## QUERY

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UniRef90_FOV8C5 UniRef90-F0V8C5 UniRef90_FOJB05 UniRef90-F0JB05

Q D NNQYCSGTTLTGCNEKS NNQYCSGTTLTGCNEKS
 PKGM
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D KKKVAS SNSAKEVKLKDLG GTDREVKWK
 QKVCSATTVAGCKGKQVQLESLLGSSRRIVWN QKVCSATTVAGCKGKQVQLESLLGSSRRIVWN T E HV CDP GQSGNCDGNEVKLKNLLGANRYV HWT

 TSLLAKNSENKCNFGATGSSGGEEVTLRTLLLASKDLTWL
 A GLE
A GL
HVC
HVCDPKQTENGTGKEVKLKDLLGTNRDVQWK T E L T T N K V V C QP K Q D A T R V S E C T G T A V A L K

ENLN
PTESSSDGQA

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PSELSSDGQATSASGNPQPGSCKKVTLQEFLGASEVSWIE
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| E S | LA S |
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ESLAS
PTFVPTEDTS
PTVGVDGQANDADTCKKVTLQELLGASHPITWE
 QSLAKVCDPKQSKGGTGSA

 PNQAGSANN CKFGEAQGSEGTEVPLQDLLGTSNDVAWV
K G M
K K V
KGM TVCKKVCSAGEEETEAGKQI TLDALLGSTSSIEWK

A S L
A S
REETTEGI
QNVVCDPTQTSSSSTGKEVTKKGGLLGTDREVVDWK
TREETTEGGQQGHSESNDDSYTGQTVTLQTLLGANQNI QWT
SNLANKASDGTCNFGAADSSQGKEVTLQTLLGAGEHVKWK SNLAANKASDGTCNFGAADSSQGKEVVTLQTVLGAGEHVKWK PTELTKKVCQPKNGTASEGTAVALKDILGVTADVQWT NNKSERTNQCI FEDSTSAGAE VALDTLLGVATDAQWT NNKSERTNQCIFEDSTSAGAE
K GL
DSVCVDKTPEDTTGQTVTL

A GLTKVDPNQVCTFGEAQDSDGNEVTVQALLGAAEDIKWK
ENLQTVCDGYTATATLLEADTSNKVTLGSILGTTPEVKWT E NLQTVCDGYTATATLLEADTSNKVTLGSILGGTTPEVKWT
 KQTSASLQAHLCKFGTANASEGTEVPLDELLGASKKLAWA ENLTGKDSADKCKFGTASASEGMEATLQDLLGAGEHVKWK
 P
QKMTQDPSVKNCKTDVQDTGNGK
QKMTQDPSVKN
EDESNA
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QEMT
QEMT
EDLATNVCQ
EDLATNVCQPNGKSGRTNQCTGTAVTLDTLLGVATDAQWT PAEVTRDGKVVKASGGDQADSCNPMKLQDLLGTSNPVQWK PAEVTRDGKVVKASGGIQADSCNPMKLQDLLGTSNPVQWK
P K G L
PKGL
QN ET
Q S L A
Q S A
T NL E
T N L E
STIPTTDG
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DNVCVAKTTEDDTGRTVTLETLLGANQKI QWT
 KVCDPTQKEEGEGKEDALKDLLGTDREVTWT
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PKLM
PKLM
ENLQTVCD K QVCS A T S V K N CK T K Q i T L E S SLLGGSSRSI E WT ENLQTVCDGHTATATLLEADTSNKVTLGSILGGTPEVKWT TDPATVCVAEATAGKELNSSNCNPVKLQGLLGARDAVQWK TDPATVCVAEATAGKELNSSNCNPVKLQGLLGARDAVQWK

## QUERY

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UniRef90-S8G5M9 UniRef90_F0VA33 UniRef90_F0VA33 UniRef90_F0V8C4
UniRef90-F0V8C4 UniRef90-FOVPW3 UniRef90_FOVPW3 UniRef90_FOVPW3 UniRef90-F0V8B6 UniRef90_F0V8B6 UniRef90-FOVA32 UniRef90_F0VA32 UniRef90_F0JAZ0
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UniRef90 FOV8C2 UniRef90-F0V8C2 UniRef90_F0VM85 UniRef90_F0VM85 UniRef90_F0V8C6 UniRef90_F0V8C6 UniRef90_F0JAZ5
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UniRef90_F0VA37 UniRef90_F0VA37 UniRef90_F0JB69 UniRef90_F0JB69 UniRef90_V4Z799 UniRef90_F0JAZ1 UniRef90_F0JJAZ1
UniRef90_F0V8C5 UniRef90-F0V8C5 UniRef90_F0JB05 UniRef90_F0JB05
 GNASSD $\quad$ K GATTLTIKKEAFPAESKSVII GCTGGSEKHHC GNASSD K K GATLTVMKEAFPAESKSVVI GCTGGSEKHHC
 QARGDPQTQTWTLQLEDPDLPLSDKSFLVGCQKTKGTKVC

 $\begin{array}{lllllllllllllllllllll}K & T & S & P & T & P & D & G & E & E & W T & L & Q & L & Q & E & T & D & L & P & L \\ Q & D & D & K & F & F & V & G & C & K & P & Q & Q & A & A & G A & C \\ Q & K & V & A & T & Q & T & W & M & L & Q & E & E & A & D & L & P & L & S & D & K \\ S & F & L & V & G & C & Q & S & S & G T & K & K & A & C\end{array}$
 GASSDSQGQDWTLNLQESDLPLTDKAFFVGCVEQAGKVEC GASSDDS Q G Q I WT L NLQ E S D L P L T D K A F F V G CVVE Q A G K V E C



 E E Q S S A K G A G WT L E L K E E D D L P L L T P P K S F F L V G C R S G G D A K A C


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

 $M Q Q A S D D S T T R T L Q L A E T D L P R T D K Q F V V G Q K S G A T P S C$
 QSKKRVGKTTWTLQLE K K T T Q DQNS GWTLELQETDLPLVDKAFFVGCDKKTNVEHC K K T T Q D Q N S G WT L E L Q E T D L K D Q S P DPNTQWSLALQQESDLPLSEKTEFVGCQQAQTTSTC K D Q S P DPNTQ WS LALQQESDLPLSEKTFFVGCQQAQTKSTC
 KK TTQDQNS GWTL KKTTQDQNSGWT LEL A IIS S S D G K N S R M L
 QI Q Q N P Q T Q T WKL QL E D A D I QUQ Q N P Q T Q T WK L Q L E DA DI P V T D K S F L V GCQ D S G T T NV C D D S D T G T G T A R M L K L KEKSTPNGETWSLSFTEGDLPLTDKRFLVGCVEKNAEPS K EK STPNGETWS L S FT
E E Q S S A K GVG WT L E L K E D D L
 EESGSSTGTARMLKLN

 QEEQAKNGETWTLA A $A$ | $R G E E E H N S Q Q$ | $W R$ | $L$ |
| :--- | :--- | :--- |
| $N$ | $Q$ | $L$ |
| $N$ | $A$ |  |


 EADVSENGKERTLQLVE EADVSENGKERTLQLV A DLL

 $\begin{array}{lllllll}K & T & S & P & T & P & D \\ K & E & E & W & M & L & Q \\ K & T & S & P & T & P & D \\ G & E & E & W & Q \\ L & Q & Q\end{array}$



## K

 EDSDTGTGTARMLKLNEADLPRTDKTNFFVGCKKQA GA DS EDSDTGTGTARMLKLNEADLPRTDKTHFVGCKKQAGADSC QKPKAGNTGTWT QLEDADVPVTDKSFVVGCQDSGTTNVC QKPKA GNTGT WT L Q L E D A D NESSVVAKVA T WIL L D L T E E D D L NESSVAKVATWI L DLT
 ENEQREESKTWSLELHNEDLPLSDKAFVVGCQATGKTAAC

 R G E E E H N S Q V WR L Q L A A E T D L P P L A A D K T F F F V G C Q K G A S T D S C
 AISSSEEHENSRILELSQASLPRTDKKFMVGCQNGDTKKQC APS DEKKGHSLLTFPKGNFPDSDRSFFAGCLKKNTNDEC

| QUERY | MVTVTVQAR |
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| UniRef90_P13664 | TVK |
| UniRef90-P13664 | T V K |
| UniRef90-FOVA35 | K V P VNVEA |
| UniRef90-F0VA35 | K V P V NVEA |
| UniRef90-F0VM84 | KVDVNVKA |
| UniRef90-F0VM84 | K V DV NV K $\mathrm{A}^{\text {a }}$ |
| UniRef90-F0VM86 | K V D V V V K A |
| UniRef90-F0VM86 | K V DVVVK ${ }^{\text {d }}$ |
| UniRef90-F0JAV4 | K V P V NVEA |
| UniRef90-F0JAV4 | K V P V NVEA |
| UniRef90-F0VPW5 | K V D V NVT A |
| UniRef90-F0VPW5 | K V D V NVT A |
| UniRef90-F0JB68 | TVPVVVEA |
| UniRef90-F0JB68 | TVPPVHVEA |
| UniRef90-F0JAV5 | K V P V NVEA |
| UniRef90-F0JAV5 | K V P V NVEA |
| UniRef90-FOVPW4 | K V T V NVEA |
| UniRef90-FOVPW4 | K V T V N V E A |
| UniRef90-S8G5M9 | K L T V NVEA |
| UniRef90-S8G5M9 | K L T V NVEA |
| UniRef90-FOVA33 | K V T V NVEA |
| UniRef90-F0VA33 | K V T V NVEA |
| UniRef90-F0V8C4 | KVTVTVNA |
| UniRef90-F0V8C4 | KVTVTVNA |
| UniRef90-F0VPW3 | K V P V NVEA |
| UniRef90-F0VPW3 | K V P V NVEA |
| UniRef90-FOVPW3 | K V P V NVEA |
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| UniRef90-F0V8B6 | K V T V K V N A |
| UniRef90-F0V8B6 | KVTVK $\mathrm{K}^{\text {V }}$ NA |
| UniRef90-F0VA32 | K V TVNVEAR |
| UniRef90-F0VA32 | K V T V NVEA |
| UniRef90-FOJAZ0 | $R \vee D V N V K A$ |
| UniRef90-F0JAZ0 | RVDVNVKAR |
| UniRef90-F0VA45 | T V T V NVEA |
| UniRef90_F0VA45 | TVTVNVEA |
| UniRef90-FOVCV9 | K V P V HVE A |
| UniRef90-F0VCV9 | K V P V HVEA |
| UniRef90-F0JB87 | $\mathrm{K} V \mathrm{DV} \mathrm{NV} \mathrm{K}$ K ${ }^{\text {a }}$ |
| UniRef90-F0JB87 | K V DVNVKAR |
| UniRef90-F0V8C1 | QVTVNVNA |
| UniRef90-F0V8C1 | QVTVNVNA |
| UniRef90-F0VA34 | K V T V NVEA |
| UniRef90-FOVA34 | K V T V NVEA |
| UniRef90-F0V8C7 | $\mathrm{K} V \mathrm{~T} V \mathrm{NV}$ N A |
| UniRef90-F0V8C7 | KVTVNVNAR |
| UniRef90-FOVCW0 | K V P V HVEA |
| UniRef90-FOVCW0 | K V P V HVEA |
| UniRef90-V4ZJH8 | K L T V NVEA |
| UniRef90_V4ZJH8 | KLTVNVEA |
| UniRef90-FOVA42 | K L TVNVEA |
| UniRef90-F0VA42 | K L TVNVEA |
| UniRef90-F0JB03 | K V T V NVNA |
| UniRef90-F0JB03 | K V TVNVNA |
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| UniRef90-F0V8C6 | K V T V NVNA |
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| UniRef90-FOVA49 | KLTVNVEAR |
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| UniRef90-F0V8C8 | K V TVNVNAR |
| UniRef90-F0V8C8 | K V T V NVNA |
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| UniRef90-F0VA37 | K V A V NVEA |
| UniRef90-F0VA37 | KVAVNVEAR |
| UniRef90-F0JB69 | K V P V HVEAR |
| UniRef90-F0JB69 | K V P V HVEA |
| UniRef90-V4Z799 | KLTVNVEAR |
| UniRef90-V4Z799 | KLTVNVEAR |
| UniRef90-F0JAZ1 | KV DVNVKA |
| UniRef90-F0JAZ1 | KVDVNVKAR |
| UniRef90-F0V8C5 | K V TVNVKAR |
| UniRef90-F0V8C5 | KVTVNVKAR |
| UniRef90-F0JB05 | QVTVNVNA |
| UniRef90-F0JB05 | QVTVNVNA |
| UniRef90_F0VCG1 | \|V V $\mid$ ElV\|R|V|K A R |

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UniRef90-FO.JAZ7 UniRef90-FOVCF9 UniRef90-FOVCF9 UniRef90-FOVCF3 UniRef90-FoV8B7 UniRef90-FOV8B7 UniRef90-FOJAZ9 UniRef90-FOVCF6
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UniRef90_STVYJO UniRef90-S7VYJo UniRef90-FOJAZ8 UniRef90-FOJAZ8
UniRef90 FOVAW2 UniRef90-FOVAW2 UniRef90-E2IPQ4
UniRef90 E2PQ4 UniRef90-FOVCF8 UniRef90-FOVCF8 UniRefofo-FOV7P5
NiRe90 UniRef90_FoV7P5
 $P V F S G Q V A T C A S T G D D A T L T L S K D N L T A T L K C G K D Y V A I P$

 PKFDGQ PKFD GQLA TCS QTQTSTALT

TLLS QK NLTAA L A C G K S Q TA A V P PEDT GQVATCAKGKGDAALTLSKENLSVTLQCGNKNAAVP






 PQINDNTATCAAEQKATALVLSKQGPTAKLVCSGDGNAAA PQINDNTATCAAEQKATALVLSKQGPTAKLVCSGDGNAAA
 P E F Q GQVATCTLSE GSDALTTLSKDNLTVTVMCGAKNQAV
 TTCTCRSSPGVSTATLSESSNAITIQCSDAGF
T T C T C R S S P GVVS T
 $T \bigvee G N$ CTCSSSAGVGSATLSESSNALTI QCPKTEF CTCSSSAGVGSATLSESSNALTI QCPKTEF
 PTENK QVATCTVVPSDSAALTLDKENLSATLKCSGANYVAV



 TFGDGVATCAAAASTNALILSKGKLTAKLVCSGDGNAAV


## TEG

TEGAVVTKCTSSKKDLLIA TLLSEEKNI LVI GCKKNDDLTCA TVND GVLTTCAYGTDSNEVTLNSENNSLTIHCGDEGQMEP
 ENQMTTCASG
 ENQMTTCASG

CNCGSDASSNTATLSESSNGIITIHCPQTGF
CNCGSDASSNTATLSESSNGIII HCPQTGF PTIS GTTAATCKEPKSS GSGLTLSKEK LI ATTLQCSSEENTTI




N S V A T C T S T A T P A T L T L



 T L S Q K S L T A T L V C G A DA E I N P
TTCTCNSDPKELQATLSATKSAALQLVCQNDLKCAP



IDTAIMS



ENQMTTCASG ENQMTTCASG

S T D T P T L S E S S
S T D T P T L
S E S S
STDTPTLSESSNGITVVCPS

| N | K | L | T | V |
| :--- | :--- | :--- | :--- | :--- |
| N | C | C |  |  |
| N | L | T | V | I |
| C |  |  |  |  |

UniRef90_FovCG1 UniRefofo-FOVAB6
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UniRef90
UOV8B9 UniRef90-FOJAZ6 UniRef90-FOJAZ6
UniRef90 FOVA39 UniRef90-FOVA39 UniRef90-FOVA47 UniRef90-FOVA47
UniRef90-Q9NH12 UniRef90-Q9NH12 UniRef90-FOVAR3
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UniRef90-FOVA38 UniRefe90-FOVA38 UniRef90-B9QQ19 UniRef90-FOVA41
UniRef90-FOVA41 UniRef90-FOVM87 UniRef90-FOVM87
UniRef90 FOJAZ7 UniRef90-FoJAZ7 UniRef90-FoVCF9 UniRef90_FOVCF9
UniRef90 FOVCF3 UniRef90-FOVCF3 UniRef90-FOV8B7 UniRef90-FOV8B7 UniRef90-FJJAZ9 UniRef90-FOVCF6
UniRef90 FOVCF6 UniRef90-B9Q7L3 UniRef90-B9Q7L3
UniRef90 FOVCF7 UniRef90-FOVCF7 UniRef90_V4YNH7 UniRef90-B9QQ20 UniRef90-B9QQ20 UniRef90-FOVAQ9
UniRef90_FOVAQ9 UniRef90-FoVIU9 UniRef90_FOVIU9 UniRef90-FOJAY5 UniRef90-FOJAY5 UniRef90-FOVAR1
UniRef90 FOVAR1 UniRef90-FOVCGO UniRef90 FOVCGO UniRef90-FOVCF4
UniRef90_FOVCF4 UniRef90-V4Z795 UniRef90-V4Z795 UniRef90-B9Q7L4
UniRef90
B9Q7L4 UniRef90-V4 YWF6 UniRef90-V4YWF6
UniRef90_FOV8C3 UniRef90-FOV8C3 UniRef90_Q1JSB4 UniRef90_B9QQ21 UniRef90-B9QQ21 UniRef90-S7UGC8
UniRef90-S7UGC8 UniRef90-Q1JSB6 UniRet90_Q1JSB6 UniRef90-V5B1T6
UniRef90 V5B1T6 UniRef90-FOVAV7 UniRef90-FOVAV7 UniRef90 STVYJO UniRef90-FoJAZ8 UniRef90-FOJAZ8
UniRef90 FOVAW2 UniRef90-FOVAW2 UniRef90-EEIPQ4
UniRef90-E2PQ4 UniRef90-FOVCF8 UniRef90-FOVCF8 UniRef90_-_OV7P5
UniRef90_FOV7P5

PSDJV|NLLVICVIAKNQADLLLAACENSIVSPI|KGFLIJDVISDSEWT ASLVYVCGPKRSDEDTTTTADGKEVKLKDFLGADRDVKWS ASLVYVCGPKRSDEDTTTTADGKEVKLKDFLGADRDVKWS
QKMT
KVCAATSVKNCKTDPVTLESLLGSTRSIEWT TDMATVCVEEAAAGKELESSNCDPVKLQELLGTNDPVQWK TDMATVCVEEAAAGKELESSNCDPVKLQELLGTNDPVQWK QQMTEVCSATVTPPTIAKCKSTNTVTLKSLLGSSRGIVWN QQMTEVCSATVTPPTUAKCKSTNTVTLKSLLGSSRGIVWN EHLANSAGANQCTFEDNASAGTAVALNKLLGVETDAQWT EHLANSAGANQCTFED NASAGTAVALNKLLGVETDAQWT EELEE GCKATTTAAKKEKQUTLKTLLGTTRSIQWE

K D Q
KDQ KKVCSAANAKVADCKGVTLKSLLGTSGDI QWT
SKYEFVPE
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SEET NYNGKESDKSCRIEGSTDGAETA
TNYNGKESDKSCRIEGSTDGAETA


## LT T T



## P <br> P <br> $$
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RNLEKVCEPSESGSGENCKVTLQTLLGVNNAVQWK
RNLEKVCEPSESGSGENCKVTLQTLLRVNNAVQWK CKEVTGKEVLGTTRTIQWT


 | R S |  |
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NFVPSEKTYVCTGGKTEGGNGKKSPI
NFVPSEKTYVCTGGKTEGGNGKKSPITDFMIIPVTESAWWTSTIPRDLA

NS
$\begin{array}{ll}\mathrm{K} & \mathrm{D} \\ \mathrm{K} & \mathrm{M} \\ \mathrm{K}\end{array}$
NEKVCSATGATVATCKSVTLQSLLDSSQHVVWH $N E K V C S A T G A T V A T C K$
QQVOSGGEATVATCK
KTTKSTGGE
QQVCSSGEATVATCK ETACRIGSTEAGQ

TVT
PA A
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KNVCDGSDTTNCTGKTVSL
KDAATTTKHEKCKFGSAQSPEGDEVACHYLCGANERVKWT PEGLQSDGATKCQFGNATSSEGEEVTLQTLLEAGEHLKWT

PATA ANVCVASDADSGGGKPVTLQSLLEATHPISWT
A
PTLES
EKV
E E T EKQVCPENTPDRKDCKCVSV
EELTTMEKQVCPENTPDLKDCKCVSVT
SPIPQGLAKKVCVSGKSNSCDGAETELRALLGTDRDIQWT
PSDTKSVCTAEANGGTLKECKESGKKLTNVTDTNSPAW PSDTKSVCTAEANGGTLKECKESGKKLTNVTDTNSPAW
DGLS EKQVCPESTTDLKDCKCVNV
LEGATSSYPRVCHIDAKDDCERDKGFL
LEGATSSYPRVCHIDAKDDCERDKGFLTDYMPGAKQYWYK
KNASDVCVATTKQKETLQSCKSEKTPIENFLPQATQGAWT
K N A S DVCVVATTK QKETLLQSCKSEKTPI ENFLIQQATQGAWT
PDYSQALKDKVCPVDADTQCRNNGKPLA

UniRef90 FovCG1 UniRef90-FoVA36 UniRef90-FOVA36 UniRef90-FOJAZ4
UniRef90-FOJAZ4 UniRef90-FOV8B9 UniRef90-FOV8B9 UniRef90-FOJAZ6 UniRef90-FOJAZ6 UniRef90-FOVA39 UniRef90-FOVA39 UniRef90-FOVA47 UniRefto-Q9NH12 UniRef90-O9NH12 UniRef90-FOVAR3
UniRef90_FOVAR3 UniRef90-FOV8B8 UniRef90-FOV8B8 UniRef90-FOVA38
UniRef90-FOVA38 UniRef90-B9QQ19 UniRef90-B9QQ19 UniRef90-FOVA41
UniRef90 FOVA41 UniRef90-FOVM87 UniRef90-FOVM87 UniRef90-FOJAZ7 UniRef90-FJJAZ7 UniRef90-FOVCF9 UniRef90-FOVCF3 UniRef90-FOVCF3 UniRef90-FOV8B7
UniRef90
UOV
UB7 UniRef90-FOJAZ9 UniRef90-FJJAZ9 UniRef90-FOVCF6
UniRef90 FOVCF6 UniRef90-B9Q7L3 UniRef90-B907L3 UniRef90-FOVCF7 UniRef90-FOVCF7
UniRef90 V 4 YNH UniRef90-V4YNH7 UniRef90-B9QQ20 UniRef90-B9QQ20 UniRef90-FOVAQ9
UniRef90_FOVAQ9 UniRef90-FoVIU9 UniRef90-FOVIU9 UniRef90-FOVAR2
UniRef90 FOJAY5 UniRef90-FOJAY5 UniRef90-FOVAR1 UniRef90-FOVAR1 1
UniRef90 FOVCGO UniRet90-FOVCG0 UniRef90-FoVCF4 UniRef90-FOVCF4 UniRef90-V4Z795
UniRef90 - 4 UZ795 UniRef90-B9Q7L4 UniRef90-B9Q7L4 UniRef90-V4YWF6 UniRef90 V4YWF6 UniRef90-FOV8C3 UniRef90-FOV8C3 UniRef90-Q1JSBB4 UniRef90-B9QQ21 UniRef90-B9QQ21 UniRef90-S7UGC8 UniRef90-STUGC8 UniRef90-Q1JSB6 UniRef90-V5B1T6 UniRefolo-vBE1T6 UniRef90-FOVAV7 UniRef90-FOVAV7 UniRef90-S7VYJO
UniRef90
S7VYYo UniRef90-FOJAZ8 UniRef90-FOJAZ8
UniRef90 FOVAW2 UniRef90-FOVAW2 UniRef90-E2IPQ4 UniRef90-E2IPQ4
UniRef90 FOVCF8 UniRef90-FOVCF8 UniRef90-FOV7P5 UniRef90_F0V7P5

APS DEKKGHSLLTFPKGNFP|LDDRSFFAGCLLKKNTNDEC K EPK A A S T K T WT L QLEE A DLPL S DKS F LVGGCQETTNRNAC K E P K A A S T K T W T L L Q L E E A A D L





 $K V Q Q A Q K T N T W T L Q M R E A D D P F S D K T F F L V C K D S S T K N V C$ KTNNSDNQGERTLTLQESDLPLTDKAFFVGCDENNGQTEC KTNNSDNQGERTMLTLQESDDLPLTDKAFFVGCDENNGQTEC

 K K ALLSHNENQRTLTLT QADLPRTDKSFMVGCQKSAKSPCC K K ALSHNENQRTLTLTQADLPRTDKSFMVGCQKSAKSP
 KTERVANGEAWTLTVTEADFPLTMTPFFVGCKKS GTKDSC KTERVANGEAWTLTLTEADFPLTDTPFFVGCKKS GTKDSC
 $N T S$
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$\qquad$
NTSQAANGEERALL
TDPTDGDTKDNSLTIPPNSFPLIDKSFFAGCLKKTNNDEC
TDGDTKDNS LTIPPNSFPLTDKSFFAGCRKSTNNDE
TEGGTK DNS $\quad$ L
NVAPSKNQNQRSL
$N \vee A P S K N Q N Q R S L$
TEGGTKDNS
TEGGTKDNS
T D THTK K N S
T D T H T K D N S
CRTLQLQESDLPLTDKAFFVGCDNNTPSKEC

QKSRDEESNTWSLELLESDLPLTQKTFFVGCQKTTSASTC


TE GAHRTTTDDHSLLAFPTENFPLVDKSFFVGCRQNGSAKQC TE GAHRTTTDHSSLAFPTENFPLVDKSFFVGCRQNGSAKQC


TDTND

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| $C$ | A |  |}

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TKEHTLV

KTKRSSEWTLKLQES K ETTKRSSEWTLKL | $K$ | $S$ | $E$ | $V$ | $T$ | $P$ | $E$ | $G$ | $E$ | $E$ | $W T$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $K$ | $L$ | $E$ | $Q$ | $T$ | $P$ | $E$ | $G$ | $E$ | $E$ | $W$ |
| $L$ | $L$ | $Q$ | $L$ | $L$ |  |  |  |  |  |  |

K

TNTETPEGESRTGLKLS Q

QAKTGDDGQTWSLTLTES
GSKTAENGQKWTLNLA

EKPASSDGKERTLQLAAETDLLPRTD K T F
E K P A S S S D G K E R T L L Q L

 QVTDDQAN TVVKKMTIPKENLPYTDKKF』VGCLQNKKNTKC K GS S E A S N N E WT LT L Q E S D L P L S E K S F F FV G C E H A K A S K A C K GSETASNNEWTLTLQESDLPDLSEKSFFVGCEHAKASKAC TETTDKDKKNHSLTFPTETFPLVDRTHFAGCSKTDNGKEC TETTDKDKKNHSLTTFPTETFPLVDRTTFAGCSKTDNGKEC
 $V N V D S K N P K P K R L T I P T E N L P Y T D K K F I V G C L D K E G N N A C$ VENNGEQSVLYKFTVPWDFLPPAKQRYKVGCRY PNHEYC
 TPTPTTSNHGHSLILPQETFPLTDKTFFAGCLNTGANDEC D D N A P H S N K K S F S L $\quad$ R 1 P G S N LDP L S D K A F S V G C M K K T N S D S C

| UniR | R |
| :---: | :---: |
| UniRef90_FOVA36 | KVTVTVEAR |
| UniRef90-FOVA36 | KVTVTVEAR |
| UniRef90-FoJAZ4 | KVDVNVKAR |
| UniRef90-FOJAZ4 | KVDVNVKAR |
| UniRef90-FoV8B9 | K VTVNVNAR |
| UniRef90-FOV8B9 | KVTVNVNAR |
| UniRef90-FoJAZ6 | KVDINVKAR |
| UniRef90-FOJAZ6 | KVD NVKAR |
| UniRef90-FOVA39 | KLTVNVEAR |
| UniRef90-FOVA39 | KLTVNVEAR |
| UniRef90-FOVA47 | KVNVNVKAR |
| UniRef90-FOVA47 | K V NVNVKAR |
| UniRef90-Q9NH12 | KVNVSVKAR |
|  | KVNVSVKAR |
| UniRef90 FOVAR3 | VVKVSVKAR |
| UniRet90-FOVAR3 | K K S M |
| UniRef90 FovzB8 | KVTVNVNAR |
| UniRef90-FOVA | TVTVNVDAR |
| UniRef90-FOVA | TVTVNVDAR |
| UniRef90-B9QQ19 | KVPVHV |
| UniRef90-B90Q19 | K V P V HV |
| UniRef90 FOVA41 | KLTVNV |
| UniRet90-FOVA41 | K |
| UniRet90_FoVM87 | K ${ }^{\text {d }}$ |
| UniRet90_FOVM87 | KV |
| UniRef90_FOJAZ7 | V VK |
| UniRef90-FOJAZ7 | $\checkmark$ VKVSVKAR |
| UniRet90-FOVCF9 | V V V S M A |
| UniRef90-FVCF9 | VNVSVKAR |
| UniRef90-FOVCF3 UniRef90 FOVCF3 | LVTVSVKAR |
| UniRet90-FoV8B7 | KVTVNVNAR |
| UniRef90-F0V8B | KVTVNV |
| UniRef90 FoJAZ9 | VVNVSVK |
| UniRet90_FOJAZ9 | V VNVSV |
| UniRef90 FOVCF6 | LVTVSV |
| UniRet90-FOVCF6 | $\checkmark$ |
| UniRet90_B907L3 | KVDFNVK |
| UniRet90_B907L3 | KVDFNV |
| UniRef90 FOVCF7 | $\checkmark \mathrm{V}$ VTV |
| UniRef90-FOVCF7 | VVN |
|  | T ${ }^{\text {a }}$ NVEAR |
| UniRet90-V4YNH7 | T ${ }^{\text {V }}$ |
| UniRet90_B9QQ20 | K $\mathrm{V}^{\text {P }}$ |
| UniRet90_B9QQ20 | KVP |
| UniRet90_FOVAQ9 | V VNV |
| UniRef90 FoVAQ9 | VVN |
| UniRef90- FoVlu9 | KVTVTLQAR |
| UniRef90 FoVIU9 | KVVVTLQAR |
| UniRet9o-FOVAR2 | R ${ }^{\text {k }}$ |
| UniRet90-FOJAY5 | K ${ }^{\text {¢ }}$ |
| UniRet90_FOJAY5 | KV |
| UniRef90_FoVAR1 | $\checkmark \mathrm{V}$ Q |
| UniRef90 FoVAR1 | $\checkmark \mathrm{V}$ V ${ }^{\text {s }}$ |
| UniRet90-FOVCGO | VVKVSVKAR |
| UniRef90_FOVCG0 | VVKVSVKAR |
| UniRet90-FOVCF4 | LVTVSVTAR |
| UniRet90-FOVCF4 | LVTVSVAR |
| UniRe990-V4Z795 | TVNVTVEAR |
| UniRef90_V4Z795 | TVNVT |
| UniRef90 B907L4 | KVDVN |
| UniRef90_B907L4 | K V DVNVKAR |
| UniRet90_V4YWF6 | KVDVNVKAR |
| UniRet90_V4YWF6 | K ${ }^{\text {d }}$ |
| UniRet90-FOV8C3 | K |
| UniRet90_FOV8C3 | K V |
| UniRef90_Q1JSB4 | K V |
| UniRef90_Q1JSB4 | K V T V |
| UniRef90_B9QQ21 | K VPV V VEAR |
| UniRet90_B9QQ21 | KVPVHVEAR |
| UniRet90-S7UGC8 | K |
| UniRet90_S7UGC8 | K |
| UniRef90_Q1JSB6 | K |
| UniRet90_Q1JSB6 | KVTVN |
| UniRef90 V5B1T6 | KVTVN |
| UniRef90-V5B1T6 | KVTVNVQAR |
| UniRet90_FOVAV7 | KLTVTLEAR |
| UniRet90-FOVAV7 | T |
| UniRet90_S ${ }^{\text {dVYJo }}$ | T ${ }^{\text {N }}$ |
| UniRef90_S7VYJo | TVNV |
| UniRef90_FOJAZ8 | V V |
| UniRef90 FoJAZ8 | V V |
| UniRef90 Fovaw2 | KLTVTLEAR |
| UniRet90_FOVAW2 | KLTVTLEAR |
| UniRee90 E2PP4 | F |
| UniRet90-E2PQ4 | FVEVVEP |
| UniRet90-FOVCF8 | VVKVSVKAR |
| UniRef90_FoVCF88 UniRefo Fov7 | VVKVSVKAR |
| UniRef90_Fov7P5 UniRef90-FOV7P5 | - |
| UniRef90_FoV7P5 | K\|V|T|VI |



UniRef90＿Foviu3 UniRef90－FOVIU3
UniRef90＿V4YNH3 UniRef90－V4YNH3 UniRef90－FOVIUG
UniRef90－FOVIUG UniRefo－FOVIU6 UniRef90－FOVIU4 UniRef90－FOVIU4
UniRef90＿FOVAQ8 UniRef90－FOVAQ8 UniRef90－V4Z307 UniRef90－V4Z307
UniRef90＿FOVAV9 UniRef90－FoVAV9 UniRef90－Q9UB12
UniRef90－Q9UB12 UniRef90－S7VSQ6 UniRef90－STVSQ6 UniRef90＿VZZHX8
UniRef90＿V4ZHX8 UniRef90－FOVAW4 UniRef90－FOVAW4 UniRef90－FOV7P6
UniRef90 FOV7P6 UniRef90－B9QQK9 UniRef90－B9QQK9 UniRefofo－FOVARO UniRef90－FOVARO
UniRef90－FOVCF5 UniRef90－FOVCF5 UniRef90－FOV7P4 UniRef90－FOV7P4 UniRef90－FOVA50
UniRef90 FOVA50 UniRef90－V5B1U2 UniRef90－V5B1U2 UniRef90－FOJBOO
UniRef90
UOJBOO UniRef90－V4ZJG5 UniRef90－V4ZJG5
UniRef90＿FOV7P8 UniRef90－FOV7P8 UniRef90－FOVIU1 UniRef90－FOVAV8 UniRef90－FOVAV8 UniRef90＿O15728
UniRef90＿Of15728 UniRef90－FOVCF2 UniRef90＿FOVCF2 UniRef90－FVIU7 UniRef90＿V4ZML5 UniRef90＿V4ZML5
UniRef90＿FOVKD4 UniRef90－FOVKD4 UniRef90＿FoVPJ9 UniRef90－FoVPJ9
UniRef90 FOVIU2 UniRef90－FOVIU2 UniRef90－Q6WAX5
UniRef90－Q6WAX5 UniRef90－S8G8Q6 UniRef90－S8G8Q6 UniRef90－FOVC23 UniRef90－FOJAY4 UniRef90－FOJAY4 UniRef90－FOVIU5 UniRef90－FOJAY3 UniRef90－FOJAY3
UniRef90－V5BDH5 UniRef90－V5BDH5 UniRef90－FOVIY3 UniRef90－FOVKD3 UniRef90－FoVKD3 UniRef90＿B9QP91
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UniRet90 FOVES5 UniRef90－FOVKD2 UniRef90＿OVKKD2
UniRef90＿V4Z3C8
 PDGLESN EVCPSTTASLKDCKPFDINTLLSGSPKSWRN EKETTGDTDKVADKGKDSGSDGKQTTLRDLLGAANDIEWK EKETTGDTDKVADKGKDSGSDGKQTTLRDLLGAANDIEWK T N

| TN | HKEEE |
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TKQKQSETPCNF GENGGAAASVQKPFTXVFPKFSADWWQ
TKQKQSETPCNF GENGGAAASVQVPLKDVLGTTSAVQWT GQLS
GQLS NKQVCPENDSDLTQCRKIDVTSLLAGSTEKWED
A G NKQVCP
A G

## ADN

 EVCPADNKQVCPEATDDLKNCKCIDVTTLLAGSTDKWQD
DSSTDQKGKVCPADDGSPAATQPVSLADLLENAASTNWI
DYSSTDQKGKVCPADDGSPAATQPVSGADLEENAASINWU
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TDLATQEKSEVSSSCTVSGSDGKEVTLQQLLRATRE：QWM
SSIPSPLAGKVCVGESVDAAMSVEVPLNDVLGTTSAVQWT

$P Q E S T$
$P Q E S T$
PQEST HVCEST
PDYSTTGKGKVCPA NADLNKCQPISLADLLENAASINWV
PDGENGKVCPANADLNKCQPSADLENAASNW


PSKAT DVCFTEDNTASLKACKDKEFLNLASDSTSPQWT
PSKAT
PEELSEN
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| PE Q Q L |
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| P |

PDNKLVCPSSTT
$P E Q L$
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| $N$ | $S$ | $T$ | $T$ |  |  |  |  |  |
| $N$ | $D$ | $D$ | $S$ | $A$ | $V$ | $C$ | $P$ | $S$ | ..... Q T ..... Q ${ }^{\top}$

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N Y C V

UniRef90_Foviu3 UniRef90-FOVIU3
UniRef90_V4YNH3 UniRef90-V4YNH3 UniRef90-FOVIU6 UniRef90-FOVIUG
UniRef90 FOVIU6 UniRef90-FoVIU4 UniRef90-FOVIU4 UniRef90-FOVAQ8 UniRef90-FOVAQ8 UniRet90_V4Z307 UniRef90-V4Z307
UniRef90 FOVAV9 UniRef90-FOVAV9 UniRet90_-a9UB12 UniRef90_Q9UB12
UniRef90 S7VSG6 UniRef90-S7VSQ6 UniRef90_V4ZHX8 Uninefe90-V4ZHX8 UniRef90- FOVAW4 UniRef90-FOV7P6 UniRefefo-FOV7P6 UniRef90-B9QQQK9 UniRef90_FOVARO UniRef90-FOVARO UniRef90-FOVCF5 UniRef90-FOVCF5
UniRef90 FOV7P4 UniRef90-FOV7P4 UniRef90-FOVA50 UniRef90-FOVA50 UniRef90-V5B1U2 UniRef90-V5B1U2 UniRef90-FOJBOO
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UniRef90-FOV7P8 UniRef90-FOVIU1 UniRef90-FOVAV8 UniRef90-FOVAV8 UniRef90-O15728
UniRef90 015728 UniRef90-FOVCF2 UniRef90-FOVCF2 UniRef90-FVVIU UniRef90-V4ZML5 UniRef90-V4ZML5
UniRef90 FOVKD4 UniRef90-FOVKD4 UniRef90-FOVPJ9 UniRef90-FovpJ9 UniRef90-FOVIU2 UniRef90-Q6WAX5 UniRef90 - 6 WAX5 UniRef90-S8G8Q6 UniRef90-FOVC23 UniRet90-FOVC23 UniRef90-FOJAY4 UniRef90-FOJAY4
UniRef90 FOVIU5 UniRef90-FOVIU5 UniRef90-FOJAY3 UniRef90-FOJAY3
UniRef90-V5BDH5 UniRef90-V5BDH5 UniRef90-FOVIY3 UniRef90-FOVKD3 UniRef90-FOVKD3 UniRef90-B9QP91
UniRef90-B9QP91 UniRef90-FOVETO UniRef90-FOVETO UniRef90-FOVIVO
UniRef90 FoVIVO UniRef90-FOVC27 UniRef90-FOVC27 UniRef90-FOVES5
UniRef90 FOVES5 UniRef90_FOVKD2 UniRef90_F0VKD2

CVDAT CTTKKLEIIPPENFPFVDQKFMVGCVKGDTNDTM CVDAT CTTKKLEXPPENFPFVDQKFMVGCVKGDTNDTM K1 TGNENGETRTLTLQESDRPLSDKVFFVGCDQKKTLSEC KUTGNENGETRTLTLQESDLPLSDKVFFVGCDQKKTLSEC A TT
 CEDVGEPCTKKKLT TTVQSNEQHSVVF KTKETDNGETMILE
 VNVDSKDPKPKRLTI GKPDTKDG AKLTH1 GKPDTKDGGAKLTH NEEDRPDSKTFDVGCTYTTTGKAC AEQKAIQSQKWTLKLNEEDLPISDKTFDVGCTYTTTGKAC SLEEQEGETAKRLSIPPANLPYSDKKFDVGCLDKEKTTTC SLEEQEGETAKRLS:PPANLPYSDKKFIVGCLDKEKTTTC
 GDTASSDNKSFSLTVPGNNLPLSDKAFSVGCMKKNSDASC
GDTASSDNKSFSLTVPGNNLPLSDKAFSVGCMKKNSDASC
ETSSSDNSTK ETSTSDKNSTLKLT TEGNTKENS QVKKTTTKKS QVKKTTTKKS NDTAPQGKKSYSLT NDTAPQGKKSYSLT KKTDTRTTAQWSLELEABDLPRSAKSFFVGCKNTKATSVC KKTDTRTTAQWSLELEAADLPRSALSFFVGCKNTKATSVC ENNKEQKATSWTLKLNEEDLPISDKTFDVGCSYTTKSAAC SWTQVQKTTKKKLTVPPEALPLTDKSFFAGCSKTDNGKDC
 PQWTTPNTGGHSLILPPETFPIVDKSFFAGCLKTNADVEC GDTASSDNKSFSLTVPGNNWPLSDKAFSVGCMKTNSNVSC CNAAGDDCTTKKLEIPRENFPFVDKSFVVGCVENSSKNKM CNAAGDDCTTKKLEI PRENFPFVDKSFVVGCVENSSKNKM AVPEVKNVKAKKLSAPRRENWPYSDKKF:VGGCLSTPTTNNC
 V EAPPESKTHSLTLPAENFPRVDKKFFAGCLKTSSSRQC EVES HNYVKTLTLAPATFPLTDKHFFAGCLKKAENDEC CADGLPACTTKKLEIPPENFPFVDRKFMVGCVKKDTNDTM CADGLPACTTKKLE:PPENFPFVDRKFMVGCVKKDTNDTM AVTRAAQGTTKKLSIPPANLPYTDQSFAVGCLSSKTTTKC KDTTSEDCTTQQLAVPQENFPYTDKKFLVGCVANDNADKC
 RTLVLDSSDSKVLTIPPNGFPPARQQFKLGCRAKG HYC DCDSDSGCTTKKLTVPPENFPVVDQKFMVGCVQPNTKDTM DCDSDSGCTTKKLTIPPENFPIVDQKFMVGCVQPNTKDTM
TSNNDGRHSLLFS
EWTTTNPG GHSLILP EWTTTNPGGGHSLILPPR PDTTSSDSATQQLTVVPEENFPYTDKKFVVGCVKKDDTDKC D CADGVPPCTTKQLTVPPENFPFVDQKFMVGCVEAETTDTM CANAISTCTTKKLTIPPENFPFVDHKFMAGCVQPDTKDTM TVTREAQGTTKKLSAPPANRPYTDQRFAVGCLDSGKTTTC ESGTSAKKRS LTLPQPNFPLIDKRFFVGCLSEGNKKSC ESGTSAKKRSMGTLPQPNFPLIDKRFFVGCLSEGNKKSC
 NGGNVNGSTTKKLIIPPANLPYAEQKFIVGCVDAKGEPKC NGGNVNGSTTKKLI K WWTATATTNEYKFVI WWTATATTNEYKFVI PEGQFPAEGQKI TVGCRKKKTSSVC EDETSEDCTTKQLAVPPENFPYTDKKFVVGCTKTAKKDQC EDETSEDCTTKQLAVPPENFPYTDKKFVVGCIKTAKKDQC EGANTAGHTTKKLTVPTERFPLTDKKFVVGCVNAKSADSC EGANTAGHTTKKLTVPTERFPLTDKKFVVGCVNAKSADSC $R D T T S D Q C T T Q Q Q T V P K Q N F P Y T D K K F V V G C V Q K G N T D Q C$
$G D E V N Y$

| UniRef90_FOVIU3 | TVTL |
| :---: | :---: |
| UniRef90-FOVIU3 | K V TVT $\mathrm{T}^{\text {L }}$ |
| UniRef90-V4YNH3 | KVIVNVKAR |
| UniRef90-V4YNH3 | KVIVNVKAR |
| UniRef90-FOVIU6 | S V DV R |
| UniRef90-FOVIU6 | S V DVR |
| UniRef90-FOVIU6 | S V DVR |
| UniRef90-FOVIU4 | TVTVTL |
| UniRef90-FOVIU4 | TVTVTLEAR |
| UniRef90-FOVAQ8 | VVNVSVKAR |
| UniRef90-FOVAQ8 | V V NVSVKAR |
| UniRef90-V4Z307 | KVNVIVQAR |
| UniRef90-V4Z307 | K V NVIVQAR |
| UniRef90-FOVAV9 | K L TVTTLEAR |
| UniRef90-FOVAV9 | KLTVTLEEAR |
| UniRef90-Q9UB12 | Y CTV QVEA |
| UniRef90-Q9UB12 | Y CTV QVEA |
| UniRef90-S7VSQ6 | QLTV NVKAR |
| UniRef90-S7VSQ6 | QLTVNVKAR |
| UniRef90-V4ZHX8 | ALTV SLEA |
| UniRef90-V4ZHX8 | A L TV SL E |
| UniRef90-FOVAW4 | K L TVTLEA |
| UniRef90-FOVAW4 | K L TVTLEAR |
| UniRef90-F0V7P6 | $\mathrm{K} V \mathrm{~T} V \mathrm{NL}$ |
| UniRef90-F0V7P6 | K V T V N L |
| UniRef90-B9QQK9 | R V T V NVSAR |
| UniRef90-B9QQK9 | RVTVVNVSAR |
| UniRef90_FOVAR0 | V VKV S V K A |
| UniRef90-FOVAR0 | V V K V S V K A R |
| UniRef90-FOVCF5 | V V SVSVKAR |
| UniRef90-FOVCF5 | VVISVSVKAR |
| UniRef90-F0V7P4 | K V T V N L |
| UniRef90-F0V7P4 | K V TV |
| UniRef90-FOVA50 | K V P V NVEAR |
| UniRef90-F0VA50 | K V P V NVEAR |
| UniRef90-V5B1U2 | QLTVNVKAR |
| UniRef90-V5B1U2 | QLTVNVK ${ }^{\text {L }}$ |
| UniRef90-F0JB00 | VVNVTVKAR |
| UniRef90-F0JB00 | V V NVTVKAR |
| UniRef90-V4ZJG5 | LVKVDIKA |
| UniRef90-V4ZJG5 | LVKVDIKAR |
| UniRef90-F0V7P8 | $\mathrm{K} V \mathrm{~T} V \mathrm{NL}$ |
| UniRef90-F0V7P8 | K V TVNL |
| UniRef90-FOVIU1 | K V T V T L |
| UniRef90-FOVIU1 | KVTVTL E |
| UniRef90-FOVAV8 | KLTVTLEA |
| UniRef90-F0VAV8 | KLTVTLEAR |
| UniRef90-O15728 | LVKVDVKA |
| UniRef90-O15728 | L V KVDVKAR |
| UniRef90-FOVCF2 | V VKVS VKAR |
| UniRef90-FOVCF2 | V V K V S V K A |
| UniRef90-FOVIU7 | KVTVTLE |
| UniRef90-FOVIU7 | K V TVTLEA |
| UniRef90-V4ZML5 | K L TVTI E A R |
| UniRef90-V4ZML5 | KLTVTI E A |
| UniRef90-FOVKD4 | RVTVTVA A R |
| UniRef90-FOVKD4 | RVTVTVA A R |
| UniRef90-FOVPJ9 | MLTVTVDP |
| UniRef90-FOVPJ9 | MLTVTV $\mathrm{L}^{\text {d }}$ |
| UniRef90-FOVIU2 | KVTVTLEAR |
| UniRef90-FOVIU2 | KVTVTLEA |
| UniRef90-Q6WAX5 | LVTVSVKAR |
| UniRef90-Q6WAX5 | LVTVSVK ${ }^{\text {V }}$ |
| UniRef90-S8G8Q6 | L VKVDVKAR |
| UniRef90-S8G8Q6 | LVKVDVKAR |
| UniRef90-FOVC23 | R V T V T V A A |
| UniRef90-FOVC23 | R V T V TVA A |
| UniRef90-FOJAY4 | K V TVTLEA |
| UniRef90-F0JAY4 | KVTVTLEA |
| UniRef90-FOVIU5 | K V TVTL E A |
| UniRef90-FOVIU5 | K V T V T L E A |
| UniRef90-F0JAY3 | K V T V T L E A |
| UniRef90-F0JAY3 | K V T V T L E A |
| UniRef90-V5BDH5 | KLTVTI E A |
| UniRef90-V5BDH5 | KLTVTIEA |
| UniRef90-FOVIY3 | VVNVQVEAK |
| UniRef90-FOVIY3 | VVNVQVEAK |
| UniRef90-F0VKD3 | TVVTVTVA A R |
| UniRef90-FOVKD3 | TVTVVTVA A R |
| UniRef90-B9QP91 | K L TVTLEAR |
| UniRef90_B9QP91 | KLTVTLEAR |
| UniRef90-FOVET0 | KVVVTI EA |
| UniRef90-FOVET0 | KVVVTI EA |
| UniRef90-FOVIV0 | SVVDVTI V A |
| UniRef90-FOVIV0 | S V DVTIVA |
| UniRef90-FOVC27 | TVTVTI A A |
| UniRef90-FOVC27 | TVTVTI A A |
| UniRef90-FOVES5 | K V AVTL A A R |
| UniRef90-FOVES5 | K V AVTl $\mathrm{A}^{\text {A }}$ R |
| UniRef90-FOVKD2 | TVTVTVA A R |
| UniRef90-FOVKD2 | TVTVVTVA |
| UniRef90_V4Z3C8 | \|L L | $\mathrm{H}\|\mathrm{V}\| \mathrm{T} \mid \mathrm{L}$ S A R |

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UniRef90_V4Z3C8
UniRe90-FOVIY1
\begin{array} { l } { \text { UniRef90-FOVIY1} } \\ { \text { UniRef90-FOVES7} } \end{array}
UniRef90-FOVES7
UniRef90-FOJAY6
UniRef90-FOJAY6
UniRef90-FOVIYO
UniRef90-B6KDK1
UniRef90-B6KDK1
UniRef90-FOVES8
UniRef90-FOVPJ5
UniRe990-FOVPJ5
UniRef90 B9Q6P5
UniRef90-B906P5
UniRef90-V4ZLN9
UniRef90-FOVAH5
UniRef90-FOVAH5
UniRef90-FOVIY2
UniRef90-FOVES6
UniRef90-FOVES6
UniRef90-FOVET1
UniRef90-A7XG15
UniRef90-FOV7P7
UniRef90-FOV7P7
UniRef90-FOVIH6
UniRef90-FOVIU8
UniRe90_FOVGD
UniRef90-B6KDK0
UniRef90_FOVMF9
UniRef90-V4YJK88
UniRef90-B6K9M8
UniRef90 B6K9M8
UniRef90_O1JTJ4
UniRef90- S8EU84
UniRef90-FOVN13
UniRef90-FOVAR4
UniRef90-B9Q4G2
UniRef90-O15695
UniRef90-O15695
UniRef90_FOVJ45
UniRef90-B9PFR8
UniRef90-V4ZIM3
UniRef90-S7VXN8
UniRef90-V4ZA40
UniRe90-S7WEM
UniRe90_B6KBE7
UniRef90-B6KBF7
UniRef90-B6KBF9
UniRef90-FOVLC6
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UniRef90-FOVGU3
UniRef90-FoVGU3
UniRef90 FoVL87
UniRef90-FOVL94
UniRef90-B6KVH1
UniRef90-FOVKJ9
UniRef90_S7VYK0
UniRR90-FOVCH1
UniRef90-FOVDK2
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| lupas_21 lupas_14 |
| :---: |
| lupas_28 |
| jnet |
| conf |
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| sols |
| jhmr |
| jipssn |

    VTEVVCTCNQGETSNAVVVISAEKNQLLMAKCALGTVTLLP
    ENGTCVCEESVKGRAATLSESHNTISVQCPEQYGFVP
    VTENGTCVCEESVKGRAATLSESHNTISVQCPEQYGFVP
        NDOTVTCAYGASSNTDTLSPSQNTFTLVCGTDGDILP
    VTNEAVTKCTSTKKALTATLSEKKNILEVACKNPDLKCA
        VTNEAVTKCTSTKKALTATLSEKKNLLEVACKNPDLKCA
                    TPSASLTESKNTISIQCPNQYEFRP
                    TPSASLTESKNTISI QCPNQYEFRP
    VVEGAVCTCRNQTVQNTATVSEQQNGLQISCNATHLKCA
    VVEGAVCTCRNQTVQNTALVVSEQQNGGQLSCNATHLKCA
        GNTTCTCDSQTTTLSATLSEETNVLQVSCQTDLKCAP
        GNTTCTCDSQTTTLSATLSEETNVLQVSCQTDLKKCAP
                                    SVKAPEMS E EREGGEFMP
        TNKGTTTCDTAPKPLSATMSEDSNVLQVTCRNDLTEAP
        TFAP
        TNKGTTTCDTAPKPLSATMSEDSNVLQVTCENDLTFAP
                CTCQDKNGSAKATMSQNQNGLNNRCKKTELKKA
        TVSNGVCTCQDKNGSAKATLSQNQNGLNLRCKKTELKKA
        TVSNGVCDCSTGTSALTARLSTTVNT:QLTCANADVGMP
                            ESTNSASLTGSKNT:S:ECPETYDFVP
        GNTTCTCDSQTTTLSATLSEETNVLQVSCQTDLKCAP
    

NTLTHACEGGGTPVP
NTLIC

DHIVKKAYGKKSNAVTLSPEKNSFTLVCGTAGEVLPD



P T I

QTDRNTVVCANGANSNAVTLSPTQNSLQLDCGKDSATLP


PAGNKVTCPEKGDVDDWILVPQQNEVTFACEGKGTPVP
PAVERQEARCSYTENSPKIFVTKDSNTMTLACGPHGAPMP



TCADENTGUTVEVAADETEATFKCGDNGDVCP



CSMGESP
CSMGESP
S


PAPETNV
TCTSEQSPPSVELLVDKPVAQFVCPGNSVVFP


ASNLDLTLSPDSDSI SFKCSST


C K D G Q D A L $A$




| UniRef90_V4Z3C8 |  |
| :---: | :---: |
| UniRef90_F0VIY |  |
| UniRef90_F0VIY1 |  |
| UniRef90_FOVES |  |
|  |  |
| UniRef90_F0JAY6 |  |
| niRef90 F0JAY |  |
|  |  |
| UniRef90_FOVIYO |  |
| UniRef90 B6KDK |  |
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| UniRef90_F0VES8 |  |
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| UniRef90-F0VPJ5 |  |
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| UniRef90-FOVY2 |  |
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| UniRef90_FOVES6 |  |
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| UniRef90-F0VET1 |  |
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| UniRef90_FOV7P7 |  |
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| UniRef90_F0VIH6 |  |
| UniRef90_F0VIU8 |  |
| UniRf90 F0VIU8 |  |
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| UniRef90_F0VMF9 |  |
| UniRef90_V4YJK8 |  |
| UniRef90_V4YJK8 |  |
| UniRef90_B6K9M8 |  |
| UniRef90_B6K9M8 |  |
| UniRef90_Q1JTJ4 |  |
| UniRef90_B9PK09 |  |
| UniRef90_S8EU84 |  |
| UniRef90_F0VN13 |  |
| UniRef90_F0VAR4 |  |
| UniRef90-B9Q4G2 |  |
| UniRef90-B9Q4G2 |  |
| UniRef90-O15695 |  |
| UniRef90_O15695 |  |
| UniRef90_F0VJ45 |  |
| UniRef90-F0VJ45 |  |
| UniRef90-B9PFR8 |  |
| UniRef90_V4ZIM |  |
| UniRef90_F0VKJ8 |  |
| UniRef90_S7VXN8 |  |
| UniRef90 ${ }^{-}$V4ZA40 |  |
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| UniRef90_S7WEM1 |  |
| UniRef90_B6KBF7 |  |
| UniRef90_B6KBF7 |  |
| UniRef90-B6KBF9 |  |
| UniRef90_F0VLC6 |  |
| UniRef90_B9QEX1 |  |
| UniRef90_F0VGU3 |  |
| UniRef90-F0VGU3 |  |
| UniRef90-F0VGU3 |  |
| UniRef90_F0VGU3 |  |
| UniRef90-F0VL87 |  |
| UniRef90_F0VL94 |  |
| UniRef90_B6KVH1 |  |
| UniRef90-F0VKJ9 |  |
| UniRef90_S7VYK0 |  |
| UniRef90_F0VCH |  |
| UniRef90_F0VDK2 UniRef90 FOVGY4 |  |
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[^2]

| UniRef90_V4Z3C8 |  |
| :---: | :---: |
| niRef90 F0VIY |  |
| niRef90 F0V |  |
| UniRef90_F0VES7 |  |
|  |  |
| niRef |  |
| niRef90_F0JAY6 |  |
|  |  |
| UniRef90 F0VIY |  |
| UniRef90_B6KDK1 |  |
|  |  |
| niRef90 F0VE |  |
|  |  |
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| UiRef90 F0VPJ |  |
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| niRef90_B9Q6P5 |  |
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| niRef90 V47IN9 |  |
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| iRef90_FOVES6 |  |
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| Ref90 F0V |  |
|  |  |
| UniRef90_A7XGI5 |  |
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| UniRef90_F0VIH6 |  |
| UniRef90_F0VIH |  |
| niRef90_F0VIU8 |  |
| UniRef90_F0VIU8 |  |
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| UniRef90_B6KDK0 |  |
| UniRef90_F0VMF9 |  |
| UniRef90_V4YJK8 |  |
| UniRef90_V4Y |  |
| UniRef90-B6K9M8 |  |
| UniRef90_B6K9M8 |  |
| UniRef90_Q1JTJ4 |  |
| UniRef90_B9PK09 |  |
| UniRef90_S8EU84 |  |
| UniRef90_F0VN13 |  |
| niRef90-F0VAR4 |  |
| UniRef90-B9Q4G2 |  |
| UniRef90-B9Q4G2 |  |
| niRef90_O15695 |  |
| UniRef90-O15695 |  |
| UniRef90_F0VJ45 |  |
| UniRef90 F0VJ45 |  |
| UniRef90-B9PFR8 |  |
| UniRef90_V4ZIM3 |  |
| UniRef90 F0VKJ8 |  |
| niRef90-S7VXN8 |  |
| UniRef90_V4ZA40 |  |
| UniRef90_S7WEM1 |  |
| UniRef90_S7WEM1 |  |
| UniRef90_B6KBF7 |  |
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| UniRef90_B6KBF9 |  |
| UniRet90_FOVLC6 |  |
| UniRef90_B9QEX1 |  |
| UniRef90_F0VGU3 |  |
| UniRef90-F0VGU3 |  |
| UniRef90-F0VGU3 |  |
| UniRef90-F0VGU3 |  |
| UniRef90_F0VL87 |  |
| UniRef90-F0VL94 |  |
| UniRef90-B6KVH1 |  |
| UniRef90 F0VK |  |
| UniRef90-S7VYK0 |  |
| UniRef90_F0VCH1 |  |
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SDTT \begin{tabular}{llllll}
S \& $D$ \& $T$ \& $T$ \& \& <br>
$K$ \& $T$ <br>
$K$ \& \& $T$ \& $P$ \& $E$ \& $G$ <br>
\hline

 

C \& V <br>
C \& V \& D <br>
A

 C $\mathrm{C} V$

D <br>
D <br>
D <br>
A <br>
\hline
\end{tabular}

CTTKKL
S GA GQT THSLTLP
$N G D S V A$

 A GTTPQDSTTKTLAI


 D DGGDNQYTSKKLVIPRASFPYTDRKFVVGCLKNTNADHC DDGGDNQYTSK WQQQK LKK KI YA L EI

SASDANTTPHSLLS L
TVSNTTGSTTKKLTMPNSNPLTDKKFFVGCLEKKAKKSC


G E
D NKA S GVA GATLTI
D NKATHN
$\begin{array}{lll}\mathrm{G} T & \mathrm{~L} & \mathrm{Q} \\ \mathrm{G} & \mathrm{T} & \mathrm{L}\end{array}$

WWTTTANTNEYKFT
CEDS
CEDS
HVSQTQ
EDVPYQTSNQATLTI
EDV Y E T EKWTLNL


KVDET GSST TM
 EASGT TKDYSLTSPPGSFPGNDKSFFAGCVVNGNPKQC
 $\begin{array}{lll}G D P K & S P \\ G D P K & P \\ G & G\end{array}$

 D DSTGEHVHVLKF PKEDRPQKDAWYH CKSAE GATTC SQEGNPNTPAYTLSVPQ LPDESQTLFYKCATGTDKDSC GTNAPQWTADHALTIPTEQFS IIDDTTFAECLSKS GTNQC

Q V Y Q L T $\quad$ P K G N R P K K D D V W W H
DDTAN

$\begin{array}{llll}\mathrm{H} & \mathrm{V} & \mathrm{Y} & \mathrm{L} \\ \mathrm{L} & \mathrm{L} & \mathrm{T}\end{array}$ | $E$ | $D$ | $D$ | $T$ | $D$ | $K$ | $N$ | $V$ | $F$ | $K$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $E$ | $L$ |  |  |  |  |  |  |  |  |
| $E$ | $D$ | $D$ | $T$ | $D$ | $K$ | $N$ | $V$ | $F$ | $K$ |
| $L$ | $I$ |  |  |  |  |  |  |  |  | EDDTDKNVFKLLIP NNNDNHVYTLTFPARRPGKDVWY

ATDQAATAAYTLSCP DLPASAQNFF
 D NVHENTYTRTIPKKNRKQKDAWY DNVHENTYTLTIPKKNRKQKDAWY DNVHENTYTLTIPKKNRKQKDAWY DNVHENTYTLTI PKKNRKQKDAWY EDESEEGKKTYTLTI PNDSRKATEQALYYK EDGSEEGKKTYTLTIPNDSRKATEQELFYKCVQADDSDKC DKDPDNGAYTVTPPK S QK GK T D T SA Y T LTVP A ADTTPTTVGYTLSCP

E REGNGVYTVTTPQ T
G
P

## LP S E K Q A L C Y S C

##  QCRS R LRTRND

Q Q CRS GQRNTPC CRTAAKTNPC

QCK S S RTNNNSC


$\qquad$
$N L \operatorname{P} D Q^{2} K T L L Y Y K C N Q G G K V T E C$
$N$ L P S S A Q T FF Y K C V V T G T P Q GC
L P S E K Q A L C Y S C ST T G GS G S

lupas_21
lupas_14
lupas_28
jnet
conf
sol25
sol5
sol0
jhmm
jpssm

| UniRef90_V4Z3C8 | R |
| :---: | :---: |
| UniRef90-FOVIY1 | V V TVQVEAK |
| UniRef90-FOVIY1 | V VTV Q VEA K |
| UniRef90-FOVES7 | K V V V T |
| UniRef90-FOVES7 | KVVVTI E |
| UniRef90-FOJAY6 | KVTVVTLQAR |
| UniRef90-F0JAY6 | KV TVTL Q A R |
| UniRef90-FOVIYO | V V TVVQVEAK |
| UniRef90-FOVIYO | VVTVQVEAK |
| UniRef90-B6KDK1 | K V A V T L Q A R |
| UniRef90-B6KDK1 | KVAVTLQAR |
| UniRef90-FOVES8 | KVTVTLA AR |
| UniRef90-FOVES8 | KVTVTL A A R |
| UniRef90-F0VPJ5 | FI TVTVVEP |
| UniRef90-FOVPJ5 | FIT ${ }^{\text {V }}$ TVEEP |
| UniRef90-B9Q6P5 | K V TVTVT A R |
| UniRef90-B9Q6P5 | KVTVTVTAR |
| UniRef90-V4ZLN9 | KVTVTLEA |
| UniRef90_V4ZLN9 | KVTVTLEA |
| UniRef90-FOVAH5 | KVKVTVA AK |
| UniRef90-FOVAH5 | KVKVTVA A K |
| UniRef90-F0VIY2 | V V TVQVEAK |
| UniRef90-FOVIY2 | V V T V QVEAK |
| UniRef90-FOVES6 | KVTVTMAAR |
| UniRef90-FOVES6 | K V TVTMAAR |
| UniRef90-FOVET1 |  |
| UniRef90-FOVET1 |  |
| UniRef90-A7XG15 | V Vpr V NTE |
| UniRef90-F0V7P7 | K V T V N L |
| UniRef90-F0V7P7 | KVTVNL |
| UniRef90-F0VIH6 | L L NVYV Q S R |
| UniRef90-F0VIH6 | L L N V Y V Q S R |
| UniRef90-FOVIU8 | SVIDVTI VA |
| UniRef90-FOVIU8 | SVDVTIVA |
| UniRef90-B6KDK0 | K V AVTL Q A R |
| UniRef90-B6KDK0 | KVAVTL Q A R |
| UniRef90_FOVMF9 | KVELTI |
| UniRef90_V4YJK8 | V VPV HVEAR |
| UniRef90_V4YJK8 | V V P V HVEA R |
| UniRef90-B6K9M8 | ALTVNI EAR |
| UniRef90_B6K9M8 | ALTVNI EAR |
| UniRef90_Q1JTJ4 | $\vee \mathrm{DV}$ T IP A |
| UniRef90-B9PK09 | RVVVS A |
| UniRef90-S8EU84 |  |
| UniRef90-FOVN13 | RVVVSAKAR |
| UniRef90-FOVAR4 | LVTVVSVTA R |
| UniRef90-B9Q4G2 | $\bar{M} \mathrm{I}$ S L HI Y A K |
| UniRef90-B9Q4G2 | MI SLHIY A K |
| UniRef90_O15695 | T V P V |
| UniRef90_O15695 | T V P V |
| UniRef90-F0VJ45 | S V Q V T V A A |
| UniRef90-F0VJ45 | S V QVTVA |
| UniRef90-B9PFR8 |  |
| UniRef90-V4ZIM3 | $\mathrm{K} V \mathrm{~K} \backslash \mathrm{~S} \mathrm{~V}$ A A |
| UniRef90-FOVKJ8 | NVVITVA |
| UniRef90_S7VXN8 | LVPVSVKAR |
| UniRef90-V4ZA40 | KVQI S V A A |
| UniRef90-S7WEM1 | KVKIS S |
| UniRef90-S7WEM1 | K V K I S V |
| UniRef90-B6KBF7 | K V Q I S V A A |
| UniRef90-B6KBF7 | $\mathrm{K} V \mathrm{Q}$ I S V A A |
| UniRef90-B6KBF9 | K V K I S V A |
| UniRef90-FOVLC6 | KVLVT |
| UniRef90-B9QEX1 | GV M I T V K P K |
| UniRef90_FOVGU3 | KVKI SVA A |
| UniRef90-FOVGU3 | KVKI S V A A |
| UniRef90-F0VGU3 | KVKI S V A A |
| UniRef90-FOVGU3 | K V K I S V A A |
| UniRef90_FOVL87 | K V K I TVEA |
| UniRef90_FOVL94 | TVKITVA |
| UniRef90_B6KVH1 |  |
| UniRef90_FOVKJ9 | $K \square A \square A$ V |
| UniRef90_S7VYK0 | K V L S VEK R |
| UniRef90_FOVCH1 |  |
| UniRef90-FOVDK2 | M L K T TVK |
| UniRef90_FOVGY4 | T AVI NVA |

lupas_21
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lupas_28
jnet
conf
sol25
sol5
sol0
jhmm
jpssm


[^0]:    

[^1]:    

[^2]:    lupas_21
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    lupas_28
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    jpssm

