D1ARV2 UniRef90-S7T2G1 UniRef90-UPIOOO37CB301 UniRef90-T2NIR2 UniRef90-UPIO0035E47F6 UniRef90-L1LV71 UniRef90-E4KN72 UniRef90-U2YQX1 UniRef90-R3BTL2 UniRef90-DODS07 UniRef90-UPIOOO4678042 UniRef90-T2NW83 UniRef90-M5DW46 UniRef90_C6XLM1
UniRef90_D6DVA3

50
60
QCCFDCLIFTREKDGNSG GUGG|AMPKGRLPNGGKPTGVF EFLEAVLTREEEGPTGALGEYLAVPHGKSEAVKAPVFAC
 SYKDA TLKREQNFPTGLMTTYGVAIPHCDSENVNKPQIGF RFLLSVYKREAMGATWLLNDGIAIPHGYPEHVIKPADAIG AYTESMLKRENVANTWGLGHGVVIPHGMVDDRAMVRTDG GYLDGGVKRELGFPTGLITEYLNIALPHSDTEYGERPFIY

 GYEDSMLERELEHNTYGFGGGVAAPHGNENSLNQVLKSG DYLEA VK KEYRNGSTMMDTDSFCMPHTNSGSGADGVGMS


 SYVDAVIAREKVFPTGLAADGHN:ADPHTDPEHVLRPGMG ETRRAFNEREEEYSTG GQEGFAIPH GLIAAALAREAQSATGLP NALATNLICRERLGSTGMDGQGiAAP KYIDEIIHITETFGAHFVFQNEVAIPHGRASKNVNVSSVS
 EYITTAMLDVYKDFGPADVIDSGLAMPHARPEKGAIRTGFS ALAGDALAREATAPTGIPG GIADPHCRS SHVLTASLG GY EGMLKREADISTY VGKG|AADPHGEAAVKDSURQSG EYLQSVLDREKLSPTGF GGGGLAIPHGKSTAVKEAAFAV GYLAGMLEREAQITTYY GGNGIAAPHGSVTTRALVKKTG ALLADVARREAMMSTGLFGDGG|AADPHCRSTVAVTEPSLA SVIFDSL FAREKGGSTG GGQGVAIPHGRIGGGKQAAGA NYUTRMI ELIHGYGPYIVISQRIAIAHAQPEDGVLHLGUS
 A ADGLLAAAMAREEQSATGLPGGIAAPHC AMIKVLLEREKLGSTG 1 GD G A A P PH SFLNSUCEREKEFPTGMDLGKYKUAAP
DFLERLVKREKEFPTG|LQLMNGAAIP KLFEAFIKRENEVSTGF ERGFAIPHAKTADVVOOP KA AVALGVLQDREGLGTTG TGDGVAIPHGKLATISDUVVAV GYVADVMAREASSSTGAVGFSVATPHSKSVHVKEPSLAF
 SYVDAMVRAVEEYGAYIVIGKNLALAHARPEDGVNKLGVS RKLEADLWAREAVFSTG LGFSFAI PHSKSEHIEQSTISV TYPMADLKREKNFPTGLSTDDGFAIPHTDAEHVNRDQVGL SYYEALLNKDDEFGSYFCDAPKDAMPHARPEDGALIKTDLC NDTVDALQDRESLGPTGVGHGVALPHARDEGLDRVVGAF GYLAALQAREGQGSTY LGQGLAIPHGTPQTRHMVHATG DAVYKAFMARENEGATGM ENGFAVPHAKS DVINKAGLL DFADKlLEREETFPTGIEQGAFGVAIP
 QFLDAVYKREAEGVTGLI GDLVADPHGTSSKVNYSQIC DYIPAMIRRNEEASVYMGL GLAIPHGTEDAKKNVKKA
 RYVDATYHSHDTLGPYYVVGPGIAMPHARPEEGANKLSLA ALVADSLFARERLGSTGGGHGVADPHGRDKGLKTPLAA DLEKAI MESTAQFGAYYVLEKGIALLHAPVGAYCIKAAAS EYVESVDDMVYKHGTYMVLKKNFILGHGNYLEKVRKAGLS


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| :---: | :---: |
|  | EVILIFAVVVPENGDYVQYJ |
| UniRet90-A1U900 |  |
| UniRef90-E3F |  |
| UniRef90-Dot | LKEPVVFHQMGDNSEVKIIFMLALKKSGDQLSMLQQLM |
|  | LKEPIYWEKDLLMADLV FMI |
| UniRef90-Q0BV42 | G V |
| UniRef90-R2SLF2 | GDNQVRDLFFLGDKDPSKQVGLL |
| UniRef90-B3QS94 | KKKAVEFDADDSQPVRFVFLLATPEQAQHLKLLSR |
| UniRef90-R6JL69 | KKPVIFGNFNKKKICAVVVLGTNNRKE |
|  | PVVWGN |
|  | GRSLK GVEFEALDHRPCTIFFLVLAPEQGMHLRVLAQI S |
| UniRef90-R6QRW | YN |
| UniRef90-J2DV68 | AVDDAPVDVVFALLSPQDSEHL |
| UniRef90-UPIO00400DA1D | VILKRPLILSN GREVEFVLMLAAQNDDRHLFAMGQ |
| UniRef90-UPIO004099DA0 | AHPVDFGVMGEREQTTPVELIFMLAMDDEHTQLHMLQR |
| UniRef90-E1R4W4 | GLDFQAMDGKPSNLFFLLLAPPEQQH |
|  | AGVEWRDG |
| UniRef90_R5EAS | ELESDRPGEPAVSAFFFLIAPEESEHLALLASAA |
| UniRef90-R2NNC3 | VVVTKEPIEVSMMGSPELKMFFPLAMEHPKKQLALLRQLM |
| UniRef90-R3WB27 | VNRLSAP EFVQMGTDQVTDIFVLGMREPKKQVGLLATLM |
| UniRef90 R2RFS4 | RLKHELEWETFDDSAVKNVFALMVPKEDEHLEMLSR |
| UniRef90_V5X6U6 |  |
| UniRef90_UP1000366 |  |
| UniRet90_D1AKT2 | KLRKAVLF PGEKKVSLIFF! SAKRKKDHVKSIEDI |
| UniRef90 AOJRNO | MARLSQPVDFGAKDGPADLIFFAAPEGQEHLKLLSKLA |
| UniRef90-Q5HKT2 |  |
| UniRef90-U1RIX5 | AEPVDFGADDDQAADIVFMIAAPDGDVHLQLL |
| UniRef90-10GSY4 | QYPEGDK FGNDTAHLVGLAGKDND |
| UniRet90_W1SS23 |  |
| UniRet90_UP100037 | RLAQ PIEFDAVDDLIPVD |
|  | K I F Q F PQ GVa WDKDN |
| UniRef90 K6V5W3 | RSTSGVPWGAEDGPATVI FLI AVPSGQD |
| UniRef90-N2AFY5 | VM F RDYVDWD |
| UniRef90-R4JZL5 | GVLKNPVEFRAMDDPDVSII IMLALSEPHGHIEMLQKIV |
| UniRef90-E2SP70 | HIYPKGLTG GNTSIQFLFVLATPNQSDHLHDLQDIM |
| UniRef90-C5F6Y3 | VATLAHPVKFHDMGDVEVDVIIMMAIGEPHGQVEMLQKIV |
| UniRef90-F2GA | VTSTP AINFDALDEK |
| UniRef90-101E30 | GRTKEPLDFGSIDGKPVELIILLASPIDDQTHITALSKI |
| UniRef90_UP100036FDCB4 | FARLAQPADFGAADGPADVFMLAAPDSSAHMK1LSKL |
|  | GFARLNPPVDFGAPDGPADAFLAAPESGEHMKLDS A |
| 8RJ54 |  |
| UniRet90_UP1000372 |  |
|  | RSSRGIDFDAMDGPVN |
| UniRef90-UP10002F072FB | GFMKPKHTILWGNEQKEVDLLFML GVPESRKHLKLIS |
| UniRef90-DAKK | VITMQEPVTFYSMEDNKAQIIFVLGLNQPHAQLEMLQSLM |
| UniRef90-FOTHN1 | VVTLIKPPITFKNMDDITVQQI I ALVIAEPHSQVETLQKVV |
| UniRef90-A0A024HY26 | FCRFVNPVDWDADDHQLTKHVFVLLIPENHEHLEILSQVA |
| UniRef90-G2H412 |  |
|  | KWDD E SVDMIT Q G ${ }^{\text {a }}$ |
| UniRef90-UP10002DF996D | FGRSAAGVDFGAPDGPAHLVFLIAAPTGSDHLSLCALA |
| UniRef90-M7E4Y9 | VA |
| UniRef90- E3R206 | YVRLEKPIVEWKYDNKPVTDVFALMVPAGNTHLKMLANLS |
| UniRef90-G8WK14 | ARLAQ PVAWGDDEAQFVTMLTLNKHSAGDQHMRDFSRLA |
| UniRef90_- 5 TT5B2 | QNTVEFLQMGDGQQVK |
|  | KLNKPVDFL GKEVSLFFTLSAVDSSSHLEIMQKVA |
|  | M RLENPMDFDAVDRQPVDLIFALFAPAESDHLKALALVS |
| UniRef90-U3H253 | VRLLHFPEGVDWGDGQRVYLA G AAK SDEHLRLLQLLT |
|  | LVKLAAP |
| UniRef90 G4L3W | SVLF QRMDDVQADFIFILGLNQSHEQLAMLQ ${ }^{\text {a }}$ |
| UniRef90-E4LMY8 | KEPVVFKEMGGSGKDVPARLVFMLAVDDPEGHVIMLGKFM |
| UniRef90-G21H75 | P LLFR EGKRAEIIFVLA AVDHERHL |
| UniRet90-H1AC | Q QPVEFDNMGDKKVELVFMLAMSQPHEQVQ |
| UniRef90-UP10002D918DF | KDVVDWPSLDDKGAKVVI LLAAVGEDNEHLKLLS |
| UniRet90-R11WT8 | PVGWSDEEDGEVEFVIMLTLNKNDQHMRIFSGL A |
| UniRef90- АОАОЗ3UA84 | MLILKEPLELST GLKVHIFVAIAATDKFKHLRPLLQLR |
| UniRef90- T6 H5 | LTLIPSGVNFDADENDPVKLLIVLAATDSPATLK |
|  | PIVFDAPDADPVGLFIVLLVPETQKHLE\LSETA |
|  | EI EWET DDGDGVEVVI LFAVRDTDTHILLLQK】A |
| UniRet90_C5J508 | D H DDLI SQFA |
| Ref90_D1ARV2 | FLYIKEGVEF PENHFITNCVITLCSRDKKEHTFGLLELH |
| ef90 S7T2G1 |  |
| ef90_UP10003 | YGHAVDFGANDGPANLILLIATPAASEHLEVLATMA |
| ef90-T2N | SSPHTDYQA |
| UniRef90_UPI00035E | DGKPLMWEDKRVQFV CFLNVEKNSSADLQILYKLG |
|  | VCLMQFPAGVDWGDGQUVHLAIAIAAR SDEHLRLLQQLT |
| UniRef90-R5QU06 | VTLKKPVKDWESVEGNKVQYVFLLA PRQNDRQ |
| UniRe990-E4KN72 | DKP QFSSMEDLD |
| UniRef90_U2YQX1 | RLDPVAFDSVDDR |
| UniRef90_R3BTL2 | QLNNPIEFVQMATVPCELILILGITIDPKNQVGL S TIM |
| niRef90 - Dodso |  |
| UniRef90-UP10004678042 |  |
|  |  |
| UniRef90-M5DW46 | A |
| iRef90_C6XLM1 | VDFEAI DERDCDLVFLLLAPKGVEHLRALAKVS |
| UniRef90_D6DVA3 |  |


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| :---: | :---: |
| UniRef90_E6KWB2 | ENLVDK S L C K Q\|L R A A K S A D Ell WG|V|F S H Y |
| UniRef90_UPI000305A196 | SLLVEDDFREQLLAASSTQEVMSLFD |
| UniRef90-A1U900 | R ALVRKEFVASLRAAETSEDVVSLVE |
| UniRef90-E3F099 | RTMRDQNVLSKL R A NS DPATL H T I L |
| UniRef90-D0DRJ2 | SLFQDSNKMDRLSKVKD\SEF |
| UniRef90-Q8R5U8 | HVLT D Q N S IN KL K G A R N P DEVRE IL |
| UniRef90-Q0BV42 | RLL Q DEERLK TLIFQTGDAALLLQAALSE |
| UniRef90_R2SLF2 | VLIFQNEAFVSSELENTTKNEEVFSLIFMK |
| UniRef90_B3QS94 | RVASKEEDRNRLLETKDPASVLSVFDE |
| UniRef90-R6JL69 | Y I LGK E E NLK R L K E K D T $\quad$ K D I L E L |
| UniRef90-U2L529 | $R \mathrm{RI}$ M HEGFRDALVNAVSAQQVEALLK |
| UniRef90_F0JFS7 | RLL K D E EFRKAFL SAEDVEGL WALL K |
| UniRef90_R6QRW7 | DILCCKPEECEKLLS A A S K E E FIR I I N E |
| UniRef90_J2DV68 | R Y L R D E T HVARLRGAKSAEALHALL A |
| UniRef90_UPI000400 | R L L M S K F L E Q L K C L E T VEEVVD Y L |
| UniRef90-UPI0004099DA0 | NI F Q DK DQLEFYKNTKDKTERKKALAE |
| UniRef90-E1R4W4 | KLTRSKS F CRLLLA S Q T P E EVVELFQE |
| UniRef90-J0ZM02 | PLLY DKERLE ALST T T DKQQIV T T L |
| UniRef90_R5EAS1 | EVFS D D T L REKLLAASSADTFCGTLR S |
| UniRef90-R2NNC3 | SVVFK T K E DLD AI CQA K S P E EVLAVV |
| UniRef90-R3WB27 | ELFSSDESFVHRYS Q A S T EKEI NRLI L L S |
| UniRef90-R2RFS4 | TALLEAEFI QQVQQSEDKTQLVE |
| UniRef90_V5X6U6 | $R A L V R K D F V E Q L R A A S T A G E L V S L V D$ |
| UniRef90_UPI0003663 | QKFNDRSYCEELRNCEDDQNLFS |
| UniRef90-D1AKT2 |  |
| UniRef90_A0JRN0 |  |
| UniRef90_Q5HKT2 | RTL MK D NTRDELDHA Q S R D EI F NiL K E |
| UniRef90-H3MIT3 | TLI E S D V V S F REEHD\NAVFNFIHN |
| UniRef90-U1RIX5 |  |
| UniRef90-IOGSY4 | A T M E DEELEEQLYK T K D A NVL Y ERFA |
| UniRef90-W1SS23 | K RLS NEAYKERRLLKAKTNTELFEQLD K |
| UniRef90_UPI0003792CB3 | RRLR DRTF LTKLRGAGSPDALYALEF |
| UniRef90_G7SSA1 | RLLLHDKE TVKHLDT T Q DVSEFYARLL |
| UniRef90-K6V5W3 | RKLMREDFKNAL RQASDAAAVVTVI E |
| UniRef90-N2AFY5 | EK MLDD A T A EQI R T C D G T L YQIL S |
| UniRef90-K2G4A1 | QRFSDRAFRENLQQASDVTAVISLFQ |
| UniRef90_R4JZL5 | KLIQNSELLLRQI VKA S S DEEI I DELT |
| UniRef90_E2SP70 | TL NEHEEYMNQIVQAENAKQVMYYLQ |
| UniRef90-C5F6Y3 | EVIQ D D HLR HEII A N A K A E T L Y RLL S K |
| UniRef90_F2GA56 | GKLSDKETILKA I R R A S T S D D I L S AL S |
| UniRef90-IOIE30 | QML $\square$ DVAVRGQMK A C T N GEEMYELI K Q |
| UniRef90-UPI00036FDCB4 | R A L MKKDFVA GLR S A A T A DEVVALV D |
| UniRef90-H1R2L0 | RKLMHEEFRQSLKQATEPSQI I EILLTN |
| UniRef90-G8RJ54 | RALVRKEFVESLRQAATPGDVVALVD |
| UniRef90_UPI0003722BA4 |  |
| UniRef90-Q2LSN1 | RMLK M H HFRKSLMETKSKDELY Q I I A |
| UniRef90_UPI0002F072FB | KNLMKQEFREKLLACKNNDEAFQYL EK |
| UniRef90_D1AIK6 | NLLS EEKLLDELKNSETEEEVYNLLRRE |
| UniRef90-S0SMK7 |  |
| UniRef90_F0THN1 |  |
| UniRef90-A0A024HY26 |  |
| UniRef90_G2H412 | RLLKKDPQFRRAMLDAPDGAAFTALMR |
| UniRef90-R5KQS0 | R KVM HEDFREQLK N A K N A DEVIELL |
| UniRef90_UPI0002DF996D | RKLMDQEFIS ALLRSVSDP |
| UniRef90-M7E4Y9 | GLI Q NEKLLIFKIVAATSAEEVLT IVK |
| UniRef90-R2PKD1 | ELINDETKLTRRLI ESPNVDLIFKKRL |
| UniRef90-E3R206 | TALLEDDFKQNLKT L N D S Q El A K Y I R K |
| UniRef90_G8WKI4 | RRIIMHAEFRQSLVTAQSSEAI A A L L Q R |
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| UniRef90-T4VIP3 | KVCMDQNKLNTILNLNNEKEIMEVM |
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| UniRef90-U3H253 | RALGEGDLGAELRRAETAEAI DALL Q |
| UniRef90_U2UBJ3 | VMLMDENFRNSVMAS D D P V V A ELI N |
| UniRef90_A4EH33 |  |
| UniRef90_G4L3W3 | QLI Q N T ELLLQNLY K Q T N P NELLSLLLK Q Y |
| UniRef90-E4LMY8 | SIIFTDETKLVDL Y E T N D P A AVVAKL E |
| UniRef90_G2IH75 | KI A EDK D I E ERVNANTKMEIJFEIL NE |
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| UniRef90-UPI0002D918DF | R RLS NDEVI E QL L N S K E K S EVVSILSS N |
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| UniRef90-F3KSA9 | $E M L S D N A L R D R L A G D S D V A S L H G L I A G W$ |
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| UniRef90-D1ARV2 | RVIENCDLY K K I SEK N S G DEVYREIK |
| UniRef90_S7T2G1 | RLLKS Q F F A ALL A A P DQGAL WRLL A |
| UniRef90_UPI00037CB301 | RSLSKENFRQSLRRAGDPEVVAELI N |
| UniRef90-T2NIR2 | R L L M HEGFRNAVKK A K D A S DII 1 |
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| UniRef90-L1LV71 | $R$ AL GEGDLSVAL SQA D S A A AVLQLL Q |
| UniRef90-R5QU06 | TKMANHTYTEKLYASKTVKEFYQNLDN |
| UniRef90-E4KN72 | SVIQDESKVEKLIS A A S S D EVLEILLEN |
| UniRef90_U2YQX1 | RLL R S SEMREQL RQARTT DAI NALLF |
| UniRef90_R3BTL2 | EIFGNDEKVSEYRKVKS PKELYHFLQQ |
| UniRef90_D0DS07 | KFIQNK DWI NQLKVI SRKEEFLQLL |
| UniRef90_UPI0004678042 | T I F EVPENAEKI WKLK S A K G $\dagger$ R N Til CK |
| UniRef90-T2NW83 | E MLL E E GLVEDLLGGVK T M A D FEMVMEKY |
| UniRef90_M5DW46 | R NFNEESYRSAL R C APDNRQLFQ |
| UniRef90-C6XLM1 | R \M RQE K L R E GL R K A L S VD AVLAVF T |
| UniRef90-D6DVA3 |  |

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 MLDEKNVFLNVEDDTKTDALKFLAKKAVENGDAKN LLTTFIKPEMMWLKVEENDRDALFRLVAGEGERLGFVHD SSIISTDLVELDVDFSDTTEVITNLAKVVADAGRATD MCETYFDESLILKDVNGDNQEELLKIMAMNLFEKGLVKE KPLVAVDTIILDKDGSSSEEVIRSMVKLTSARMSDAE
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 $M L$ S E L L T E D M I H F T S E S L D WH H A I S M A A K P L V N A E S V E E TTLMKLFNPELIFTQKDMHYKQDILHFVCDELYAKGFVKQ TTLYSLLPDAVAT DTADSKQAILEALAERFARVYELEA TDYLKNAPI LLGDEFENREVVFTKVTEQTLEKGWVT VRLGADPHNREDAVRAAGALLAQAGHALP LLAADSIVLSGSARDAASGLDEAGALLVAAGAVDE पSAVLSSACTRNNLTCTSKKRALEEISEGAAAELGLRE MREQMFYKDLI L L DLDDVRNADAFFETMNGILLQQKGFVNE NMFDEQLTFVNKTFKDKLDAIDFLITQEAKAAGKITE MLI ALERDDVRKCKADDWQQALALAGAALVEAGFARP


MLISEDCTKSAVLFNSKKRILEYI AELIAHQRLPEIP MSEVMQPNGVLIDVLVPSKFKLLKFVAETAADRLGLVE MSDVYFDESVILLLDLEGTSNEEVLAKMGETLHNKGLVKE MSTLDTEDSVFSQVNCNSKKSALEKISGSAAKTLNLDH

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UniRef90 B6AST7 UniRef90_G9QKY4 UniRef90_U2RCI5 UniRef90_UPIOOO3817346 UniRef90-A6VLW2 UniRef90_UPIO00364678E UniRef90_FOLZP9 UniRef90-F1T4B6 UniRef90-E2SHQ9 UniRef90_U4SZV9 UniRef90-C7MEN2 UniRef90_U1EB81 UniRef90_UPI000057C1F2 UniRet90 B6ESD5 UniRef90_UPI0003B75B09 UniRef90-F0RT37 UniRef90_UPIO0036CB23D UniRef90-R2NSH2 UniRef90_UPI0003798F3D UniRef90_UPIO003133BFE UniRef90_D7UUG0 UniRef90_UPIO00471E270 UniRef90_EODFG5 UniRef90-F7PW70
UniRef90 E3IHZ6

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| :--- |
| UniRef90 |
| B7VT68 |

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UniRef90_E2SI36
UniRef90_H8L2U4
UniRef90_J9S799 ADANAFLLAREAEGTTGMM EGFAllPHAKSDA\|TEAAVVV



 SYIDADVAREKNFATGLPTKGYSVADPHTDKEHVNEKADS NF L D HV L N R E K QFPTGG A


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 GY I K A V Y E R E S E GP T G $\quad$ I I G D Q VAA I P H GK T A A V GK A A MA

D




## UniRef90 R5z9U5 UniRef90-RSZ2U5 UniRef90 UPIOOO3B5DF94 UniRef90-FOP352 UniRef90-UPI0002FAC764

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UniRef90
U1FB81 UniRef90_U1EB81 UniRef90 UPIIOO0057C1F2 UniRef90_LORDH1 UniRef90-UPIO003B75B09 UniRef90 FORT37 UniRef90-UPIIOOO36CB23D UniRef90-R2NSH2 UniRef90_UPIO003798F3D UniRef90 UPIOOO3133BFE UniRef90_D7UUGO UniRef90-UPI000471E270 UniRef90 EODFG5 UniRef90-FPW70 UniRef90-C6R6R0 UniRef90_UPIOOO47EOB41 UniRef90_E2SNF5 UniRef90-J816G3 UniRef90-F1T5V8 UniRef90-A0A058SZGO UniRef90-A0A023Y601 UniRef90-D6YU10 UniRef90-UPIOOO3792E7E UniRef90-A0A031JF49 UniRef90-H1PQP5 UniRef90-R2RDP1 UniRef90-L1MGH7
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UniRef90-H812
UniRef90_-H9S799
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 VNRITTPFMQMGTDDVKVEYVLVLGLTQPKEQVTLLSEVM


 GVVKKGUVTKS GQRGHTIVFLDSNNKEEHVDLILEVM
 VVVLK QGVQYQ D OKKIHVVTVLTTPDKTSHLTVLYHLN VVUTKKQLQUQQMEEEKTKNFFFLGGVEETQDLKLLQRFM VLKTKNELEWETLDGSNVKYV F SLMVPEENEHLMMLSKLA VFRFEEGVDWKSMDGRPVRVAIALGMPENNTHLQVLAKLS FARLKNPVDFGGPDGAANLVFM|AAPDGKAHLKILSKLA
 FARLPHGVTWAEGEDPTTLAFLIAVPDNKQHLKLLSKLA
$\stackrel{\square}{\mathrm{L}}$

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\section*{

## F

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$\stackrel{V}{V}$

## V

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 F LRLENSVEFAAA DGMPVDLVFGLLVP
 $L A V L Q V P A G V R W G D D A K Q A H L V V A I A A A S D E H I A V L R R L T$
 $V$ F L H E E P I A F D A I D N Q P V DL L F A L L V P A D Q T H L H T L S L I A VRAL Y P FGF DA PD GK P V G EF L L L V VMP D E D D H L E L L A DAA AR LKHSAVWMASEDEGEVKVVFLLGFKHDDYHVQLLQKLM STI E F NP I L WGEESVRMI FMI GVPEHKEHLQUL A WL S
 $P A P V S F A D M A G E P D P V P V Q V V F L L A D S E S N K Q L N A L L G W I M$



| UniRef90 R5Z9U5 | $\text { EA\|LJMDEDFRAT\|V\|K G S T D A A K\|l }{ }^{130}$ |
| :---: | :---: |
| UniRef90＿UPI0003B5DF94 | K IFQNKELLEGI K S $\square$ LTS SEICCQKLNAF |
| UniRef90－F0P352 | D I LM D D M R VQ |
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| UniRef90＿V5DZ59 | R K I I H S D Fid Q L N S G N K T I L D L I S E |
| UniRef90－UPI000424615C | RSARSETWSRAVR Q A P S P A A L HVLLA |
| UniRef90－D2TS3 |  |
| UniRef90－F5YNL7 | D NLETGDDVEKLVREGTVEDVYKMLA |
| UniRef90＿U7LTN2 | RAIMKEDFRAQLHEASSREEAEGI |
| UniRef90＿R9LNY5 | E QL G D M DVVE QV VK G S PEFl H SVL |
| UniRef90－J9GKW3 | A LFS DKS TRQALLTTAQSE＠DICQLI H |
| UniRef90＿W7CSM7 | ELA GHKKTLKK K A Q Lie E P |
| UniRef90＿U6SUQ9 | Q If Q D D IL N Qi A H E E S T KV |
| UniRef90＿C4VSQ2 |  |
| UniRef90－A8H8P4 | EKLNDKAVVK Q L R K T S NESELYQVI |
| UniRef90＿S7EYB5 |  |
| UniRef90＿G9Y5R3 | RKLVKKEFREAMRSATDASAILALLL |
| UniRef90＿U2V384 | VLL MDDDFKRLVRRDANDVEGIVNAIN |
| UniRef90－R5IQ63 |  |
| UniRef90－R7G9V5 | ENFQDKEI MDQLLAAETKEKFLDIVKH |
| UniRef90＿B6AST7 | RTMRDAGICAKLRANTEQDTRYT I I T E |
| UniRef90－G9QKY4 | EITPQ E E EL N Y L L S E E N K N I K N RLL |
| UniRef90＿U2RCI5 | RLDRDEK F I D S L L K A N S |
| UniRef90＿UPI000381 | DIFFLD S K A L R Q I K S A A S P K E |
| UniRef90－A6VLW2 | K K L L D D D Y R N ALA DFET T K QVEEAHLS Q |
| UniRef90＿UPI000364678E | R R LTD T GFT T AL R |
| UniRef90＿F0LZP9 | T T L VD DEVREAVLNATN】EQ\FELLDN |
| UniRef90－F1T4B6 | ELFSQETHVQKLRCATTTSDIYSAFIE |
| UniRef90－E2SHQ9 | R K L M N T S F TE DLL H CKNR】S CLLKLL E E |
| UniRef90＿U4SZV9 | R HLIKA DFRQQL Q D A K S EAFYDCI S |
| UniRef90－C7MEN2 | R A L I R P EFLA DLRA A S T P Q Q A A D V |
| UniRef90＿U1EB81 | RKL S D DE\NA QLLK A Q NTQQ\I Q I L |
| UniRef90－UPI000057 | LFF G N S D K K Eli Y A S R T I KEFYQI I K |
| UniRef90＿B6ESQ5 | EKFGD D L I A M M K A T TEQEILDLL T N |
| UniRef90＿LORD |  |
| UniRef90＿UPI0003B75B09 | D LAG S T A VD QLEEAT D K P K M L El I R K F |
| UniRef90＿F0RT37 | MVIRT E EARERLLLQS K N A Q DVLS C V F |
| UniRef90＿UPI00036CB23D | RLVAATPR\REGL RLA R S A D EVMA L L |
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| UniRef90＿UPI0003798F3D | E $\square$ M N D Q N F V E Q FV T I K N P E T I Y D F L $\square$ N H |
| UniRef90＿UPI0003133BFE | T CLMEDDFKKEDI S SEDKS SLIMYI SK |
| UniRef90＿D7UUG0 |  |
| UniRef90－UPI000471E270 |  |
| UniRef90－E0DFG5 | R NLVRKEF\EALTRGAATKEELVELVT |
| UniRef90－F7PW70 |  |
| UniRef90－E3IHZ6 | GIF Q NEEELQFLLMSEENRTNIJKNRLVNH |
| UniRef90＿C6R6R0 | R NIMKEDFRAQLHGAKTRKEAADII S |
| UniRef90＿UPI00047E | RSLLFKENFRESLRRANDEEVIAELI N |
| UniRef90＿E2SNF5 | QMLGDDTLFTRLVKLHDANAVCSQLNAF |
| UniRef90＿J8I6G3 | D IM S N Q Tile KL |
| UniRef90＿B0K5D3 | NKLESPEFVENIKKAKNR |
| UniRef90－F1T5V8 | DLLMDEEKVEQLK A T H S L E D Y K K |
| UniRef90－A0A058SZG0 | RARARDSVAEQLK S A T T A E ELR A |
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| UniRef90＿L1MGH7 | RALLVKKDFTAALRSAETKDEIVELV |
| UniRef90－F4HBA0 | E CFSDKNLCK QL R L A K N P E EVWSI F |
| UniRef90＿U2TD81 | A LVKR Q D DLK R V E A K T K Q A Y Q I A G Y |
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| UniRef90＿U5FBY1 | HLITSANEFDE Q I S A A E T CEEVLGLL |
| UniRef90＿UPI0003B673FB | QKLVDKNFLA ALR SVDSTEKAAQI |
| UniRef90－F3L4A0 | GLFQNPNFCRDI RAARTAEALLKALK |
| UniRef90＿W6T4L9 | R KLMDKNFSQTV IE NDDPD L TAA A I E E |
| UniRef90－UPI00030825C2 | DML DERFKQFKQAKTKMEILECI K |
| UniRef90－E6LD49 | D I SNNEELLSSNLVAEHNDKELYQ I I R K |
| UniRef90＿K8EKY2 | T ALLMEDEFIS QVQKNTNKDQLVTVI K N |
| UniRef90＿B7VT68 | GKFSD EFI Q DI HNAKDEQQILNL |
| UniRef90－F4PFZ3 | S IID M DELRT K V K Q |
| UniRef90－I3DD39 | QKLS D K TLA K QL R A T Q S T DE\WQlLA |
| UniRef90＿UPI00047E9507 |  |
| UniRef90＿U2YK68 | RMVRDETLHAALS D A K D K E ALFALL L T N |
| UniRef90＿S0IYU9 | GLIQ N T TL LQA L SKQ TEAQDI ITLLLEE |
| UniRef90＿UPI00037D78B9 | RLMMREALMQRLDS T Q P P Q I V R AL |
| UniRef90＿C7M9M0 | MTFFSDPAQVERLENATTTEEILEIL |
| UniRef90－W9BS61 | RLT R D EK TLA KI K G A D D P A I Y A L V |
| UniRef90＿IODWC5 | K K L A D K S C C RLLRS A Q S D A EL Y Sil IT E |
| UniRef90＿UPI0004746778 | RFLGKR QL R L A ARAARTPDE I A AL MQ |
| UniRef90－UPI00031779AA | DLFMKDDFSNDLLYVETQEDCLHLLVE |
| UniRef90－E2SI36 | R NLMHDDFRSNI I NAT TETQLFECLSR |
| UniRef90－H8L2U4 | A LGRDGAEAMLARAEDADAIV A L L |
| UniRef90－J9S799 | RSLVRPD F VA SLRAAENEERVIELVNE |
| UniRef90＿UPI0003456A08 | ELI QDGDFMQELLTMCDKD I YRAI S |
| UniRef90－F7NZ82 | $R \mathrm{ML}$ S QKDF TKKI RHSANSHDLYQLL |
| UniRef90－K2NZ90 | $R Q L R S V D A A T T I R R A A D R E I I Y Q A L ~$ |
| UniRef90－UPI0003768E96 | Q I FQDEDTLKK QLVNQ TEKQAI KNLI EE |
| UniRef90－D3FJ28 | KLIMD K N A NQKLI S S N NPDEI S KLLIVS Y |
| UniRef90－M4U9R3 | EKLLD K T L L R Q L R A T D D K IL F E CLQ |
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UniRef90 UPI00016C56FA UniRef90_UPIOOO2DA9005 UniRef90-UP100036BBE5C0 UniRef90-UPIOOO2DFFCD4 UniRef90-E3ZDR1 UniRef90-K1MOFO
UniRef90 AOAO14N UniRef90-WON197 UniRef90-UPI0003B3AC56 UniRef90-R7D4E4 UniRef90-UPI00040871A6 UniRet90-D3T793 UniRef90-W6AE96 UniRefto -G1VPL3 UniRef90-G2LQ48 UniRef90-D4E156 UniRef90-C3PG61
UniRef90 $\cup 2 T W H 5$ UniRef90-R6QIC8 UniRef90-A5z567 UniRef90-U1WU16 UniRef90_V2IEF1 UniRef90_S4ZIN6 UniRef90_C8X386
UniRef90 U2SO89 UniRef90-Q04DX9 UniRef90-A0A022LMQ3 UniRef90-R3WK75 UniRef90-UPIO00377AEED UniRet90_C9MXJ5 UniRef90-C3WF15 UniRef90-X1M2J8 UniRef90-K8WWS1 UniRef90-FOPAR4 UniRef90-CONGK9 UniRef90-G1WFP9
UniRef90
R2NMK4 UniRef90_UPIOO02490595 UniRet90-E1PT20 UniRef90_UoZCT5 UniRef90-Q04H54 UniRef90-UPIO0046A6AF3 UniRef90-W7D9F5 UniRef90 ${ }^{-}$W1SHF7 UniRef90-W5VOU5 UniRef90-M5T9Y9 UniRet90- S5ZV71 UniRef90_UPIO0031C9487 UniRef90-UPIO003B7699D UniRef90-D9Q8W7 UniRef90-R6QZR7 UniRef90-G9Y469 UniRef90 R9C1G1 UniRef90-R2T5D6 UniRef90-D9RXX5 UniRef90-B0MD42 UniRef90_BOM9X7 UniRef90-G4L795
UniRef90 S5ZAJ4 UniRef90_D9RAW2 UniRef90-HOQYQ3 UniRef90-A0А011 P9T3 UniRef90-K0VJM1 UniRef90-R5JH36 UniRef90 O8EMS7 UniRef90-M4W3Z7
UniRef90
W7DCW4 UniRef90_G9Y6Y7 UniRef90-I4ZOU6 UniRef90-UPI0002630F8D UniRef90_R2P093 UniRef90-B9DM65 UniRef90-UPIO0045E6D84 UniRef90_U2TJ42 UniRef90-G4L7H1 UniRef90-UP10002DDC660 UniRef90-UPI00037AA 18E UniRef90-UPIO003B4A342 UniRef90-K0G415 UniRef90-U5MTL2 UniRef90-M5E367 UniRef90-UPIOOO380249A UniRef90-F4LQ07 UniRef90-G6CGG1 UniRef90-T3GIC2 UniRef90-10XCQ4
UniRef90 E1MAB2 UniRef90 E1MAB2 UniRef90_W1Q4V4
UniRef90_-H1BPJ2 S M

LSELLPCAATRLDTAVADWEQVRAM
LSSIFENTVRLDLHPADKWEAI DALVDVLVEEKQIER
SMEDDFL
${ }^{M}$

SLLNKDLIFLNKEFANTDEALEGFVDAKEQADYLE
MIFKIFSKDFIFLDQDLNSKEEVFEFIAQKAVNLGIGTE MKLNYISEDLVFLKLKAKDKFEVLEKMSQRLLALNYVKE DFLS $\square$ SN EVK

पT EKNILLNQYAENWKEA
LTEKNILLNQYAENKEEA NVVGKNFEQGYVKS
LLSVDTVSGDQDGTNRKETVESLVQLVSPRLSDPF MSDFVKASNVFLDNPATTVDEALDFISGKAVEGGLAND
DLVQASHVFRDCPARDVDEALHVIADKAVELGQTDA LEHYLRPELVQIINTNMNWEKALRFSIKPLIDEGIVTM LNEFLEGELILPDLTARDKAGVLEELVTPLHKWPQLDLD LIEETFTKSNISFVDHANNFREALSLAFEPLDKNRSIET LRKYIQPQLVGVNEDGASSTAVLRGLADRVAATGRAAD ILEYLTPERVKLHLTGETKKE:KEMAQLEVKSGELAP冋KELFNESNVELNLDVDGKDEVLLSLIGLLKLDDKAKE MIEK TIASNLHLGCQARNKAEVLTMVGNEFKNKGYVNQ LVDFVKASNVFCDQKVDDRDAALKFMSDNAVAAGIADD FDGDANSKEEALEQVINKLSESGKLREN
MLTADCLMPDAVWGSKAAATKGLVDRLWLLERCDD YFDKRVILFDQVFPNQDSVLKTLTRFLEEKNCVKS MS SKTDTPRLVGLDLVADKSAVIRELAGRVVAEGRATD MNPTIFNETHLLFDETATTQAEAFQVIAHFAYERGYVTD QEYLHPSRIFDHELDSKEDTDRFLCHELSKQGLVST DSELCTVDLI ANPLSARTRGSVVRGMSDLASTTGMLWD

FISPDRIRDISKNKKEALRYASSYIAEKFNLDA
MKNFLDREALVPSLVATTKEEALRELVASLQSAGYFKP ITSEFITTVDLNIECSEKFECLKKMAEKI AQKNNLDP MAQPIITTSLVRLDAEFGTPADVISSLTSTVSDAGRTEA
M D DIAESC LNNLDLQNRNEVI KTLTDNLWLDQRTNE
SFIKESLVNGMKVENQDQLFNAMFEKAYEQGFVKE TDLFHEDLIVINGDFQMKNDVLDQLGNLLDKNNFVNE LAGFIGQDLLFFEEAKGWROKKMGKABCI TIIEKYMLKEFTYLQKDFSSKEEVIQFMGKELQKAGLVNN EKYLDESRVFVQKDFRDKESVI NFMCNELYKQGLVSK KTLFKPTLFFTDMEFNSKEEAIVFMCRNLKEQGYVGE

 LTDLMAAVRTLVSPAADRDTVLHAAADLLSCRQAGAD LIS ELLCDEHLCFQDTNTSWEQSTAKAAS PLLTEQLLEP TMMASLISPARVAPRMRARDVRQVVGELVRLATAKAALDC LTYYLKPNYTGVIEEEILWEDAVALACKPLMDNQAITE
 SFINSDFILGDLNAKHRFEVLATMSQFAKENSVCTQ $M Q Q Y \mid K E E N H F R N Q E L T T Q D E V F Q F A A E Q A V K A G D A T D$ MI RNEMIFVDSDLQNKPDVIGLI SCTAKKLGLVLDD冋TEFDTDENI RQGALI SSKKRALELVGKIIAESGCGES LTSVIDEELI QURDDVEKSDLIDEMCKLLDTKGKVKE

 VLOEKY F DODGKSKEFVLNFADSAYDGGLD DADMUHRGGVF ELEGKNPQEVYSKVTKLVKLCAGTDP LLTEFLTAENI HLDDTEASCKKRALDQVATLLEEKKKVVTE SLLETLQSELIDLACEETDQALFFAHQAAKLQDGGYVAD

## UniRef90 UPI00016C56FA UniRef90_UPIO002DA9005 UniRef90_UP100036BB5C0 UniRef90_E3ZDR1 UniRef90-K1M0F0 UniRef90-A0A014NRD6 UniRef90_W0N197

 UniRef90_UPI0003B3AC56 UniRef90-R7D4E4 UniRef90_UPI00040871A6 UniRef90_D3T793 UniRef90-W6AE96 UniRef90-G1VPL3 UniRef90-D4E156 UniRef90-C3PG61 UniRef90-U2TWH5 UniRef90_R6QIC8 UniRef90_A5Z567 UniRef90-U1WU16 UniRef90_V2IEF1 UniRef90_S4ZIN6UniRef90_C8X386 UniRef90_U2SQ89 UniRef90_Q04DX9 UniRef90-A0A022LMQ3 UniRef90-R3WK75 UniRef90_UPI000377AEED UniRef90_C9MXJ5 UniRef90_C3WF15
UniRef90- X1M2.18 UniRef90-K8WWS 1 UniRef90-FOPAR4 UniRef90-CON9K9 UniRef90_G1WFP9
UniRef90_R2NMK4 UniRef90_UPIOOO2490595 UniRef90-E1PT20 UniRef90_UOZCT5 UniRef90-Q04H54 UniRef90-UP100046A6AF3 UniRef90-W7D9F5 UniRef90-W1SHF7 UniRef90-W5V0U5
UniRef90 M5T9Y9 UniRef90-W8JQA0 UniRef90-S5ZV71 UniRef90_UPI00031C9487 UniRef90_UPI0003B7699D UniRef90-D9Q8W7 UniRef90-R6QZR7 UniRef90-G9Y469 UniRef90-R9C1G1 UniRef90-R2T5D6 UniRef90-D9RXX5 UniRef90-B0M9X7 UniRef90_G4L795 UniRef90_D9RAW2 UniRef90-H0QYQ3 UniRef90_A0A011P9T3 UniRef90_K0VJM1 UniRef90-R5JH36 UniRef90_Q8EMS7 UniRef90-M4W3Z7 UniRef90 W7DCW4 UniRef90_G9Y6Y7
UniRef90_I $14 Z 0 U 6$ UniRef90_UPI0002630F8D UniRef90_R2P093 UniRef90-B9DM65 UniRef90_UPI00045E6D84 UniRef90_U2TJ42 UniRef90_G4L7H1
UniRef90_UP10002DDC660 UniRef90_UPI00037AA18E UniRef90_UPI0003B4A342 UniRef90-K0G415 UniRef90_U5MTL2 UniRef90_M5E367
UniRef90_UPIO00380249A UniRef90-F4LQ07 UniRef90_G6CGG1 UniRef90-T3GIC2 UniRef90-10XCQ4
UniRef90 E1MAB2 UniRef90_E1MAB2
UniRef90_J5HPW4 UniRef90-W1Q4V4
UniRef90_H1BPJ2
 AYTDEMIGNDEENGPYVVVAPGLALVHARPSPAVHRTGLA EHVRA AATARERVKPTAAMGHATA PHAPDPDLPGQLGAM DEVLENLEAREALGSTGFGRGVAIPHCRSKDVRRPSAA SFEDALKEREQKNFPTGLKLGNEYSVLPHAGSREGVNRPCVV

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| UniRef90-UP | WVRPAEPVEFGHAANDPVT |
| UniRef90-UPIO | A DCPDGVDFDGPATEPVR |
| UniRet90-UPIOC | LIRLEAPIDFAAADARPVTLVC |
| UniRef90-E3ZDR1 1 | IGKLSDPVRWT T D DEFVQ VFL AVPEDNA |
| UniRef90 K1M0 | LITLKSP TFKSMEDPKVNLVVFVGLINPDNQLETLQSVV |
| UniRef90 ${ }^{\text {- WoNI97 }}$ | FTRLAAPVDFGSADGDPVDLVFTLLWPRSAKFLPTLAQLA |
| UniRef90-UPI0003B3AC56 |  |
| UniRef90-R7D4E4 | KPKTPIVFOPMDEVPAELI INLGVLRDGGQVAVLQNLIM |
| UniRef90-UP10004087 | KDDWGSAP |
|  | WDDDKKV |
| UniRet90-W6AE96 | DEFVQLVFLI AVPENNSHLKVL |
| UniRef90-G1VPL3 | RMDNTPVDFVLNLAVMDGAVQLRALQNTI |
| UniRef90-G2LQ48 | 1 FCQFPKGVRFGEEDDIAYLVIGIAAKNNEHIMVV |
| UniRef90-D4E156 | VRIKNTVEFGRMEDKDLCSLVENLALASGNQHI GIL RKL |
| UniRef90-C3PG61 | ARLSE GlTWAEGEEPTTLVFLIAVPEGKQHLKLLSKLA |
| UniRet90-U2TWH5 | DVAWESMD |
|  | CRCREPFIYESGGESGEVKY |
| UniRef90-A5756 | FVKCKNELDWETLDDSKVKYLFALIVPAGNEHLL |
| UniRef90 O1W 16 | VAKKS |
| UniRef90-V2IEF1 |  |
| UniRef90-C8×386 | GRSLP GVEFDALDQKPCHIFFLVMAPEHGMHLR\\|L |
| UniRet90-U2SQ89 | S |
| UniRet90_Q0 | SVVHVNNNDIEAIKII GFATVDTS HLEKLINDIM |
| UniRef90-A0A022LMQ3 | LARKVPFGAPDGDADIVFMI AVPEGADKDHLTVLSTLA |
| niRet90_R3WK |  |
| UniRet90_UPIooo377t | HS GVNFKAIDKKNVKLFIFF FAPKSNDH1SLLAR S |
| UniRef90_C9MXJ5 |  |
| Uni |  |
|  | E H |
| UniRef90 FOPAR4 |  |
| UniRet90_CONGK9 |  |
| UniRef90-G1WFP9 | MDEAPVTCA ALLVPEGTSHLQLLSKVA |
| UniRef90 R2NMK4 UR |  |
| UniRef90 E11 | ALVLKDGVDYQSLDNKPVKLLFLIAAPETTDHLEVLAKLS |
|  | DWGASD |
| 04 | GNAKVKFIFMLALDNPHKQPQMLQRLM |
| UniRef90-UPI00046A6AF3 | FARLKPGVDFGATDGPADLVFLIAAPADAAHLAVLSKLA |
| UniRef90 W7D9F5 | LVRFKHP DWQALDGKA HVAFALTIPNEGEHLKLLSLIA |
| UniRef90 W5VOU5 | FISLQTGI DWQNFDGTLAKYLFVI LLPKDTTQVETLSKIA |
| UniRet90-M5T9Y9 | GICQAGLPFSNRGQLTDTFFLICSYDDSSHLRILAKLS |
|  | VPMFSEGIDFGALDNRPVHVLFFLFASQDKSHLNLVNKIV |
|  | GVSQKDILDFDAIDGKPVRIVFMIAAANNQH |
| UniRe990 UPIOOO31C9487 |  |
| UniRet90_UP10003B | KGVDFGAPDGM TASLIFLILAPAGKELLKALAKLA |
| UniRef90-R6QZR7 | VVRLKYPISWTPNEKVRLMFLIAI DFETSEEILRFFQYFY |
| UniRef90 G9Y469 | A |
|  | GVIWDRNN |
| UniRet90_R9C1G1 | SVLEKPVSFHLMEDNTKVQAVLMLGLNQPHSQIEVLQELM |
| UniRef90 R2T5D6 | NP EWDSLDGKPTEVI A ALIPEGTTHLKLLSK |
| UniRef90-D9R××5 |  |
| UniRef90-B0M9X7 | LDQEIPFGEEGNTYVKCI VMFAVEDEGN RLLT |
|  | VVTLKHPIQWGDKLVQFVCLLNISEQNQMEESKPMYDVLM |
|  | DEWHGKHKVQLVCLLNIKKGPTGDLD RMYQKLI |
| UniRef90-D9RAW2 | KN KLAWGEHNVKI IFLFAMAATWNHTIIPPVY |
|  |  |
| UniRef90-A0AO11 P9T3 |  |
| UniRef90_KOVJM1 | LIRFAQPLDFEADDDITPTDIAVVLLFGENNEYLINVLSA A A |
| UniRef90 O8EMS | WS DKTVQ |
|  | LLRLDTPVPFGS DEPVDLVFAMAVPAHHQHLMLLSELA |
| UniRef90-W7 |  |
| UniRef90-G9Y6Y7 | MQA |
| UniRef90-14ZOU6 | LAQDFGA |
| UP100026 |  |
| Ref90-R2P093 |  |
| Uni | SPHKDDTVDFLFVILNADKA |
| UniRef90-UP100045E6D84 | LGUSREGLD ${ }^{\text {G }}$ |
| UniRet90-U2TJ42 |  |
| UniRef90-G4L/HM1 | W |
| UniRefo-UPOOO237AA18E | M |
| UniRef90-UP10003B4A342 |  |
| UniRef90 ${ }^{\text {KOC }}$ | FTQLEMPIDYEASDNKEVDLIYAVMFPEGET |
| Uni | N NP! LWD Y |
|  | AVLKE P P ${ }^{\text {a }}$ ( WGETKVKVVFLLAI DNQDAKKFFSYFY |
| UniRef90-UPI000380249A | EMGNDDVGVVFLLALKKENAHL |
| UniRef90-F4LQ07 | QTIDDTPVRLLFM AAAYNQ |
| Ret90-G6CGG1 | $K$ |
| UniRef90- T3GIC2 | SKVRYVFSLLAPHKN |
| UniRef90-10X | PIDMKAIDGRPVSVMFVLLAASTQ |
|  | M |
| -J5HPW4 | YEAQDRKEVDLI YAI LFPEQSCHKAYLPKI A |
| iRet90_W104V4 | QQMGTDDVVVRYIMLGIKEAKAQVDLLAELM |
| UniRefer Hibeje |  |


| UniRef90_UPI00016C | R T M R N D D F VR QLL R G CQTREE【WALLLE |
| :---: | :---: |
| UniRef90-UPI0002DA9005 |  |
| UniRef90-UPI00036BB5C0 | A L DRLP A N R S A L L R C Q P P E V VDLLR R |
| UniRef90_UPI0002DFFCD4 | $R L T R D E T M L Q M L A D A P D T E A V Y A L L T N$ |
| UniRef90_E3ZDR1 | RWLMHEDFRMKL R VLDD A A TVVALL N K |
| UniRef90-K1M0 |  |
| UniRef90-A0A014NRD6 | RII L L N P E I K Eli I L S K D ENVI FNS |
| UniRef90_W0NI97 | R ML R A P L I REGL RLA A S A |
| UniRef90_UPI0003B3AC56 |  |
| UniRef90_R7D4E4 |  |
| UniRef90_UPI00040871A6 | EKAGNENTVRLLRMARTEGDIMD\LQ |
| UniRef90-D3T793 |  |
| UniRef90-W6AE96 | RLLMHEDF RGKLSELDDTATVVALLNK |
| UniRef90-G1VPL3 | NLFQDKEFQS D I R K L K |
| UniRef90-G2LQ48 | N A LD |
| UniRef90- D4EI56 | G L F Q |
| UniRef90_C3PG61 | RAIM K D DFRTRLLQS A T S K Q D AVD I S |
| UniRef90_U2TWH5 | $\square \mathrm{MLMDEEFRSQTLLEDGDPAS} \mathrm{I} \mathrm{ARRIN}$ |
| UniRef90_R6QIC8 | GFLAHDEFDA LLEEKAESYDDLDKGI K E |
| UniRef90-A5Z567 | TSLL L D D F K D KVK S S T D K A EL K E Y I L K |
| UniRef90-U1WU16 | RVLTHANFRTEMENAT DAETI A A AVNK |
| UniRef90_V2IEF1 | RKI D H Q DFl NQLK Q G N T DQVLS LL NQ |
| UniRef90_S4ZIN6 | HI A ED TSLIN KLI S S D N S K I A Y QLI LE |
| UniRef90_C8X386 | $R T L K D E V F R Q S F M Q A E G K E G L W Q L L Q Q$ |
| UniRef90_U2SQ89 | KKILDE KFREK L E M T D D K G ELLKIIIT E |
| UniRef90- Q04DX9 | K I CKME |
| UniRef90_A0A022LMQ3 | RALIREDF TA A L R A A T T P DEVVRLVD |
| UniRef90-R3WK75 | NIVVDTENVLK QMRKP |
| UniRef90_UPI000377AEED | QILQ S S ETV D E V V NQIS PEKVYE\\|FY |
| UniRef90-C9MXJ5 | KLSSYEEELLI EK I EK L N S VEE E F F TL |
| UniRef90-C3WF15 | ELLLE EK DL RIIKL E K CFNEMEVISSLLK |
| UniRef90-X1M2J8 | QFCKT P EII I S KL R S Lik TV D D FLELL D K |
| UniRef90_K8WWS1 | LIFFSDEFISSNALSLTS S E E E F L TiLLHR |
| UniRef90_F0PAR4 | KKLLDEGFRNDLL T G S K ESJLD S |
| UniRef90_C0N9K9 | GLLLQNEE Q L Q QLVFQ T D D E QLIV T S L K |
| UniRef90_G1WFP9 | $M A L T D D D F R A A C K D A T D P A A V A S L I N E ~$ |
| UniRef90-R2NMK4 | S LAG A DQ Q A R L K A T T K E EVRETLID |
| UniRef90_UPI000249 | RLLLMHEDFREKLRS |
| UniRef90-E1PT20 |  |
| UniRef90_U0ZCT5 | RLVVMHEDFRQAL RAELDPE |
| UniRef90-Q04H54 | A L FQNEKA M K KLE T IMK E K D F IE IM K K |
| UniRef90_UPI00046A6AF3 | $R$ SLMLDEFTA GLRAATSAEEVVALVDE |
| UniRef90-W7D9F5 | RRLID A EFRSNVLHEQDPVTL A ALLINE |
| UniRef90-W1SHF7 | Q I E E K S V Q KL I K S S S K E I $\square$ K T M Y E |
| UniRef90-W5V0U5 |  |
| UniRef90_M5T9Y9 | RLV V D A F L D GL R S S S P G A WLIL K E |
| UniRef90-W8JQA0 | HL AMSMEARSFLKNYPDKDHLLAYI K S |
| UniRef90-S5ZV71 |  |
| UniRef90_UPI00031C9487 | R I SESDEFLA A MRA CETKEAMWNLI LE |
| UniRef90_UPI0003B7699D |  |
| UniRef90_D9Q8W7 | R ALVVRKDFIEALEENAASETQVVNLVNR |
| UniRef90-R6QZR7 | GMI GNKELI GHLLDDAEGPKEFYE |
| UniRef90_G9Y469 | RKI M NEDFRNEI SRSNT T ND $\square$ Y K V V A Q |
| UniRef90_G8WKQ9 | S I F S DEVIAR A L S L I A N K E D FLLRIL Q Q |
| UniRef90_R9C1G1 | QVIQVED HLLEKLIHAKDKS DITALIFQ |
| UniRef90-R2T5D6 | RLLMNSEFKQQIKQLDSETEI A EYVNQ |
| UniRef90-D9RXX5 |  |
| UniRef90-B0MD42 | DVI Q D EKVVEEIVVHAKT CEMIKEIVTN |
| UniRef90-B0M9X7 | S I L ERGDNVRKLLEAEAAD D L |
| UniRef90_G4L795 | KLL D N R S L I Q KVL Q C D T Y E GLK K T L K K |
| UniRef90_S5ZAJ4 | A ILEEDK SIVRKVVIK S E S A K ElV VIIL N |
| UniRef90-D9RAW2 | D NLEKANTI Q K L A K $\square$ N D S R K F L DL L |
| UniRef90-H0QYQ3 | R A L VR P DFVA AL R D A S D A ESVVDLV |
| UniRef90_A0A011P9T3 | R QL SDK ALLK QL R A A E SEEDIWWQIL |
| UniRef90_K0VJM1 | R R L Q S D |
| UniRef90-R5JH36 |  |
| UniRef90_Q8EMS7 | K I I D R P S I Q KLVK A K D K N A FIEI IE Q |
| UniRef90-M4W3Z7 | ERFSDADFRRNLRAAPNADALMALLA |
| UniRef90_W7DCW4 | EKFADETFVEALRQQEQPQELVTFLKK |
| UniRef90_G9Y6Y7 |  |
| UniRef90-I4Z0U6 | $R$ RLLRDREVA A RLR S A K D GEAI HVVLT |
| UniRef90-UPI0002630 | EQFS ${ }^{\text {LE E F R D A L R S A P D A A A L Y AL L }}$ |
| UniRef90_R2P093 | D $\square$ S T NQEFLK ELLFSKNETK S I Y Q Fil R H F |
| UniRef90_B9DM65 |  |
| UniRef90_UPI00045E6D84 | QLFREDH\\|KEK V V A P D N K T L LDLL K |
| UniRef90_U2TJ42 | GMLSNQKAVKCL Q A C T S M M M L EAILLTE |
| UniRef90_G4L7H1 | RLLMMKA DVTD KLK K A T S A T E I A EVVLN |
| UniRef90_UPI0002DDC660 | S RLMDDDF QEAVEE\\|DQETQLLNLLKK |
| UniRef90-UPI00037AA18E |  |
| UniRef90_UPI0003B4A342 | RAL RDPEAVPALRAA T A E A M M |
| UniRef90-K0G4I5 | QRLS DK TLI K QLRSAESAEEDWQLFE |
| UniRef90_U5MTL2 | DTISSRAEVI DRELKHADSSKEI SDILLLK |
| UniRef90_M5E367 |  |
| UniRef90-UPI000380249A | NFCKDEENI DR L Y K S K S D Q A A Y NVL |
| UniRef90_F4LQ07 |  |
| UniRef90_G6CGG1 |  |
| UniRef90-T3GIC2 | TCLMEDDFTSEVVKNAS DASHLVKYI T N |
| UniRef90-10XCQ4 | GLFNNSKFKLALEERKT GEERLAADI R |
| UniRef90-E1MAB2 | DFFT GNGHLEAL S K LT DPEALY QYi S |
| UniRef90-J5HPW4 | EKLS DK NII K QI R T AETEEDI WQLE |
| UniRef90-W1Q4V4 | A LLS QEDLVAKLEAA Q S P A I VDLLS H |
|  |  |



UniRef90-10X757 UniRef90_R5U9B7 UniRef90_F4DCl5 UniRef90_B1CC02 UniRef90_UPI00036344A4 UniRef90_UPI0004722EBC UniRef90 C7XLV3 UniRef90_UPI0002D3EBD7 UniRef90_C9A5S7 UniRef90_R7C3H0 UniRef90-B8ET97 UniRef90-V6NWJ5 UniRef90-R2ST01 UniRef90_UPI0003183A8D UniRef90_D5SP77 UniRef90_S6A418
UniRef90 F4DIG7 UniRef90-D0GLQ2 UniRef90-I9AED6 UniRef90-W7CWW5 UniRef90_R8WM79 UniRef90-A0A017SYS2 UniRef90_UPI0002E832DA UniRef90-UPI00047EF48E UniRef90 F216G2 UniRef90_UPI00046F5951 UniRef90_UPI000472B773 UniRef90_C7MGR6 UniRef90 E3ZIL2 UniRef90-W4DDS5 UniRef90-SOS6Z1 UniRef90-G1WJM2 UniRef90_UPIO00369A7D4 UniRef90-R5ZLN6 UniRef90-K2H9N2 UniRef90_R2RCQ7 UniRef90-T3IKL3 UniRef90-R5IJS3 UniRef90-UPI0003EF0E3B UniRef90_N2Y9Z7 UniRef90-A0A010NTB9 UniRef90-G5HJF9 UniRef90-M2YG94 UniRef90-M2KAG8 UniRef90_UPI00034B26EF UniRef90-C5J6W9 UniRef90_UPIO003665E3B UniRef90-UPIO0036591C7 UniRef90-H9UH59 UniRef90-O32346
 UniRef90_Q4A7N1 UniRef90_A5Z568 UniRef90-M9W9N2 Unife990-M9W922 UniRef90-B6G824 UniRef90-G7U9P5 UniRef90-L3DIY5 UniRef90-H6CDAO UniRef90_H5T8J1 UniRef90_UPIO004647A53 UniRef90_B2S3Z4 UniRef90-H1PRS2 UniRef90_UPIO004649CD7 UniRef90_H1AYH4 UniRef90-R9TUG6 UniRef90_UPI00041F1A5D UniRef90_E7G876 UniRef90_Y1CY88 UniRef90_UPI00042A7B2C UniRef90_UPIO00376E602 UniRef90_U2PXC8 UniRef90_UPIO0021972FC UniRef90-J8J4U2 UniRef90_UPI000367B305 UniRef90_UPIO0041DD265 UniRef90-Q6MEK8 UniRef90_UPI00047ADA2F UniRef90_G1WK34 UniRef90-R2PH90
UniRef90-H5V513
UniRef90_UPI0002EB0369
UniRef90-HOUPE8
UniRef90-S9EBD7
UniRef90_UPIO00219370E
UniRef90-V3V1N7
UniRef90-T7QYR2
UniRef90-UPI000471A9AE
UniRef9-D0MGH6
UniRef90- J6CY36





 4 -
AO4647A5349CD7


2A7B2C
 $N V L S P E R V I F D N H T T K H D A L V E D A Q V L A T A P Q V E Q$ TT DLLKRESVELSRTPESKGQAIDQMVELMAKGGNIND
 LATIFDPDDVLFDVSQQNKSNVLRFAATRASQTLGVDA LEQYFSKELFEKNQRSETKYQLIHHMSNHLADLNRVNS MQNMFNTDLIDLSASVSDEQELFDLVGTRVDEKGFANL

LLNSHVIRIDQKC EKS YL AVTLS G EQIIGRDGVLLIEKTDNDKEVI KQMASALEEEGYVKD $\square$ E

$\square G K L L$
$\begin{array}{ll}\text { AK } \\ \text { A } & \text { I } \\ \text { I }\end{array}$

 G MSSLLQ




DHLS E S TVVLLDDV
$\square \mathrm{P}$

 VNS P VIS APLVALDVDGAAPQDVI HHLA QLVEKS GRASS $L$ N ALLNRELTF DLDAAGKDEI I LRMAEALEHAGHVK S

DFFSKDLF Y VRDDFDDKYS LLDF LSNEMDKCGDANE MRTFFRQEFFSI EPDVANWREAI D LMMGGRVVDE GYAF D L I D T L K S

LERYFSPDAF DRPDKAKDEEDADRQLSAP LDAQGDIDE




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

 MFSA QRVVTFNEAVSRTALLTRLAQSLLADGLVKP
 S A MKRF L D P T L F F T GRS F D S WRETL D F MCGSMERNGIV S D

 SLCSSYLIDPQFI FTDLLKGTTPEEII TEMID RLLKK DNE L K K D LKE FEIDLIF FRPSVKEKGELLRLMVRKLEEKGDVTR
 LK F ITKE ELVFLLQQGFETSDEVLAY L CK QL QALCLVNE LK QYIE EKMVFWDMEFKNKDECLKFVMEKLYSAGYVKE
 S Y L D A S RVV F VKE S T S E WE NLV QAAFAPMLERGTVVD S V L A T F LiK E E L L F F P Q K K E F A N R D ALLEPFFTDGLELSTDEPMERDNLI RKMGTVLQQEGVVD D SILLKYTTPFLVRLQQQVEHPYEIIVRLGQLLHQKGFVTA $L F$
$L$ EDQEAL $D R E M S G V L I D A G F V H E$



E


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MLEK F F D A T H F CVLNEPVSQA DLFARDCHQDQQEGYVDA $S$ L E F F RVA A E PLAA R LGLE A
UniRef90_V3C1L0 UniRef90_I0X757 UniRef90-R5U9B7 UniRef90_F4DCl5
UniRef90 B1CC02 UniRef90-UPIO0036344A4 UniRef90_UPI0004722EBC UniRef90_C7XLV3 UniRef90_UPI0002D3EBD7 UniRef90_C9A5S7 UniRef90_R7C3H0 UniRef90_B8ET97 UniRef90-V6NWJ5 UniRef90_R2ST01 UniRef90_UPI0003183A8D UniRef90_D5SP77 UniRef90_S6A418 UniRef90-F4DIG7
UniRef90-D0GLQ2 UniRef90_I9AED6 UniRef90_W7CWW5 UniRef90_R8WM79 UniRef90_A0A017SYS2 UniRef90_UPI0002E832DA UniRef90_UPI00047EF48E UniRef90_F2I6G2 UniRef90_UPI00046F5951 UniRef90_UPI000472B773 UniRef90_C7MGR6
UniRef90-E3ZIL2
UniRef90_W4DDS5
UniRef90_S0S6Z1
UniRef90_G1WJM2 UniRef90_UPI000369A7D4 UniRef90_R5ZLN6 UniRef90-K2H9N2 UniRef90_R2RCQ7 UniRef90_T3IKL3
UniRef90-R5IJS3
UniRef90_R5IJS3
UniRef90_UPI0003EF0E3B UniRef90_N2Y9Z7 UniRef90-A0A010NTB9 UniRef90-G5HJF9 UniRef90_M2YG94
UniRef90_M2KAG8
UniRef90_UPI00034B26EF UniRef90_C5J6W9 UniRef90_-UPI0003665E3B UniRef90_UPI00036591C7 UniRef90_H9UH59 UniRef90_O32346 UniRef90-A0A024Q954 UniRef90_Q4A7N1 UniRef90_A5Z568 UniRef90_M9W9N2
UniRef90_UPI0003F5DA9D UniRef90_B6G824 UniRef90_G7U9P5 UniRef90_L3DIY5 UniRef90-H6CDA0 UniRef90-H5T8J1 UniRef90_UPI0004647A53 UniRef90_B2S3Z4 UniRef90-H1PRS2 UniRef90_UPI0004649CD7 UniRef90_H1AYH4 UniRef90_R9TUG6 UniRef90_UPI00041F1A5D UniRef90_E7G876 UniRef90_Y1CY88 UniRef90_UPI00042A7B2C UniRef90_UPIO00376E602 UniRef90_U2PXC8 UniRef90_UPIO0021972FC UniRef90_J8J4U2 UniRef90_UPI000367B305 UniRef90_UPI00041DD265
UniRef90_Q6MEK8 UniRef90_UPI00047ADA2F UniRef90_G1WK34 UniRef90-R2PH90 UniRef90_G5HMY5
UniRef90_UPIO002EB0369 UniRef90_HOUPE8 UniRef90_S9EBD7 UniRef90-UPIO00219370E UniRef90_V3V1N7 UniRef90-T7QYR2 UniRef90_UPIO00471A9AE UniRef90_D0MGH6
UniRef90_J6CY36

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80

## E E R A S A S G K S T P Q N G G A S T T R E S R A R S E






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

 S I I D A
 RFLLSVVYKRESMGATF LLKGGIAIPPHGYPEHVTKMPAIA

 RFTAAVMKRE ILAGTGGVGEGVALPD V | $G$ | $E$ | $G$ | $A$ | $L$ | $P$ | $H$ | $A$ | $E$ | $V$ | $E$ | $G$ | $L$ | $T$ | $K$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | ATALDEEAWAREQKDETGLPGGGIADPHAKSAAVTTPSVAF

 EFERSVLDEHEVTAPT A L GK GVA P H GYAK FVIR PTVA





$G F L A D V A A R E A Q M P T G M \quad P G R V G L P$

R

## S

## N <br> <br> $\stackrel{N}{\mathrm{~N}}$

 <br> <br> $\stackrel{N}{\mathrm{~N}}$}


 GF E K S I L

 E Y A ENA A
A E L L A A A A T E R M S G K A T

 LEQEFAI PHAQS
FGY G


## D





## M A

$\qquad$
GNWIALVHPDE DC
 SVVTKVGV GL VRVRAV EDIKDLEFRESQTSTG DEAGFA P P A EH
NDVF ALP HP MEMCA A N D T K V A F ME T D V S F A L P P H P M E M C A N D T K V A MEGTSAAPHAYEGHDKKOTGFAGNNDAMP

FAVEVAMDAFVGET


UniRef90-H5TDAO
UniRef90_UPI0004647A53
UniRef90-B2S3Z4
UniRef90_H1PRS2
UniRef90_UPI0004649CD7 UniRef90_H1AYH4 UniRef90-R9TUG6 UniRef90_UPIO0041F1A5D UniRef90_E7G876 UniRef90-Y1CY88
UniRef90_UPI00042A7B2C UniRef90_UPIO00376E602 UniRef90_U2PXC8 UniRef90_UPIO0021972FC UniRef90-J8J4U2 UniRef90_UPIO00367B305 UniRef90_UPIO0041DD265
UniRef90_Q6MEK8 UniRef90_UPI00047ADA2F UniRef90-G1WK34 UniRef90-R2PH90 UniRef90-G5HMY5
UniRef90_UPIO002EB0369 UniRef90-HOUPE8 UniRef90-S9EBD7 UniRef90_UPIO00219370E UniRef90-V3V1N7 UniRef90-T7QYR2 UniRef90-UPI000471A9AE UniRef90_DOMGH66
UniRef90 J6CY36
UniRef90_J6CY36
FWA DCTLQKAMDWDGKPVQFCMLCDQRRKTEDLQSMYNDM ITTNQ PIDFDA IDDSKPVDTFFTILVPEEDKHLQALSGIAA
 GIVSKKGVAD F GPDDGQDVHLVFMIAAATNQHYLQTLSFFS


 I V N L K H K
 V M M L S N R PI P

IKLDKEDSFHNMDDEFPVKF FMILNNDPEGGQSNDLAQUM


 LVSHK GllQ W
 VAILDRPI VLAPQ I ATDKEP■ GILRR GWHGDMVDVVFLLAVK I QNTHKIKWKVQW $M L I N P T G I S W G E G T V R \square V D T V F L I A L S R D D N V K D I I L K I N$
 ARLVKPVDWQSEMGEVELVIMLTL GANE GMNHVKVFSQLA


| UniRef90_V3C1L0 | T DFQETSFIIESCRNDKTDE |
| :---: | :---: |
| UniF | AKLKKNDLRAMTQAATEKEVYDLLLK |
| UniRet90-R5U9B |  |
| UniRef90-B1CC02 |  |
| UniRef90-UPI00036344A4 | RKVHHSAVLDAMRSAA |
| UniRef90-UP10004722EBC | ESLDNKETIAALLKADS |
| UniRef90-C7X | A AFQNKQFVSAFQN |
| UniRef90-UP10002 | A |
| UniRef90_C9A | GLI E K YL R R R |
| UniRef90-R7C3H0 UniRef90 ${ }^{-}$B8ET97 | SthCodont ik |
| UniRef90 V6NWJ5 |  |
| UniRef90-R2ST01 | SLAGAKQ TDQLEQAKTEKEAREALLSF |
| UniRef90-UPIC | 硡 |
|  | RLGQNPKF |
| UniRef90-F4DIG7 | MS LEARRFFGFPDKDQL |
| UniRef90-DoGLQ2 | GEKEFYRKVSEAKKVEDLKEL |
| UniRef90-19AED6 |  |
| iRet90_W7C |  |
| UniRef90_R8WM | SELQNPNTLEALLNAPDAE |
| A0A01 | TQTEVREGLLAAMS |
| UniRef90-UP10002E832DA | RSLMQADFTAGLRGASTDDEVVAVVRE |
| UniRef |  |
| UniRef90-UPIO0046F5951 | DLFDNEEEVEAIRRMDDSHQL |
| UniRef90-UPIOOO4728773 | EI FSDQQKLTRLLNAAN【KAЏQAVID |
| UniRef90 C7MGR |  |
| UniRef90-W4DDS5 | 1 EDKE\VVQILAKDSVEEIIQLLN |
| UniRet90_Sos6 | QMLSDASRVKKLAKQTSFRDFMEL |
|  | KACSDRERSDRLSKSTSLQEF |
| UniRef90- R5ZLN6 | NIFMDADAAADVLGQTTSQGMVDATRRH |
| UniRefo K2 | AMLRAND |
|  | K SKEK |
| UniRef90-T31KL3 | SFIDETEE |
| UniReef90-R5 |  |
| UPIOOO3EFOE |  |
| UniRe |  |
| UniRef90-G5HJF9 | VLLLEYQNLDKVLQSNTYEEFIEA\\|LE |
| Unil | RAMARKTFLASLREAQS |
| UniRet90-M2KAC | AAFQDSEFVNKFKNTT\NEEMYNLV |
| UniRer90- 5 Jjow |  |
| UniRef90-C5J669 | , |
| UniRef90- UPIO00366591C7 | ELVHDSSLLMLLLCESETFEEFKRLLM |
| UniRef90-H9UH59 | A ALNSAEARDAL |
|  |  |
| UniRef90-A0A024Q954 | QVFQNEEQLTYLA |
| Uni | S LDP E S K |
| UniRef90 ${ }^{\text {a }}$ SZ568 | El N K M |
| UniRef90 M9W9N2 |  |
| UniRef90-B6G824 | GVLVDPQAIERLVTEQT |
| UniRef90-G71 | SVLYDRELFTELRSMSSYHEFMKFLDK |
| UniRef90 L3DIY5 |  |
| UniRef90 H6CDAO | F |
| UniRef90 H5T8J1 UniRef90 | D T D |
| UniRef90- B2S3Z4 | SKLKRPDLRTR LLCTNTA |
|  | KMLKRKNLLEEIKQEKNPSK\VEYUQE |
| UniRef90_UP10004649CD7 | LLLTENEKNMESLKKLINSPLEVVYQYF |
| UniRef90-R9T | SLSEQPAFIGKL |
| UniRef90-UP100041F1A5D | E |
| UniR |  |
| UniR | QNPDVLD |
| UniRef90 UPIOOO42A7B2C | HADRLKCDSYEEFIDTIVE |
| UniRe990 UPIooo376E602 | ELVEAESCRRAL |
| UniRef90-UPIOC821972FC | DFMASENELVPFFKSDDPKEIYSF |
| UniRef90-J8J4U22 |  |
| UniRef90 UPI0003678 |  |
| UniRef90_UP100041DD265 | EDLR |
| UniRef90 Q6ME | QA M NEERRKKLLTLSNPKEIIELIEQE |
|  |  |
| UniRef90-R2PH90 | SEQ LKEIEKATSTNEVLTLLVDF |
| UniRef90-G5HMY5 | QLTDNDD |
| iRef90-H5V513 |  |
| UniRet90_UP10002EB0369 | V ${ }^{\text {K }}$ |
| Uni | ED GLVGR |
|  | F |
| UniRe990- V3V1N7 | F |
| UniRef90-T7QYR2 |  |
| 90- UPI000471A9AE | VTFMRERAVGRLLASTDFEQFRD |
| UniRef90_DOMGH6 | QLLQREDFEQAWLMAPDAEALRRLLLE |
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UniRef90 UPIO00346364A UniRef90 ${ }^{-}$K1LLT6 UniRef90-UPL0002FA23B3 UniRef90-UPIO004758717 UniRef90-X0UC05 UniRef90-R5RG33
UniRef90-R6R3N9 UniRef90-R6R3N9
UniRef90-D1AWN1 UniRef90-B9Y3S8 UniRef90-T4RA588 UniRef90-G4HJAO
UniRet90- SOSAY6 UniRef90-A9G803
UniRef90 LOWZU6 UniRef90-H4U9V6 UniRef90-SokTL2 UniRef90_UPIOOO3771281 UniRef90-13U0Y0

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VLH GVP ${ }^{20}$
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40 KLLSEDFFKIDNKNMKQKDVIRNMVNDLEENNFVKP
 ADS DEEVVEELLRLLDATGKVLD
S LIKELMREDLFHVKNTMNNPKEII DYLLCDELI EKGLATP
 MSDGLCDEKVFFENLEVSNKNELFEFIVENLVKLERIEK

 FVADQLIKNEQERS

## $\square$ L N F L K K Q N $\square \mathrm{Y} \| \mathrm{I}$ K N N T S

 $\square E N \square L N \square F F N D K Y I N N$ QWINPELVFLREQVENKEECLNFMDEKYQALGIAKE DLFSDNRFLVLEERTKKEDVLNHMNNKKLLEQGLVNS FHDNLVLCELLNFSTKEEVIKYLCQQi TEKHHVSN $\square$ KK K L

## MLEKFFDANHFMLVNEPLTQEQLFSKVCAQLEQEGYVGS

I RNYFDEPFTYFRKEFTKPETVLRFLCNDLERLDGLVDS
 YFQDSCENRRSLI HKYCTYLEDNGYVTE SQFAK LIHED LIFLDHHFENYQEVITFDGEQLVTRGYVDE $N V F D E R L F V I$ QKTSLDKEEVMKILTDKMIDMGYVDN S ILSALLGEDRFFILDHNKDYWENICVMVDSLYEKGYVDA


$L I D A \square A \square E S \square H L N L K A D N A N D A \square T Q A D S R T P Q E \quad V L P$ Y IKEKIENWEEDI D $\square G V N D L K N N K K V N E$ LIQKETFHYDLDLKTPSEVI TYMCDHLEKLGYSNA
 MSNMFDEKA F FS D $\quad$ K AS T K E EVVI DS L A S K K L K E R D F I E E
 TS SLFRKNAFHHEQEGGSYADMVSCMAAKLEQEGYCDP

 K D L F D R D L F F T DLLK F K T K E E V I E F M G D E L L N K G V I D S
LIS FMDPQ $\square$ FEKNHYENSVEDMDRYMAEKLVA $\square G \square A P E$
$\square K R F L S K S R \square \square D \square K S T D F K G A V A E L D D P A L L E G V D K K$ $K L 1$ K D DLI FLDHSFTDYQEVIQFVGQQLI KKGYAEE DLIQPEFDFAKLAVTTMEEADLAVTNLVAGRCR
 VLVGDA VK VA ASYQDYLVYMTQSLEALGLVDD $S K L L N Y Y S T N L F I P N L K A E T R E E A I K K M C D H D D R Y D L L P Y$ VFLDQTLT DKEQLQRFDADFANKA ES
 ILFTKVDSQSDLFEAVANQLLTKKYVTE LIEQYFDAAAFVRGLDAESDEAATRLGAPLLEAGVIDG YFDEDLFMKNVYLDSNESYI EFMSKLLYEKGYVSI LI HQDLVFLDQPLANFEAVIHFIGKQLVRKGYVKK TFLRSLFHKELYFRNVAQDSAQAYIKFMGGHCLEHGYVKE ESYFSKDHFIV LEKADKSELISEMDRLLIPDNVSQQ LERYFDPSAFI RGLDGEGGEEVI RQLGSLLVGQGVIDD NVAD GAAFKNYDEVLQHDHEKQYAD GIVKD

 पK

$5 \square 1$ FFSSSLFLANEDTPNRDDVLPLLCKSME EDGYVND S LLVSMLDADRFMADPPGTDYHRATAALDDRGEELGLVGE



## UniRef90_UPIOO0346364A

 UniRef90 K1LLT6 UniRef90_UPI0002FA23B3 UniRef90-UPIO004758717 UniRef90-X0UC05 UniRef90-R5RG33UniRef90 R6R3N9 UniRef90-D1AWN1 UniRef90-B9Y3S8 UniRef90-T4RA588 | UniRef90-G4HJAO |
| :--- |
| UniRef90 SoSAY | UniRef90-A9G803 UniRef90-LOWZU6 UniRet90-H4U9V6 UniRef90-SOKTL2

UniRef90_UPIOOO3771281 UniRef90-13UOY0 UniRef90-FOYZC1 UniRef90-UPIOOO2554E6C UniRef90_U1Y1B4 UniRef90-G5IVM8 UniRef90-X2HOZ5
UniRef90 M4U9P6 UniRef90-U2NF34 UniRef90-W9AKQ1 UniRef90-A9G6A1 UniRef90-R6UDK9 UniRef90-T2NNE8 UniRef90-E2SN23 UniRef90-IOUAY4 UniRef90_18SEC2
UniRef90-P75145 UniRef90-R2XU66 UniRef90-SOKWJ4 4 UniRef90-F3MWE4
UniRef90-K1ZMT1 UniRef90-DoGJ33 UniRef90-U2OS31
UniRef90-R5EG99 UniRef90-UPI0004151C8F UniRef90-T3GIT1 UniRef90-R2NU65
UniRef90 R6UP29 UniRef90-G3K411 UniRef90-F8VCR4 UniRef90-UP10003B4E793 UniRef90-R2S4X2 UniRef90-5X1A7
UniRef90
R5XF91 UniRef90-R5XF91
UniRef90_UP10003EB507F UniRef90-G2T221 UniRef90-D4W8Z9 UniRef90-R7L817 UniRef90-K4XGL2 UniRef90-W7DBB8 UniRef90 ${ }^{-E 1 J K F 6}$
UniRef90 UniRef90 ${ }^{-16 U 011}$ UniRef90-DoLM53 UniRef90-D4VV67 UniRef90-AOAO23SKYO UniRef90-TOU095 UniRef90-COD786 UniRef90-B9DVB1 UniRef90-W0Z4C0
UniRef90 R9TZX2 UniRef90-Q2C7B5 UniRef90-A6DH31 UniRef90 ${ }^{-K 8 E 6 U 4}$ UniRef90-COCWF4
UniRef90-UPIOOO35C3969 UniRef90-U2XCG2

| LQALIEREANGSTGF GKGVAV RILQKFHEKESELTTFLGSKFAI ATADKEREAMSSTMEETETVAI KESVLERENLSATTMLGGGIAL IVTVLN TVEELGQQYFFDKEKVFL <br>  YQAVLAEESHSS GERGNNVA <br>  YPSVVEREA VVSTAGLGEGDAL <br>  <br>  LERVLERDQAMSTAF PNRFA <br>  <br>  PKQ TQALTDRGHQUVLGDG SEDVKSLIRNFGPYMVITEDIJAI DLLKGINEKDAKNPAGIAHG円Al |  |  |  |
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|  | - ${ }^{130}$ ( ${ }^{140}$ |
| :---: | :---: |
| UniRef90_UPI000346364A | GA LT DE QVVVTELL LGAA DEAELLM |
| UniRef90-K1LLT6 | EIINSEDVLNKI TKVRDFEEFIEVLVE |
| UniRef90-UPI0002FA23B3 | KMVDNPSLIQQLVQCKNYRDFIN |
| UniRef90-UPI0004758717 | RLLKHRRVRRKLLEARDSGELLAVLQR |
| UniRef90-X0UC05 | GNLQRPGFRNALRQASSPKGVLELIS |
| UniRef90-R5RG33 | S IVSDSNKFTQLLEVREHQE |
| UniRef90-R6R3N9 | RLVDDEGLVVRKLLGSENLAQFKDRL |
| UniRef90-D1AWN1 | RNI DD SNKANULKHSENKEEVLMLLNK |
| UniRef90-B9Y3S8 | RLI QDPEKVQRLTRQTEADTFLRI |
| UniRef90-T4RA58 | DFIDNKKNINDILSATFTKEVYDLLVE |
| UniRef90-G4HJA0 | R I SEQPALVVSALSKETDADRLLNRLK |
| UniRef90_S0SAY6 | EKLNVYQNVVDILSAKKKEEIEKVIHEF |
| UniRef90_A9G803 | RLLRDETFRRRLLGASTGRAAFEL |
| UniRef90-LOWZU6 | KLSEDNNFMKEI I NQETPEKIILLSIKKY |
| UniRef90-H4U9V6 | EMIQDTPFMQALLAMETTEIHTV |
| UniRef90-SOKTL2 | EFI EKEENVEQLI QVT DKETL |
| UniRef90_UPI0003771281 | DFISSDKLQTKLLKEANYQTFMDI FS |
| UniRef90-13U0Y0 | Y LEK QPEQMAQLMQSNHPLE\\|LTLLSSY |
| UniRef90_UPI0002D74C4F | HL LT S N I F I Hellik |
| UniRef90-FOYZC1 | DLTRNIKDVEQVLKAKKISEI D |
| UniRef90-UPI0002554E6C | S RLKNFALRKELLGGSQTPNEAYQLLVKH |
| UniRef90-U1Y1B4 | DLFLS PEKSQAALRTDSYEEFVRI |
| UniRef90-G5IVM8 | MIC TDEQN】HKLSA】T T F DEFVD T |
| UniRef90-X2H0Z5 | SNLQNKEFYHFLLKAP EDEI |
| UniRef90-M4U9P6 | QLLSDRDMREGLTTLPSPEAUHQLLT D W |
| UniRef90_U2NF34 | VTFVRERSMTRLLGSDNFDSFKAV |
| UniRef90-W9AKQ1 | NLLEDQHLILRRLVAARNFNAFKRLM |
| UniRef90-A9G6A1 | RLAR LGAADALCAARDPAQLIEQLA |
| UniRef90-R9LM93 | EIVNNSKDQQEILKSNDFSHFIQUIS K F |
| UniRef90-R6UDK9 | RIVSDDEQTHMLKSCNSLEEIRKYL |
| UniRef90-T2NNE8 | LNVMESDERTFLLK GTKDELKKYL |
| UniRef90-E2SN23 | KLFHDEKNIRFIVTSSTFQVFRDKI LK |
| UniRef90-IOUAY4 | TVANDRQLI NRLALLSKSYDEISHLLLEH |
| UniRef90-I8SEC2 | NKFKSEKFI AQMQQAKSEEEI REA |
| UniRef90-P75145 | \AFSDPEEVEKLVKDKDQDKVLEFLAKH |
| UniRef90-R2XU66 | EFMEREE QQQALLQQSDYPHFLTQI |
| UniRef90-S0KWJ4 | KLVKSEENVKFFFNKTRPEETYRKI |
| UniRef90-F3MWE4 | TLLS DEHRVQATTRASHAETI YQLI SE |
| UniRef90-K1ZMT1 | TLLQESEYVKRLLTARTPTQUMDVIR |
| UniRef90-D0GJ33 | KLIEQYDFKK |
| UniRef90-U2QS31 | NMiNDANHFASLLETKDYEDFLTK\VE |
| UniRef90-R5EG99 | LMLSEPGFADKLRHSGSNEEI |
| UniRef90-UPI0004151C8F |  |
| UniRef90-T3GIT1 |  |
| UniRef90-R2NU65 | KIVQSEKQLTNFLAERNAKEI |
| UniRef90-R6UP29 | EVMSDTALIEKLRRAESYEDFMKCTS H |
| UniRef90-G3K411 | QIVEDPKLAKEI REVEDFEAF $\square$ R $\\|$ L |
| UniRef90-F8VCR4 | S RLLA DDVLRA |
| UniRef90-UPI0003B4E793 | EAFSDRTNVDRLLRGATDYPGLLAELAR |
| UniRef90-R2S4X2 | K IVRSEKNI R HFFSGKNAQEIYQEIS R |
| UniRef90-F5X1A7 | DLVDEPDLQEQMLACQSFEEFRTLF |
| UniRef90-R5XF91 | KQVGSVSKVISICENKNYEKFTKMF |
| UniRef90-UPI0003EB507F | ELFSS DVDMEKL HQAKTWRTLKRLLTVF |
| UniRef90-G2T221 | EHFENSTTVEKLIHASDFHNFIDIILT |
| UniRef90-D4W8Z9 | RKL\HEDFREKLLNASSKEEITFELICE |
| UniRef90-R7L817 |  |
| UniRef90-V5XNJ2 | ESGEKNYLLK GTKNETKNYLKE |
| UniRef90-K4XGL2 | RRIM HEEFRNALVNAASADAI A S LLQ |
| UniRef90-W7DBB8 | EYIDNKRWLERLTQLETAEEIQEHLIK |
| UniRef90-E1JKF6 |  |

 RLVHDRSYVSFLERQGSSEELLSRTHE SLFFNQKAI QTLIKYPNFETLLSSLLD R RLADDEFLELLLNIESEEDFYRILEE TFFITKGNLDRLLHELGDNKE FFVQ
KMLT DADADGRLDRAQTYETLTELLEK TFFMTKGNLEKLASFENENQINQYLIE EVFSERESVQRILRRGTDDELVAVID NILSEWRNVHDLIKAKDYNDFMD
 E ID S GD K SFLAKGNQEQLLS YLKE ELINSTSRTDELLKTNTFEEF






GKV D DYKKKE L LNAKTDKE DYN \I
RIGTDKELIERLSKATNYDDVSQYLEQ DLFSKEDVMERMKECTTFAQFEHMI RLA S D R A LIT S LTS RVGTSHEQLF
RLTNDPDLLNRLSTLTNHEDVF
QLMQDRTKI QKI YNNPVLQNVTEVLRR


UniRef90_E6LMF5
UniRef90_UPI00040F9AC1 UniRef90-UPI000408B635 UniRef90_UPI000287CC6F UniRef90-H3NQ78 UniRef90-B3S4Z9 UniRef90-I9NRF4 UniRef90-UPI00040087C5 UniRef90-XOZQE3 UniRef90_S3AQB0

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lupas_21
lupas_14
lupas_28
jnet
conf
cont
sol25
sol5
sol0
jhmm
jpssm


UniRef90_E6LMF5 UniRef90_UPI00040F9AC1 UniRef90-UPI000408B635 UniRef90_UPI000287CC6F UniRef90-H3NQ78
UniRef90-B3S4Z9 UniRef90_19NRF4
UniRef90-UPIO0040087C5 UniRef90-XOZQE3
UniRef90-S3AQB0

50
EFLLINALLEREKILSTTG 60

 $K E L E Q G F L E G S R I G A T Y P$ G LLDNVLQREELSSTALDD
 A GKKSVFAREQMAST ELGSLIAI PHALENHSKEAADAV D FVDQFLEQVHVRETYSSVVFGDSLAFPHPADPMSFSEQI

lupas_21
lupas_14
lupas_28
jnet
conf
sol25
sol5
sol0
jhmm
lupas 21
lupas_14
lupas_28
jnet
conf
sol25
solb
solo
jpssm

UniRef90_E6LMF5 UniRef90_UPI00040F9AC1 UniRef90_UPI000408B635 UniRef90-UPI000287CC6F UniRef90-H3NQ78 UniRef90-B3S4Z9 UniRef90 I9NRF4 UniRef90-UPI00040087C5 UniRef90-XOZQE3 UniRef90-S3AQB0

SLVCNKKLVNELLSDGSYENLLNQLME $Q M V L S Q K Q 1 Q D L I R K Q D Y D T F I K A M S E$ GRIDDENFLKDWLDASDEQELKE LI HFISDKNNINTLRYTKDEKDVIKILSR TVFADEEFRQILMDATNDEEFKKFLNE RYF $\square$ S DF GVNTL $\quad$ KNAKFKVLI EKLGE EFVKNGAGQERLMKNPSYSELIDDG
Q A AEETDFEKEWIKAKDSEELRDII
SLLDMNEEVIASLLEKQNFSDFIRQI


[^0]:    ${ }_{8}^{80}$

