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SMKRVQPCSLDDPATQKLITNTFSKEMFKNTMALMDLDVKK $V K P C S L D P A T Q K L I T N D F S K D M F K D T M A L M K L D V K K$ E Q N V L P C T L D A E T Q R L M R F KPCTLDPATQKLVEL LK KVRPCTLNNPTQDLVSL
$\qquad$
S
T R K P A K C T L E P A V Q R L ME L
K K I A A CRLLDKPTQDLVKL

$T V$|  | $Q$ | $V$ | $R$ | $P$ | $C$ | $S$ | $L$ | $D$ | $P$ | $A$ | $T$ | $Q$ | $K$ | $L$ | $I$ | $T$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

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K
K K $V$ K G P

ST Q K I - P

PKLL
SDRKAPE

P PKCS $\square D P A V Q H$
R-CKLEKPVKELMELI
REPPKCTLHPAVQRLMEL K NVQDCTLDGATKSLIKL V E H K K E C S L D E R V Q E L V K L
 K S KLDRAVQDLI K M

VRESKLPKEVQDLMRL
MKPGKNSKLHQAVQELICMI


PASRLDPRVQALVEL
K K A A C T L HEAV QRLVA M
QK P L K C T L H P S V A K L M E L TEEQQVKESKLLEPAVQ DLMAL


EKAPDSK PTAVQLLME
K K P V

SKLAPEI QDLI KM
$\square K P S K D S K L P M A V Q E L I D C M$
R E VA
P C S L L T A K Q K L I T
KNVI
ECTLPEPVQKFVGL

| $E$ | $C$ | $K$ | $L$ | $D$ | $D$ | $R$ | $L$ | $Q$ | $Y$ | $L$ | $V$ | $K$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $D$ | $L$ | $I$ |  |  |  |  |  |  |  |  |  |  |


| $R$ | P |  |
| :--- | :--- | :--- |
| K | I | P |

E CTLLS QPV Q E FVVSV

P

| K $C T$ | $L$ | $D$ |
| :--- | :--- | :--- |

K P A
PTRP
AKQK $\quad$
R K S P K
RKSPKCTLAP PVAFLMOF
E K P E VK S E L
$S V Q P \square P$
K S K L P S Q I Q E L DK M I
$A L S Q R K$
S KL HPSVKEL MELCF

A V K R A K E S K L
$P$ VK S S L P Q PVQ D L M GL
$S E S K \square Q$
$K$ P P K
$\square \mathrm{P}$

K
K S S L P K N V Q D
$\mathrm{G} \square \mathrm{K} \mathrm{K} \mathrm{V} \mathrm{L}$ S KL D TP TKELI ELL
$K$ TPDSKLEKK LQDLVNL

## EKWVP P CS L S E PVVNLLMKL I F


SKRKVK
K
T T S QLR TKLL E P

| T | V |
| :---: | :---: |
| V | P | S K

S K R R VL
TLDKTTQDLVAL
 K K K T S K L D L R I Q SL L ELI C DL K A ME E CVLLEMKF DTK K K K A E CTLA KPVRDLVALI FNQAHLNAAMEDMSYDAKK


KSNLSQAVQDLIKLMFSSDMFRDAMKTMNVDKK
$F N Q Q Y F A N T M S D \square N Y D A K K$
$F N Q Q Y F A N$
$F$
$N$
FNA QYF A A TMASSLNYDSNK F SNDMFKEAMECMNLDDKK F DVKMMERTMTEAKYDLKK F S KEMFKNTMTEMDDDVKK F D LD MF K E S MK K F D I DVKK K F DVE S MKKA MVE F E I D L QK
 FDMDNFKKTMVEFEIDDTR FNQNFFNATMSSLNYDANK CN N I Q T M E D A V K K E M K Y D T K K CDIQ T ME E MVVMEMKY DTKK F NHDFFNAAMKEMSYDAKE
 FSNAHFAATMTELNYYDANK F NMGYFASAMSAMDYDANK F A V E S M K K A M V E Y E E D D L Q K F D D E MKK T ML E F E I DL K K F NQQHF LSTMASMSYDAKK F D Q Q K M K D A MME F E $\square D$ M K K F DIN NFEK T MLLEE Y L T K
 F NQQUMMLSTMASMSYDAKK F DVDF MKK TMMEFH DDMEK
 F N QQ H MLLS T MA SMSYDANK F D IIE S MKK A MVE F E IDDLK K F DVVDNM K R TMMME F H I D M EK $F N K D L F Q S T M A S M S Y D A Q K$ F D IIE SMK E A M I E F E L D D L R K
 F D $\square D Q$ M K K A M DE Y E I D MK K F NQQLMDNTMSALKYDAKK
 FNMDMMKNDQMME DGYDTKK CDIKAMEECVLEMKFDTRK
 C D I K T ME E M L L M K YD T K K F NQQYFREAMTSMNYDANK FNQSYWANAMATLDYDANK $F D V D \square M Q K D M M E F E D D L E K$ -NQQYFAAAMSDLNYDANK $F N Q Q Y F R D A M T S M N Y D A N K$
$F N Q Q Y F D A T M S D D N Y D A N K$ F N QQY F D A TMS D L N Y D A N K
$F$ D EAN M R K V A E F E I D M D K F D V E S MK K A MLLE F E I D MK K FSTDMFKEAMEVMNLDDKK C NVK S ME DAVVEMKYDAKK NQQYFAAAMSELNYDANK C NVG A MEDMVI EMKY DAKK
 F NQQQ F A RTMES LNYDVNK CNIS MMKQQMMEIGYNAEK F DVEAMKHA LVEFE $\square D M K K$ F NTEMFN QTMAS MDYDAHK F NTEMFNQTMASMDYDAHK
FSSDMFRDAMK TMNIDDKK



QUERY
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UniRef90-T2M1Z9
UniRef90-V9KQ97
UniRef90 R7V819
UniRef90-I1GG991
UniRef90-B5X1N3
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UniRe90_B4NIX UniRef90_G7X8B4 UniRef90_S3BNN6 UniRef90_H2KS56
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UniRef90_A7RNW1 UniRef90- F4P043 UniRef90-B5X3M4 UniRef90_K7IV59 UniRef90 ${ }^{-}$A0A010R3N3 UniRef90-UPIOOOOD87632 UniRef90-T1HMS8
UniRef90_R8BLI7
UniRef90-H1VHZ9
UniRef90-L8G7V9
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UniRef90-W5MXF7
UniRef90-UPI00035 UniRef90-M4GAV3 UniRef90-UPI0003F069E1 UniRef90-D3BCL7 UniRef90_M2MDZ6 UniRef90 A0A059AYD3 UniRef90-T2MH54 UniRef90-U1FWH5 UniRef90_U3IWP5 UniRef90 ${ }^{-}$T1P821 UniRef90-UPIO002B4423D UniRef90_I3KDD0 UniRef90-F2PQ28 UniRef90_M7T0F7
UniRef90_R7SIY4

130
140
QAVSEQEKTVEEVPHPLDRDYQL QAASQEEERVEEVPHPLDRDY KAESEKEEMEDTVPHPVDQNYQ
 $\begin{array}{ll}Q A A P E E T K K V E E V P H P L D R D Y \\ M K T & D K S A E D D I D H E L \\ D K Q Y Q\end{array}$ QKDKDKDDGSEDIKHPLDLNYDL QKKDK S T K K T T E E W

| M |
| :--- |
| M |
| M |
| K |
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## $M$ $M$ $M$ $K$

$\square K D S E S D E S N D E L H P L D E N$
QAA Y GTEETV
V TKEKDKKMATGEVPNPDDVNYEM LKGGKED EGKDPIDI NYE LGKGKGAEKDPTVPHPTDVNY
LKV EATEEGTDPVDFHY
 VRSERQDHE HPLDQHYR MSASEEED DDPVHDLDRQF
 LKAQDAEETVEEVDDPLTVNYK
MK D DRKT $\quad$ SVVH
LRGGSDDSSKD
LKGGDSGK
MRKEPKDAEK VNALDNFE

LKS EGDTEEDKLHPVDFHYE
LKQTLKDDGG VHQLDRQFN


L K G S NED TVIVNDNPALDKHYE
1 NEKADANWDGEPVNPI DVRFR
MKGA KASETGLHPLDIQF
LK G GDQNGSKD $\quad$ PVDVHYE
1 K EDSGED】
MKEAKNTDTV HPLDRQFQ
MKADRGKSNENDSVHPADKHYR

L
MK $\square$ DKTQFDVHPLDRQFQ
LQSSSDADTGEDAHQLDRQFQ
I K T T NSVH VEHPMDVNYR
VQSSAYGDE HPLDRQYN
L HA RKS K TDSNKNPLDAHYE HPLDRQYH
MKVDRKN
T DVHQADRQYQ


MKVDRKVYDV HPADRQYQ
 LKG GDEGEDPITSHYK KAETEKEEMDEEDPHPTDQDY LQ G GKDKEAADKSENPVDRHYH
 QAVA

QNEDCKEEINPLDKHYE
NEKPNCLLNPIDQHYN

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| UniRef90＿G0ULU8 | $\mathrm{L} G \mathrm{G} \square \mathrm{KDNEA} \quad \mathrm{~A}^{130} \quad \text { HPLDNVY }{ }^{140}$ |
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| UniRef90－W4YQV3 |  |
| UniRef90－G5EB68 | LKDASKMEDA NPLDSQY |
| UniRef90－B2WKR2 | LKKSQLKDDSG VHQLDKQFQ |
| UniRef90－UPI00032AC3FF | LK DDAEMQEDPLFAH |
| UniRef90－Q4RR03 |  |
| UniRef90－D8PLA0 | ISSSTPRDESGAPMNPLDAK |
| UniRef90－W5U6Z3 | V Q S S Lid E NPLDK |
| UniRef90－T1IJ17 | L NENPDMLLHPADNHY |
| UniRef90－G9MZD9 | MK】 DRKSTDNIHPLDKQF |
| UniRef90＿UPI0002651BB8 | NEDE HPIDQQ |
| UniRef90－G4ML01 | M GKDKVGDPVHPLTKMYN |
| UniRef90－H2Y863 | M DDSSSSAAKENPLDLHYK |
| UniRef90－K1VSZ6 | LKGRKDSRD NPADAQFE |
| UniRef90－K7IV61 | MR NKKSESTDKNRLDAQ |
| UniRef90－V9KKP7 | V TRVSDTEEHPLDTRY |
| UniRef90＿F8PB21 | 1 T A SVMTDEVGNELNQLDAHF |
| UniRef90－L8H4Q2 | LK DGSGGETLDPIEQNYR |
| UniRef90＿J4KMU8 | MKVDRNAPAAADPVHHLDR |
| UniRef90－M3ZT75 | AESNADSDEHPLDR |
| UniRef90－FOZGN6 | TKEAESDDSNDLESHPLDR |
| UniRef90－U5EZI1 | LNAATDDSK HPI DSHY |
| UniRef90－H9K5H6 | LYA K T T T K N L D A |
| UniRef90－R7V789 | I K S NVEE NPVDTHYN |
| UniRef90－W9Y535 | MKSATVDKYKQEKLH【LDRQYQ |
| UniRef90－W8BJP9 | LQAEDEEEN L NPLDKHYE |
| UniRef90－S7ZMA7 | LKVS KEANDTIHPLDRQFQ |
| UniRef90＿GOTVS4 | LDAPQGKD LHPLDS |
| UniRef90＿UPI0003C81CEA | QAAPEETKQVEEVPHPLDQYY |
| UniRef90＿Q566G1 |  |
| UniRef90－E9GXY1 |  |
| UniRef90－A9TUE0 | LSNDNDEDD DPAY |
| UniRef90－K1QLU6 | ｜LKG GDEGEDPDDAHYK |
| UniRef90－Q11208 | LQTEDSKAD $\quad \square \mathrm{NPI} \mathrm{DKHYE}$ |
| UniRef90＿M4DPW4 | Q G L Q D D PLYY |
| UniRef90＿UPI00034FA770 | A SMDLNSLEHPI DRQYR |
| UniRef90－V9D9W0 | MKSASVQKQKD $\square$ HVLDARYQ |
| UniRef90＿B3RJY6 | $\square K T A K \quad D S G K D P V D$ |
| UniRef90－B8MBT8 | S D SLTT DSEIHFLDK |
| UniRef90－K5WMD8 | S K D HLT GEPINPLDG |
| UniRef90－UPI0002B8D9D0 | LTTTTEDTQTD PLDL |
| UniRef90－N4V4H5 | MKA DKKVYDVHPADS |
| UniRef90－M2QVY6 | \QGS 1 PR DAA GKPMNPLDAHFR |
| UniRef90－UPI0004621A7D | I S STIPRDADGNAVNPLDG |
| UniRef90－W3XN29 |  |
| UniRef90－F9GFH4 | MK】 DRKARDSIHPLNRQFQ |
| UniRef90－S8DR40 | IS S SVPKDAGGRPLNPLDHN |
| UniRef90－E2AAA6 | LR DT T DGKQNPLDSHYK |
| UniRef90－Q16NZ4 | L N D T DAKK NPLDAHYE |
| UniRef90－H3CF23 | VKANEDSDE NPLDRQYR |
| UniRef90－T1K3C4 | MTTVKQEKVTD DPI KQ |
| UniRef90－M5FZ57 | LS D S $~$ S Q T E D G T L |
| UniRef90－H6BZH3 | MKAANDDKTKQERLHVIDRQYE |
| UniRef90＿UPI0001A636ED | LQTKGDSKR NPLDEHYE |
| UniRef90－W712H4 | MK QVEAEDSQGNR】HPLD |
| UniRef90－F9XPR1 | IKAGKDRSSG HLLDSQFQ |
| UniRef90＿V4U0Q6 | L EDDTE】QADPLYSHYQ |
| UniRef90－D3B7N1 | KKQTEQYKTLKTNFNPLDKQSEL |
| UniRef90－S9UBX5 | LDNAEAAQGTTRVKNHLDRTY |
| UniRef90－S9TUL0 | LETEADKAKKEAPRHYLDV |
| UniRef90－Q0CPK1 | MKESRDADT $\quad 1 \mathrm{HQLDRQFQ}$ |
| UniRef90－V2XG76 | MSS $\square$ EEKEDAD PVNPLDAQFQ |
| UniRef90＿M5VIF4 | LK D D T GMQEDPLYS SYQ |
| UniRef90＿V5FJK8 | MKDSSKD EEEINRLDRLFQ |
| UniRef90－U6IBT9 | MKTSNSD VNPI DE |
| UniRef90－A0A022S5Q6 | 1 E N D D M E D P Y S Q P |
| UniRef90＿G7IF43 | LKEDEQVEEDEDIEEDPLYAHYQ |
| UniRef90－U9TGL0 |  |
| UniRef90＿UPIO00359E812 | QEKAEKESKEDTVPHPLDTNYGL |
| UniRef90＿J9K0U7 | MDSKTSEDS MLHPLDTHY |
| UniRef90－Q7QBC7 | LN DGDESAQDGKNPLDAHY |
| UniRef90＿L8HJY8 | LQGDSASKKLNTAMSPLDK |
| UniRef90－UPIO00440D779 | 1 QTATPKDKHGNPVNPLDAQF |
| UniRef90－F4Q6M1 | I K D S A D K Q L K S D K P L D K |
| UniRef90－UPI000441866C | LADDANNKDGTKLLHPLDAQF |
| UniRef90－W2T2D2 | I KQEEGEEA EDRDPVDVHYE |
| UniRef90－Q9N4H4 | \｜S G G DVPA S T S L G I D PV DIN Y Q |
| UniRef90－W9WWW9 | I K S A VAE HKSLHMLDRQYQ |
| UniRef90＿UPI0002656EC6 | LKS ETPETSLHPI DRHY |
| UniRef90－N6STB6 | MKAS G GEHTVDSYYNQL |
| UniRef90－U7Q3M6 | MKVDKARSSEDRSTHPTDKLYN |
| UniRef90－UPIO000122A02 | $\square C G G D S T P T V T \square G \square D P V D V N Y Q$ |
| UniRef90－F2U985 | L EDTAGTAGEDPLDVYYR |
| UniRef90－F9GEB6 |  |
| UniRef90－F4Q0P0 | K K Q ENTK S LK T NLAPLDKDSEL |
| UniRef90－A0A017SBJ6 | MKESKDVER ERIHQLDLQFN |
| UniRef90－M0T8N9 | LKK DDSETQDDPLYCRYE |
| UniRef90－UPIO00180C414 | MDEAEGSGLKE NPFDLRYK |
| UniRef90－V5GTI6 | LQKGLRVKS PHPLDQFY |
| UniRef90－F2UPP9 | MQEGDEDHSV HPVDA |
| UniRef90＿C4JN91 | LTK G S K K N N S V D P V H V L D R Q F |


UniReformorbs


| UniRef90_M1CY68 | L EDN T D DQEDP\|LYY ${ }^{130}$ Q |
| :---: | :---: |
| UniRef90-G6D7A1 | LKSESDDD VSPMEAHYR |
| UniRef90-J9EQP0 | LK T D DEVDRMRDPLDVHYE |
| UniRef90_T1G956 |  |
| UniRef90_UPI0004412BDE | I SDTAPRNKQGALVNPLDA H |
| UniRef90-K1QPS1 |  |
| UniRef90-F0XNU1 | MKVEKAK Q K P NVHPTDKLYQ |
| UniRef90-B4NZE0 | $\square \mathrm{K}$ S EDGSDS CHHLDKHY |
| UniRef90_A0A044SZ27 | FK K E G D M $\square$ HPI D R H Y |
| UniRef90_F4X1H8 | LCDKTNEKE NPLDSHYK |
| UniRef90_U6NHL9 | I KQEEGED D T T R D P V D $~$ H Y E |
| UniRef90_A9PAR1 |  |
| UniRef90_G4TDK7 |  |
| UniRef90-G7YHC9 | QK EGVKGTQKKKHWI D EKY |
| UniRef90-B8A7Y8 | L EDDSS DQDDPLY A R Y K |
| UniRef90_UPI0001A4719F | MK S S G E E H TV D S Y Y K |
| UniRef90_N1Q162 | LK S E K G G G G VH T L D L R F K |
| UniRef90_UPI0002657423 | LK QEKNSTALL PVDHHY |
| UniRef90-L8IET4 | QAAPEETKKVEEVLHPLDRDY |
| UniRef90_M7AWY7 | A HL L ELHGQEHPLDQSYR |
| UniRef90-K9F5X0 | MVS SKEDDDT HPLDRQFQ |
| UniRef90-X8JU70 | MS DSRPKDA D G N P VNPLDANMR |
| UniRef90_L1J4J0 | QKEGGGDES P I D A Y K |
| UniRef90_A0A014PFX3 | M N $\square$ D R LD L L V P L D Y F N |
| UniRef90_C5KP45 | MEDSSMAVKQEDVPNPVDMQYQ |
| UniRef90-E9JEI6 | LQ SDT D D TVS P I E G H Y K |
| UniRef90-F1KXC7 | L NVGED D L T IN T L D R H Y |
| UniRef90-F6ZQY6 | $V$ EDENDENDTNPI DLTNYK |
| UniRef90-W5J9L6 |  |
| UniRef90_E9C550 | MQA GSTAAAPSTGTSVI DQNY |
| UniRef90_UPI00044188F1 | VQSEQLD LEEPLDQS Y R |
| UniRef90-V4AM97 | LK S G DKSENPVDRHYH |
| UniRef90-F2UFI8 | IDQEGPDASEPEE DQHFR |
| UniRef90-L8Y1X9 |  |
| UniRef90_U4KVF3 | LA T A Y K E A G S VHPLD Y Q F N |
| UniRef90-X8JTT8 | MAPKKNDKA T HELDA |
| UniRef90_UPI000455F588 | LNTALLKLDEDGNLVNPVDSQY |
| UniRef90-D8RSA7 | I K S A DEDDES D PLDVHYK |
| UniRef90-C5XJX0 |  |
| UniRef90_A9V6M7 | I EDKKQQGEPEAPEDRHYR |
| UniRef90-H2YS08 | VEETEDEDNTS P |
| UniRef90 F0ZRS3 | KK Q T ENVE |
| UniRef90-L5KVC4 | QEAALEEEEVEDVPHPLDRAYRL |
| UniRef90_UPI0002C36CA8 | VSLDEK Y K K L R C CMNPL S E D Y Q L |
| UniRef90-A9SSX0 | LLGSKVEEGTEEE D P L D T H Y K |
| UniRef90-T1H5C4 |  |
| UniRef90_U6HL51 | MKTGNSD VNPLDEHY |
| UniRef90_A8NF82 | MT A SVK D S V H PVDKQF |
| UniRef90-E0VXB6 | LQECEGS G NSIDDHY |
| UniRef90-W2SGJ0 | MKARDNSRDAESVA LID K R Y Q |
| UniRef90_D5AAL4 |  |
| UniRef90_K4DJL0 | $L$ A EAPEE $\quad \square \mathrm{HPLDKLYR}$ |
| UniRef90_D8T3S7 | LKS GNED DPAYA Q K |
| UniRef90-A0CA47 | L EEQKDDDTNVIDENFK |
| UniRef90-M3CNG9 |  |
| UniRef90-E3MAH5 | IIC EEDTMSVLGVDPVDSNYQ |
| UniRef90-UPI0003EC3231 |  |
| UniRef90-A0BXK8 | $\square \mathrm{l}$ S T L A E N S DVNPLD Q F Y R L |
| UniRef90_E5S7D7 | LHCDTGD DDPMDPLSKR |
| UniRef90-B3RVK2 |  |
| UniRef90-T1IQQ9 | LQGENDSSK DPIDAHYE |
| UniRef90_F2UF00 | I K E GEE EVVGVNRVDANY |
| UniRef90_L8GH34 | L R E G E D D D V |
| UniRef90-F1L1S8 | LK E S D S K SE $\square$ S VNR RVDS K Y |
| UniRef90-Q24GE4 | I E D K K Q GK G Q Q |
| UniRef90-J91031 |  |
| UniRef90-F4Q713 | KK LD T S Y D A LK C NTE P V D |
| UniRef90-D8R2J2 | LEEDDEEKRLKCKLEPLDQ |
| UniRef90_W4GGY9 | EKALGD A A P T K H S L D L K Y |
| UniRef90_G4ZZH5 | QK KEAEKPK GPTVHPLDLQYGM |
| UniRef90-E4XXS4 | K E S G |
| UniRef90-D5GAV9 | LKETKAEKSPD VNDLDKQF |
| UniRef90-R4XDX2 | LAEAQEDSDGNELRHQLDINYE |
| UniRef90_H2VPK1 | IICGSKPSK G IVGGRDPVDVNYE |
| UniRef90-F0VJA2 | LDGAMKNAK DKHPI D A Q Y |
| UniRef90_A0A023GJC1 | LK K D M Q D C L H R L D R Y |
| UniRef90-17MCG2 | LKESDSDDS $\square$ LDQNYK |
| UniRef90-W9S9C2 |  |
| UniRef90_U1P3S5 |  |
| UniRef90_U6HS89 | I K QEGKTVD M P P A R N Y |
| UniRef90-D2VS87 | I S K K S D |
| UniRef90_V4M9E6 | V S LD D K Y K K LQ C D $\quad$ S P LD S N Y R L |
| UniRef90-UPI00042C1F83 |  |
| UniRef90-D3BQA7 | KK $\square$ S $\square$ A A G N S L D S N Y |
| UniRef90_UPI0002B40C87 | VGFDGDSHES L D D K Y K |
| UniRef90_U6KWS0 | LTDALLNAK DKHPLDAQYE |
| UniRef90_A7TC91 |  |
| UniRef90_UPI0002C2DCBB | L NDDT G T Q E P L Y S N Y Q |
| UniRef90_A9V294 |  |
| UniRef90-M0SRX9 | V S LDD K Y K K LR C D DT P L S E DY Q L |
| UniRef90-E4X4T8 | L D GVKKEEKAEK NPI D THYE |
| UniRef90-W1NGK6 |  |

PKKE GLP QRVLDL VKLMFDPEMMKKQLQSMNVDTEK

 AKKEAPKSLLPPEVLDALIEMISD DKAMEHQMRQMNYDARR K S KL H QRV KELI R LI F DMKMMNNQMREDGYDAKK EKKVVSSHLPAEVLELILLI S DVVVMMHQMREMNYDASR
 MK S S L A P QLLLELMKMLIFNVETYRAAMME FEIVNMSE VN D T DP S R L K S S L A P QL L E L M MV L F NVETYRAA MMEFE DNMSE S GLDERVGSLVSLLCDVKMMEAQMREIGFDADK P P PESKLPPEI QALVRFLFNKDYMHAHLAALNYDVRK
 MN DD DKK
MMKQQMME IGYNADK
 METQMKE GYDAEK
PALQELMK LIFNVPYMDATWSSFSYDQKK
LPPPDVAREVSSLI GDKKMMAA QLQEMMVDDLEK K VPESKL HPKL QDLI RLI YD DKEMESTVMEMQYDAKK K S K L P K PVVQLI K MI F DVVESMKKAMVEFE
VA E C T L $\quad$ P P A V K $\quad$ S
 $L \quad L C N V L D V S D V G A Y V G V S T L A$

NTKPSKLLQPVQSLVNTLFDSELMKKSLTSLQFDVQK
QPQNTKLEPRVAKF LSLICNDSMMKQVMMEDGYNANK VP P S QLPSSVQAFVKMI CDVDLIAQEMAEMHLDLKR

PSCLP DETRDLI EMLFE E DVY DDALREFEIDVNK YEPS K L DEMTGELVVERIFNPEIF ENLMQEYDLDDLGK

 D QAVQEVVQLDA WDVQLMKS LM R DM Q LE NVAP TKGLPTPVKEIVMSIFKDENKKSELKPFKMDHNN STLPKAI ANLVALI CDI DAMEQELRDDDDDPDR PES QL DLLRVQELI KLL CNVQAMEEMMVEMKYDTKK A D S NLLPKPVVQDLMRLI F DVV TM K K LMMAE F ELDDMEK


LDPRVS DLIK MLFD TDMMKNTLUNA GLLLS N
 STLPKAI ANLVALICDIDAMEQELRDLDDDPDR K QPQES KL E P R V A K FI S L V C N QELP S QL E QKI K S L MLI I WDFSR DS K T L K E L NFD T E K ILPS SELSS QVQHLMSLI MNKDTFKNQMKAQNDDADR
 K Y P A S K L P P E C S L E K P F K ELMELIGN SKLDPVVANFMKVLCSQEVYRYALMEMGLDAPD


VAHCKLEPLVANFMKVLCSQE DYRYAMMEMGDDSPD $P$ S Q L
 STKPKPVSKLDK QVQDVINLI CDVKSMEEVIGKMKYDVKK

 CKLEPLVAKFMKVLCSQE $\square$ YR YAMMEMGYDCPD

S KLLEPEDANFMKVLCS QE ITK Y ALMEMAHDPPE
VA HCKLEP LVANFMKVLCS QEIYRYALMEMGLDSPD
$R$ VMGESPETAVIELRNLIYNQQYFQQVMSSLNYNYKK CKLDPAVSFLVKQLCGQEIYRYALMEMAQDLPD
 $M K S S L A P Q V L E L M M M L F N V E T Y R A A M M E F E D N M A E$ CKLDSKVANFMKVLCSQEDYRYALMETGLDFPD LS K T K E H Qi D N K V S D L I QMM F D K D M M IN D L K N S G I N I H E S KLE P QLA YF MK LICS QE I Y RYALMMEMGLDDPPE CKLEPMVANFMKVLCSQEI YKYALMEMGYDSPD
SEK GVPACNLPGSVQS LLHLISNRKEFMHTYAAYGLRT

UniRef90_Q7Z115 UniRef90_W4G7T0
UniRef90_V7CYP7 UniRef90-F1A0Y8 UniRef90-U61HV7 UniRef90_AODM45
UniRef90_W6U0S3 UniRef90-A0A022S2K8 UniRef90-TOPWC3 UniRef90-Q9ZSV1 UniRef90-A0A024UGH9 UniRef90-A7RQ13 UniRef90-1 H259 UniRef90-W2RX48 UniRef90-R1FP30 UniRef90-D8PU00
UniRef90 Q22MT0 UniRef90-G4MOS9 UniRef90-F5BZN3 UniRef90_MOVKE1
UniRef9O-Q24GE5 UniRef90-X6NWC9 UniRef90-M5FZ33 UniRef90-R1BLE3
UniRef90-T1FWB0 UniRef90-M7AHR5 UniRef90-U6H3F5
UniRef90 O24FE8 UniRef90-V9EE10 UniRef90-G1PS32 UniRef90-G4ZZH6
UniRef90 G4Z7H UniRef90-G4ZZH6
UniRef90-Q87C5 UniRef90-V8P8T9 UniReffo - V4U5Z7 UniRef90-TOQFJ7
UniRef90-R7QBU3 UniRef90-G7Y503 UniRef90-AOCTW4 UniRef90-R7T4Z7 UniRef90-DONWS2
UniRef90-DONWS2 UniRef90-M5BTB9 UniRef90 J9IR77 UniRef90-O5DAZO UniRef90-E3MAHO UniRef90-UPIOOO2C36F12 UniRef90-V517F6 UniRef90-GoPJ28 UniRef90-C4M5X0 UniRef90-UPIOOO3F07745 UniRef90-G7YA32 UniRef90-FOZDM9
UniRef90 C5K7U0 UniRef90-K7K5Y1 UniRef90-GoQU41 UniRef90-s9V132 UniRef90-U6LKT5
UniRef90 E4YIW1 UniRef90-D3BNU0 UniRef90_W9Z646 UniRef90-H3ERG9
UniRef90 M1AB18 UniRef90-M1ABL8


 APLGKLTPGQIKAGYEALKEVSDYVKHLSDKLLHACNTYY MPLGKLAATTIKKGFDVIQDELDKKNKNVVELQRLDTSEFY


 MPLGKLSKENGHKGFEALTEDQNLLDNTGNQVVAASNRFF MPLGKLSKNTMLRGYGILQSLSDLMQTAGDAVEALSNQFF

 MPLGKLSKLQUAKGFEVLEELEGAMNQKSKNSEELSSKFF


保 LPIDSTSKRQLQEGYAVEDSEQDNTLKHQTRLADATNRFY NPLGRLTFDQVQKGYKILTEMOALLQGSRTIMELTNQFY GSAGKLTVAQUKAGYQSLKKIEDC|RAGGRALVEACNEFY
 MPLGKLSQNQTNKAYEVLNRTQELLHNUKSEMMAESSKFY MPLGKLSKQQIAKGFEALETLEEALKKSQKQLEELSSRFY


 HGFKOLKDLAALIDDPTKATEYLSNTYY MPLGKLSKQQLGLANRVLKELQALLSQPNNAVVDATNRFY TPIGMVTDLHLRRCEETLKEFVEKLKKADAFWADFTQRWF LP: GMLSNVHLNRCEEVLQQFIEAVKKAEADWTDFSNRWF MPLGKLSKGQLAKGYALLHTISDTLNKCKAKLKALTSEFY ПPMGMLSNDHZKRCEEVLKSDKEMDDKAKATWSDFSQRWF MPFGRLSESALNKGRNLLGELKELVTTKNKLEDDMSNRYY LP MPLGRLSKTTMKRGYETLQETYEALRSPRSQLNDSSHFY APLGKLTKAQLKSGYAALKKVEGLIKTSGDPLFKACDEFY LPLGIVTTDHLKRCEEDLLESVEKLMKGEAMWSDFSQRIDF LPLGRLSDSQUSSGYEMVSELLDAQARGNRLVQKLSDDFY LPMGMLSKFHLERCEEGLQALAEDVEKPNNACEELSGRYY LPMGMLSKFHLERCEEGVSNVHKCEEVLVKFVETVKKMEAVSWSDFSQRWF KPGSELSKRDTSNGFQKLKDIARLI YKLDDPCDEQHSNGYY
 SPPLGKLSKENTQKGFEALTETQNLLDDTGNQ\|VAAVNEYY LPLGMVTDMHLKRCEEVLLEFLDKLKSNKETWSDFSQRDF LPIEKINVSQMKEALRLLNELSNVIKNKQUSDRDLTTRYY LPMGMLSDLGLKKCEEVLLQFVEAVKKAEAVWSDYSQRWF



| UniRef90_Q7Z115 | $\text { K K Q TES LE T L } \quad \frac{130}{L} \text { T K LT P L D K D }$ |
| :---: | :---: |
| UniRef90-W4G7T0 | LQTERNSE V V ( PVDAHY |
| UniRef90-V7CYP7 | $V G F D A N N E D S$ I D D S Y K |
| UniRef90-F1A0Y8 | RKLS Q K A S S G ${ }^{\text {R }}$ S S D D N Y |
| UniRef90_U6IHV7 | IK T K G K T M D $\square$ HPADRNY |
| UniRef90-A0DM45 | LEDSKDDS NVIDENYK |
| UniRef90-W6U0S3 | I K QEGK TVD MHPADRNY |
| UniRef90-A0A022S2K8 | $V \mathrm{G}$ LD D K Y Q K L R CDDSPLS R D |
| UniRef90_T0PWC3 | QKAAS AS AS TTAVVNQI D L N Y |
| UniRef90_Q9ZSV1 | V S LDD K Y M K L H C D IT P L S ED Y K L |
| UniRef90_A0A024UGH9 | ERADHVPSVQQA NS I D L K Y |
| UniRef90-A7RQ13 | LK EKVDDKMHPADKHYE |
| UniRef90_11H259 | V GF D N D D E S L D E Y K |
| UniRef90-W2RX48 | MT K A K S Q Q E K L A L V D R Q Y Q |
| UniRef90-R1FP30 | $\square \quad D T K A P A F D K H P L D L K Y ~$ |
| UniRef90-D8PU00 | DSATRSRLSIDASFHPLDANF |
| UniRef90-Q22MT0 | LK LT D T E EA I I D ENY K |
| UniRef90_G4M0S9 |  |
| UniRef90-F5BZN3 | KSETEQEEMDETVPHPLDQDY |
| UniRef90-M0VKE1 | L EDDSSDQDDPLYARYQ |
| UniRef90-Q24GE5 | LEDQSQGQNGNAV NLI QSQYE |
| UniRef90_X6NWC9 | LKTENRTETV HPVDRHY |
| UniRef90-M5FZ33 | L S |
| UniRef90-R1BLE3 | SK S LGPA A E Q HPLDAMY |
| UniRef90-T1FWB0 |  |
| UniRef90-M7AHR5 | LR G G N E G D K D P P D ${ }^{\text {d }}$ M E |
| UniRef90_U6H3F5 | LT DALL N A R D K P L D A Q Y E |
| UniRef90_Q24FE8 | M NQAFQA Q GAESINPLDTFYSM |
| UniRef90_V9EE10 | QKKKNAKKNAGAKL N S L D A Q F N M |
| UniRef90_G1PS32 | VK T ELQQSPEHPLDQHYK |
| UniRef90_G4ZZH6 | QAEKKKNATDESKLNSLDVQYNL |
| UniRef90_G4ZZH6 | QAEKKKNATDESKLNSLDVQYNL |
| UniRef90-Q817C5 | KRLLS ${ }^{\text {L }}$, TSTS GNSTDDNYNL |
| UniRef90_V8P8T9 |  |
| UniRef90_V4U5Z7 |  |
| UniRef90_T0QFJ7 | ■K N K T A V D M N P V D A H Y |
| UniRef90-R7QBU3 | MSVKEEKEDPQKLPHPTEAQY |
| UniRef90_G7Y503 | QRKVT L L K N K CLHP T D K K Y |
| UniRef90-A0CTW4 | L N E S G |
| UniRef90-R7T4Z7 | QVQA K K D M E E VGT H HLD R Q Y N |
| UniRef90-D0NWS2 | QKKKNAKKNAGAKLNSLDAQYNM |
| UniRef90-D0NWS2 | QKKKNAKKNAGAKL N S L D A Q Y N M |
| UniRef90-M5BTB9 | MS DSRPKDADGNPVNPLDA |
| UniRef90-J9IR77 | LA N SEYEDK A A H P V DVQ Y A L |
| UniRef90_Q5DAZ0 | LQTKGDSKR NPLDEHYE |
| UniRef90_E3MAH0 |  |
| UniRef90-C5KAC1 | VSAPSVK G G D P I R A K Y N |
| UniRef90-UPI0002C36F12 |  |
| UniRef90_V5I7F6 |  |
| UniRef90_G0PJ28 |  |
| UniRef90-C4M5X0 | I EEDEGMDLDEMT Q |
| UniRef90_UPI0003F07745 | VK T ELQSQEHPLDQHYR |
| UniRef90_G7YA32 | MK K K K P T Q NLID S Q Y Q |
| UniRef90-F0ZDM9 |  |
| UniRef90_C5K7U0 | V SAPSVK G G D P IR A K Y N |
| UniRef90_K7K5Y1 | LK D DAEMQGDPLYY THYQ |
| UniRef90-G0QU41 |  |
| UniRef90- S9VI32 |  |
| UniRef90_U6LKT5 | LT D A L L N AK D K H P LD A Q Y E |
| UniRef90 E4YIW1 | T K K GPQNITTRET |
| UniRef90-D3BNU0 | LLAAHSNKK $\quad$ LHPFD Y |
| UniRef90-W9Z646 | MK $\square \quad$ D S A R D S H P L N RQF Q |
| UniRef90-H3ERG9 | MQ DKNDNGTKTMDPIDVNY |
| UniRef90-M1ABL8 | I G GDMSGSTLDDPLFERY |
| UniRef90_V4SF72 | $1 \quad$ GDMS GS TLDDPLS D C Y E |
| UniRef90_UPI0002C3E887 | MEEDE G |
| UniRef90-A0A024TF73 | L E T QRT T DANPVDA H Y R |
| UniRef90_G9KF84 | QATPEE EKVEEVPHPLDRDYHL |
| UniRef90-D7TCW5 | V G D L G S T L D PLFDRYK |
| UniRef90-T1IYM8 |  |
| UniRef90_D8SJ96 | GDMTGDTLDDPLSDRY |
| UniRef90-K3XA41 | HQLDECYELLDCTLDHPLPEH |
| UniRef90-11EBV1 |  |
| UniRef90_S8D8Z0 | $\square \quad$ G D M S GS T L D D P L F E C Y K |
| UniRef90_J3LDG6 | 1 GDTFSSTLDDPLSQCYK |
| UniRef90_E9CHX7 |  |
| UniRef90-MOTYR7 | V G DMS GATVDDPLSDRY |
| UniRef90_S7S584 | I K S T $\square$ M T DED GKPLNPLDAHFK |
| UniRef90_UPI0002B40C06 | I GDMS GS T I D D PL S D R Y |
| UniRef90-W9QJF3 | 1 G DMSGS T L D D P L S DRYN |
| UniRef90_UPI0002B46A5C | Q NVVVKKEEVED D H P L D $\square$ V Y G L |
| UniRef90- J9NB56 |  |
| UniRef90_K3YQ15 | TGLS E C Y K K LG C S I N P V S E D Y K M |
| UniRef90-F4Q1D8 | LLAASHNKT L HPYDYCF |
| UniRef90_H3FN50 | MK E EVREDDVHPVDRHY |
| UniRef90-M0WYT4 |  |
| UniRef90-A0A022R9L7 | V G $\quad$ GMSGAT LD D P L F R Y K |
| UniRef90-B0EMB9 | M SDDELLGFDEETELFSHY |
| UniRef90-B9SCR8 | $1 \quad \mathrm{GDMSGGST}$ LDDPLSDRYK |
| UniRef90_Q1SGF1 | I GDMS GSTIDDPLSDTYK |
| UniRef90_L8HG62 | $L A E A E Q G \square A G E G \quad H V L E K \square Y$ |
| UniRef90_K7H4L9 |  |


PSKMPKAVQELDKEMSSVSMLDAATKKYELDEEL
$P P P E C T M H C L V Q Q A C R L I D N N K Y V N S A W$
RDPPECTLPDEVQRVMTLI FNRDHFNTTMFSLNYDANK
EKIP D CTLPTEI Q L L S EVIDQPNGATAQEYGGF

T DDSTLDRDTQS LVKFTYKEAT TQ QRSSCSAYDTDK S KLDSVVANFMKVLCS QE IYRYA LMMELGHDSPE CKLDP S I S S F L L K QL L C S E I YR Y AL T E MA Q D L P D ERRD GASAALP Q E V Q R L V K H L Y D Q S V S K T V V A K IT T R G I B
 DQKVKD DMRCDCDEDVH DGLLRQ DNLDNLER $D Q K V K D L M R C \square C D E D V H L G L L R Q L K N N E E G$ $K$ T R P CKLDKP TES L DKLI FDNDMFKEAMANMNDDVKK
 P P S RLLP T EVVQD F L T L V A D H T E L S Y A Y T L L G DA DM K
 PPPSRLSTDVQDFVTGIADHSELSYAQTVTGDAVMK P P P E CT L H ELLI QDACRRI FNKDVMNA HLLAMKYDAN K S QLAPKELMMEVYA DL DNVE SMKEAMMKDTNVVDPAVV $S K \square D P N \square Q N L L N R \square V S K G S L E G E L T S M K G D S E K$ CKLDSFVANFDKVGCGQEDYNYALMELGGDPPD L K E L M K CI C D E DV H L G L L K QL K F N A F G
 A S QPK PASRLDDPRVQALLGLI CDDQAMEEMVLEMKDDTK K


SP Y PKCQLH QS IQ S VIEQFA QVK LYQ QE LQNYQFDTS F $P K V Q N L L K V I F N V K S D S A T M M E D Q Q V D G A K$
$\square S$ Q Y P K S QLP K E L Y DVMA QFCNVES $\square$ S H Q L K N L K $\square \mathrm{D}$ T D D
T A D S QLEPLI K TLVVENGYVEATTQLT SVTITERGDE T KMNS RVA QDDLKVLM S QEVVYRFAMT EMADDAPD K D A VNS TLP LLP L K N LI QLLI F DMK MMNNQMK E IG Y DCK K

SCKSVLPNQLHFVIKTMMMPKKMQLSMKTRGLSTDC S T L QPA T K L I E HLYYSEATTQSNTVK DTERGDE

 R $\square$ A E F $\square$ SLCNVSMMKQQMLEI GYNAEK VT H C Q L D P LVA N LMMKVL C C S R K Y Y Q Y CMMMEMGM D S P D

PSALSEPVQKLVEYLYSEATHKITSALQS QLTE QVR QLV RDI YEEATNQLTSKKITAR GLE SKLNEQAQTFMKLI SNDRMYKDT LQLQQQDNMTN


 SPYPKCKLDTSIVKVIEQFS QVKLYQQELQSHQFDTGF K DTKKEDLDKVKDKVLRF $\square$

S K L S Y E $\square$ Q K L L K L I F N VK S IA A $\square$ A M E Y Q $\square D V A K$
 V H LD M K C

A G D
QGSY IDRNVCSLIQQIFSKCLIKNFSVEDGQNGDE K S ELPEPVQEMLTELTNDQFLKAAMKS TLLDDS I $P$ P S K L P K P L Q T L M K A I T D QE WL R K S V S S LQVVD P E F

RLEPK TA YFMK L L C R E $\quad$ Y R Y A M MEK GCD S PD




$K K S N L N E Q A Q T F M K L I A N \square G I Y N E Q L R L Q Q F P \square S Q$


MS E
$P K S \square L D D A V Q Q \square L G V V T D L K C L E Q A A T G Y D H S L R D$
$S N L N E Q A Q T F L K L I S N I G M Y S E V L K L Q N D Q K S Q$


|  |  |
| :---: | :---: |
| iRef90 | , |
| Ret90 K11 | MPFGQLKKDALLTGKKLLLQUGEALKRLTAKKDTGSNEFF |
| UniRef90-L8X2J4 UniRef90-A0A014MTJo |  |
|  |  |
| UniRef90-UP10001FE5448 |  |
| UniRef90_B3R | NSIGDLTKQRIEDASQWLDTLETMVKEKKREIKKAKNEFT |
| $\begin{aligned} & \text { UniRef90-D3BB } \\ & \text { UniRef90KKW5 } \end{aligned}$ | TPLGVLSMEQVEKGEKILDKLHVELKTSRPRLAQLSSEFY |
| UniRef90 |  |
| UniRef90-UPI0003 | F |
| UniRef9 | SPLSEVSKEDIRNGFSKLRDIARSDYKLESSDEEHSTEYY |
|  | \PVGGMLT D LHLKRGEEML $\square$ QI RDAEPAPESRWIETSNKWF |
|  | SRKQIQRGEDVLAQLND\\|EKREARTVRL |
| UniRef90-H3H4R1 | GTRRSSRVKRVANPNA |
| UniRef90-AODIP7 | D |
| M4 | SKRQ\|SQGYA |
|  |  |
| UniRef90-A8W | KPIDCLSLAQLQTGYDTLATMETSTKNPGASTHDTNKYY |
| UniRef90-17MG | LP TK L S K AL |
| UniRef90-DONKQ2 | IKRG |
| B9 |  |
|  | MPFGRLRREAMEEGMKILGEIKKVVEKAEKGQEETSNKYY |
| UniRef90 M4BVPO | GRLSKTTMKRYETLEEMYAALRDRQVSRAQLSSHYY |
| H2XN | RLERDRLTLGDDLNDIKELIHCTSEKDQQRSTEYY |
| UniRef90-W9Z | HLTEATITKGFQCLQELAHLLDTPSLATEKDFNKYY |
| UniRef90-L1JFX1 | $\begin{aligned} & 1 R \\ & y \end{aligned}$ |
| UniRef90-Q9FK91 | M |
| UniRef90-Q09525 |  |
| Pio | MPFGRIPRDVLEQARELNRI RPLVQETMEKVADLSSEYF |
| UniRet90-UP | $\begin{aligned} & \mathrm{AF} \\ & \mathrm{MF} \end{aligned}$ |
| UniRef90-E3 |  |
| RRef90-AODYX0 |  |
| to- | LPLNNLTAERIMKAIIUIHQLEALSTKTDLKKQERKQKFY |
| UniRef90 UPIO0021A5198 |  |
| UniRef90_Q54HY5 |  |
| UniRef90-A9S9P7 | LPSGNLTEFHLERCTDVLQQFAAYLREPERMCLDFSNKWW |
| UniRef90GGOQNE0 |  |
| UniRef90 C5KAl | LGALSAAQLRRGLEVLEATKRATHGFDRRDR |
| UniRef90-UPI000462. |  |
| 俍ef90-UP1000359 | LEETEKLVDQVEKKIDTLSNEYF |
| X0C |  |
|  | M |
| UniRef90 U5D9N4 | $\frac{\square}{K} \mathrm{P}$ |
|  |  |
| 90-W N |  |
|  |  |
| UniRef90 U1NH |  |
|  | PGGK |
| UniRef90-L8H5 | AILGRIQDHLTSTGGS |
| UniRef90-J914T8 | EKLEEEKLEQTFSQQARI GLQDENQQKQ1 |
| UniRef90-E3EKH1 |  |
|  |  |
| W4 | TAMGKLSASQL QKGQVVLESLKAA RTSARALEQLSGEYY |
| ORZ114 |  |
| UniRef90 A0CWK3 | VP EKLDKNTILKAKEILLELKE |
| UniRef90-C3CU79 | TPLGALSGNQVAKGHAILDKIEALLNSP |
| T1FS | VVLGRLSRSDLEKAKNILKELLALIDRRDS |
| UniRef90-L8GZ26 | a |
| UniRef90-X6 | TPLGSLTMEQTEKGEDLLLEI FELWKNKKNPSQQDTNEFY |
| et90_B3S | LIPLKNLTADRITKAMQILHQLDALSNKRGLKDRERKQKFS |
| 90 W6 | CPFGH |
| UniRef90-T001P? | MAAMGKLSAAQI EKGQAVLAA |
| UniRef90-A0A024TTZ: | AAMGKLSASQIHKGQVVLEKIKAA |
|  |  |
| Uni | ПPFGRLSKDNLLAADEKLKDIALAI KEDREQAMNVTFEFQ |
| UniRef90 A7T2 | R |
|  | LPLGAVSAPQLDDAVASLIKIARELARPTPRRQTLTNEYY |
| UniRef90- T3DQ72 | GVQGINKGRDILRKTMDALENNN |
| UniRef90-UP100035A2F48 | R |
| -A0A024TBE9 | ELQPSLLVTALDRLNE:KTSLHENSEAVAE |
|  | LPLTSUKNEQUEKAESVLLEUKEALDTKEGNUEALSSEF |

UniRef90 J9J7E3
UniRef90-K1PJS7 UniRef90-L8X2J4 UniRef90-A0A014MTJO UniRef90_B8PGN2 UniRef90_UPIO001FE5448 UniRef90-B3RJW1 UniRef90-D3BBR9 UniRef90-K3W582
UniRef90 F4PVU3 UniRef90-F4PVU3
UniRef90_UPI0003D28EBD UniRef90-F9F8J1 UniRef90-I11A68 UniRef90_L8GGG7 UniRef90-H3H4R1 UniRef90-A0DIP7 UniRef90-M4C2F9
UniRef90_GOMN11
UniRef90_UPIO002B41DF8
UniRef90-A8WP85
UniRef90_-17MGVO
UniRef90-D0NKQ2
UniRef90-B9IAQ6
UniRef90_C3XR76
UniRef90-M4BVP0
UniRef90-M5BHU6
UniRef90-H2XNV1
UniRef90-W9Z247
UniRef90 L1.JFX1
UniRef90_Q9FK91
UniRef90_Q09525
UniRef90_UPI0003F0A6B8
UniRef90-UPIO0046C1399
UniRef90_A0CT98
UniRef90-E3N4S1
UniRef90_AODYX0
UniRef90-B3SBT8
UniRef90_UPI00021A5198
UniRef90-Q817C4
UniRef90_Q54HY5
UniRef90-A9S9P7
UniRef90-G0QNE0
UniRef90_L8GYJ33
UniRef90_C5KAW0
UniRef90_UPIO00462456D
UniRef90_UPI000359FF02
UniRef90-FOZGW9
UniRef90-X0C9A8
UniRef90-U5D9N4
UniRef90-E3N2V8
UniRef90-W1NUH7
UniRef90-B9HQX1
UniRef90 U1NHB6
UniRef90-M4C2F7
UniRef90_L8H564
UniRef90-J914T8
UniRef90-E3EKH1
UniRef90-B3S048
UniRef90_W4F9S9
UniRef90_A0A023BAS0
UniRef90_Q7Z114
UniRef90-A0CWK3
UniRef90_C3CU79
UniRef90-T1FS51
UniRef90-X6NPW0
UniRef90-B3SBT6
UniRef90_W6NAZ5
UniRef90_A0A024TW12
UniRef90_T0Q1P2
UniRef90_A0A024TTZ3
UniRef90-F0ZYT3
UniRef90_E4Y7H1
UniRef90_A7T240
UniRef90-F2UEVV0
UniRef90-T3DQ72
UniRef90-UPIO0035A2F48
UniRef90_A0A024TBE9
UniRef90-R7UJC6
UniRef90-S9X1X2
UniRef90_J9IMV5
UniRef90_L8HC40
UniRef90_S2JHB2
UniRef90- J3KTZ8
UniRef90-J3KTZ8
UniRef90_W4FGL3
UniRef90-J9EY84
UniRef90_J9IGT8
UniRef90_D3B7W6


TVIPHPDGRSKMAVLKTPEAFDQKRELLQLMKDM
SLVPHTISKSAKAKLNTLKKVEKAVDDVTDLLS D
SII PHDFGRRRPTVI DNIATLKQELTLLDALDNMEVASKIV HVVPQNFSCEKDRPLDQRQRLMQQIQNLSNLLDYEVACKM TCI PGSMGRGKSAVIKTGSQLNMKFELKQLMKDL HSV $\square R P E R R G K G P L I D N M R L L K E E W E R L S N$
EFVPHEEFRNKMPPISTKEMLLQKSNMIQNLIEDEAASKI GKI PFTFTMD
SLI PHSFGFQVPPK $\square$ DS S $\square$ AKVEAERELLDA $\square G S \square E A S M E M$ SNRRH
QRCSTLLHSTRPFVFRDYQDLADHAAAFETTRD $\square$ NMASRL RLIP LAGFENCSPVIDSEVQVNEYEEVVENLDEFEDAARL
 SAI PQ NQ


## $S$ LIP

 HGLSYSREKLVDNEWKLNRILRKELL S L P T L A GRNRPPPL STKSMVEEK K E A LLDD F W A HVPHVTGKRTDPVI DTPLILKQECTRDETLLQMES QLVPSKISTKKNRVI NSFESL NQLSE LMNMMKD Y
 $S$ I L P
$N V$ FP $\square D F E Y G A V K \square F D N X E D N R A R E T D N R M T E V E V A T R D$


 FVISHSVGPRR
KRIPHNTS ERFDVIDSMHKDAREEDLCSLLRSVTLTSELL T GQKAEAGAAAFETVRDINVAPRLL KY $\square$ PRK $\square$ S S N VR D $\square L N S R N R \square K K E M D \square L D L Y E D$
ELVPRSDASSALAAFMSEDDVNKEDTRVRQLLETAETSKI $K H L P H Q S Q Q H V C S D Y T K K T I S R K Q D L C Q L I R D L$ TGPPPPPPTN
$N G N Q E P R P T 1$
Q DFPMFNGNQEPRPD GYLEQLCQLTTKFKELSKLERTI RVLPFNFGNNLSLNI NKRKILAEKLNLLQSLQEI EVARRLI SRLRHGEANHAIRSLYNRDNSVIKNELLADLSYVGFAANV

ELVVPRSDAS CDDVPLAATVQDVNKEVTRVVRHLLDVAHTSKIC ELI PMLDNENQEFPKPVAQAEI VQLRNKFDDLSTLERVSKM


| UniRef90 J9J7E3 | $\overline{L L A A L L R Q Q}{ }^{130} \text { EMNPVDY\|VYQ }$ |
| :---: | :---: |
| UniRef90_K1PJS7 |  |
| UniRef90-L8X2J4 | MAPKKK $\square$ K S T HELDA Q |
| UniRef90_A0A014MTJ0 |  |
| UniRef90-B8PGN2 | TASSSTPKDEEGRPTNPLDANFR |
| UniRef90-UPI0001FE5448 | LSATHLR VREIHPLDYVYR |
| UniRef90-B3RJW1 | MK QVVYVMKDPLHMLYK |
| UniRef90_D3BBR9 |  |
| UniRef90-K3W582 | QQEEKKSQANGST■HPLDAQYKM |
| UniRef90-F4PVU3 |  |
| UniRef90-UPI0003D28EBD | E D M S S T LD D P $\square$ F ECYK |
| UniRef90-F9F8J1 |  |
| UniRef90-I11A68 | GDTFGSTLDDPLSECYK |
| UniRef90-L8GGG7 | RS RTSATSEIDRMYNPLDKQYR |
| UniRef90-H3H4R1 | QTEKRNAKKVETTHAPTHVQYKL |
| UniRef90-A0DIP7 | LLGGAH LVKQSLNPLTYCFN |
| UniRef90-M4C2F9 | QAEKKKNAKTGTKLNSLDVQYNL |
| UniRef90_G0MN11 | K D LKK T A S K D |
| UniRef90_UPI0002B41DF8 |  |
| UniRef90_A8WP85 | K DVKKEKSNK |
| UniRef90-I7MGV0 | $\square \mathrm{MGSY}$ Y T K $\square$ QVMHPLD Y C F N |
| UniRef90-DONKQ2 |  |
| UniRef90-B91AQ6 | D D $\square$ Y T QEDPLY SK |
| UniRef90_C3XR76 | LVGAHHKR EEVNALDYVYR |
| UniRef90-M4BVP0 | RG $\square$ A H D PVARRCSRNYLDECYEL |
| UniRef90-M5BHU6 |  |
| UniRef90-H2XNV1 | LLGA Q Y R $\square$ N EMNPLDYVYR |
| UniRef90-W9Z247 | MKLHRNSMSTGSE |
| UniRef90-L1JFX1 | RKRVKLSPSSQEDLKK |
| UniRef90-B3RJW2 | RRANSDGQ NPMDTLYK |
| UniRef90_Q9FK91 | G DMRGD T LDD P L S D RYK |
| UniRef90_Q09525 | KDLKKTASSKD |
| UniRef90_UPI0003F0A6B8 | LLGA QLKAK E $\mathrm{L}^{\text {L }}$ P L D Y V Y R |
| UniRef90-UPI00046C1399 | ERLLELHGQEHPLDRSYR |
| UniRef90-A0CT98 |  |
| UniRef90-E3N4S1 | TCGGENPTMGTLGVDPVDTNY |
| UniRef90-A0DYX0 | LLGANFK A DSLHPLTYCFN |
| UniRef90-B3SBT8 | IIQKVENVKK DPIYKLY Q |
| UniRef90_UP100021A5198 |  |
| UniRef90-Q817C4 | LIAA HQN TTMHPYDYCFK |
| UniRef90-Q54HY5 | KVSGTGKHALDMKYR |
| UniRef90_A9S9P7 |  |
| UniRef90_G0QNE0 |  |
| UniRef90_L8GYJ3 |  |
| UniRef90-C5KAW0 | DFTDARDRAATGHGHVLDRQF |
| UniRef90_UPI000462456D | 1 QS S TPRDADGCLVNQLDAHFR |
| UniRef90-UPI000359FF02 | LLGAMANRK VYNPVDYVYR |
| UniRef90-F0ZGW9 |  |
| UniRef90-X0C9A8 |  |
| UniRef90-J9FN38 | LLGAHH Q A E $\square$ NP LEE |
| UniRef90_U5D9N4 |  |
| UniRef90-E3N2V8 | K D L K S K S DK D |
| UniRef90-W1NUH7 |  |
| UniRef90-B9HQX1 | V GDMF GSTDDDPLS D R Y K |
| UniRef90_U1NHB6 | VT A A A EMRST ${ }^{\text {D }}$ |
| UniRef90-M4C2F7 | QKESSSKALAGPADHPLDRHY |
| UniRef90-L8H393 | T VDEDTGDTA TAEVDMKYR |
| UniRef90_L8H564 |  |
| UniRef90-J914T8 | S K $\square \mathrm{F}$ L G A S N T $\square \mathrm{NS} \mathrm{S} \square \mathrm{N}$ P $\square \mathrm{D}$ Y $\square \mathrm{Y} \mathrm{K}$ |
| UniRef90-E3EKH1 |  |
| UniRef90-B3S048 | VKET DENQSLTAYYHVL |
| UniRef90-W4F9S9 |  |
| UniRef90-A0A023BAS0 | KSTSQTKDQ |
| UniRef90_Q7Z114 | T NSFNSNKTTSESKNHLDMKY |
| UniRef90-A0CWK3 |  |
| UniRef90-C3CU79 | EKTL |
| UniRef90-T1FS51 | MVAS MSRS LIE $\square$ N T F D Y $\square \mathrm{Y}$ K |
| UniRef90_L8GZ26 |  |
| UniRef90-X6NPW0 | S QKESKKSVLT NDADVMDQ Y |
| UniRef90_B3SBT6 |  |
| UniRef90_W6NAZ5 | LT A S A Y R K DVD K |
| UniRef90-A0A024TW12 | ENA |
| UniRef90-T0Q1P2 | LRMGFDDMEEQTHLAP\E |
| UniRef90-A0A024TTZ3 | LRMGFDDMEEQTGLAPI E |
| UniRef90-FOZYT3 | SKKTEYQSNNHLDMK |
| UniRef90-E4Y7H1 | LLGA Q Y R $\square$ NDG NP D Y $\square \mathrm{Y}$ K |
| UniRef90_A7T240 |  |
| UniRef90-F2UEV0 |  |
| UniRef90-U5GM74 | $\square \quad \mathrm{GDMSGSALDDPDSDRY}$ |
| UniRef90_T3DQ72 |  |
| UniRef90_UPI00035A2F48 |  |
| UniRef90-A0A024TBE9 | ILGA K SVATNRHPLDYCY |
| UniRef90_R7UJC6 |  |
| UniRef90_S9X1X2 | KAAPEETKQVEEVPHPLDQYY |
| UniRef90-J9IMV5 | SKMFKGAYNVQDTSNPLDY $\square$ Y K |
| UniRef90_L8HC40 | MGDEEEELLPTQDALSPLD |
| UniRef90_S2JHB2 | ILAA KHHVDSINPLDYAFR |
| UniRef90-J3KTZ8 |  |
| UniRef90-W4FGL3 | ILGAKANAG HPLDYCY |
| UniRef90-J9EY84 |  |
| UniRef90-J9IGT8 |  |
|  |  |
| UniRef90_D3B7W6 | I L N [VG E S L G V S H S N N P L D A R Y R |









