query
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UniRef90 W6Q148 UniRef90_W6Q148
UniRef90_W6Q148 UniRef90_E0UFQ8 UniRef90_E0UFQ8 UniRef90_A1CS57
UniRef90 B2VVI8 UniRef90_ROKME6 UniRef90_ROKME6
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NLL
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 FYHSAEDI RI EGSVLKA RLLRTAGGEWNDSEI DGNSCLI

SFHQSAQGVRLDDHVLVAELRNDNGDYVTARLDLNSVL FFDSATNVRLEGSVLHAQMLMTSGHWRDQTI DLNLI I FFDSATNVRLEGSVLHAQMLMTSGHWRDQTI DLNLI FFDSATNVRLEGSVLHAQMLMTSGHWRDQTI DLNLI
SFHTSAQDIVRDGHMLRARLRKVNGEEVDAEI DLNAF
 FYETARNVYLTGSVLHASMQDSYQYYQDQTI DL NLE MGNFHESSNNIWLDGHILHAECGNGEGDYVESTLDLDYYI
 GDFHASAENVRFDRPVLRAVLRDVDGEGHDADINLSERU


GNFSHSASRDSDDDHDLIAECATVHGSRKDT S DSDNRLL SFYRTAEDISLDDHTLVARVANEDGEMVESEFDLNSCI SFHASATSIHLDGHI LKATLLNGEGDEVEATLDLNDII




$N$ L
SFHDTAENLRLEGHTLIAQLHNADGELVDSSTDLNTII
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SFSASAQNFYLDGHILVASVADEEGNYQESSIDLDQFid
NHTL
SFHETSTHDELEGHTLRA\LRTEDGGEKES\|DDL
SFQASSRDI FLDGHILGANVCDREGNWVESRIDLNRFI SQS S R NV R L D H N M L Y A E C L T G D G D WK E S C L N L D E S
 FHQS A EDI



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## QUERY

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UniRef90 $\times 81 \mathrm{WN} 8$ UniRet90-X8IWN8 UniRef90-A7F588
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ENDDGNLVWQPDNFIDETCKETYLSGSUMNAKCEKIDGGSL ENDDGNLVWQPDNFDETCKETYLSGESUMNAKCEKDDGSL GNDNGHFTWDGEGFAHSADNIHFADVPVLRASLRDADGNE HRGNFSKSSRDISLQGDYELAALCCAVSGQF HRGNFSKSSRDISLQGDYELAALCCAVSGQF
 GNFNGNFS YNNDGDLKFKQ YNNDGDLKFKQHMILKTGSFFYLDGS
 TNDNGQLKFKQESTLKTGTFYHLEGS VLRGNVLNYNGES TNDNGQLKFKQESILKTGTFYHLEGS VLRGLVLGYNGKF TNDNGQLKFKQESILKTGTFYHLEGS VLRGLVLGYNGKF GNDDGSFSWGGENFSGSASNDTLDGEPVLRAELNPMDGDP GNDNGRLVFN
GNDNGRLVFN
MATGEFSRTCEDTELKGS TLTANCDTSYGDD
MATGEFSRTCEDIELKGS TLIANCDTSYGDD GNDNGRFQWDGVNFSESAENVHFADEPVLRARLADGEGNW GNDNGHFCWDGENFSHSAENIHFADVPVLRATLMDAEGNS MSYSSFSYSAEDIRLDDGHILRARLQTADGNW MSYSSFSYSAEDIRLDDGHLLRARLQTADGNW TNDDGHFRWSRENFAGSARN:RLVDGKYLEAELCRRDGSW GNDEGRFLWGGNDFAGSAEDI SFDNVPVLRARLSNSEGEQ GNNNGTFDWGGVNFADSAEN:EFSQDPVVRAHLGNLDGDM GNEDGWFMWDGVNFSHSANGIQQDGTHLTAELPMRDGGYR SNQDGELCFEXDVERPSVGDNTTEEREALVEKCEASARDR GNDNGHFHWDGGDFHSSAEDVSFDREPVLRARLHDVEGEL ANVDGSLKPTDAPKSSS
ANVDGSLKPTDAPKSSS
GNENGMIHWDGQNFSLSAEDVHTEGGPVLRTHDRSRDGEA GNSDGWFEWDGVNFSESAHDILLDGSRLTAEMGMVEGGNR GN AWAAGGFSQTCSNVSVNGSA LSANCQRANGYT GNVDGRLEWGGQNFSESAHEVQFNEVP LRVLLKNADEQW
 QNI DGQLRFKPRDSLLLSSSCLLLDGTRLKGLCLGMDGKM QNDNGRFIUWDESDFSHSAEETTFNVGEPVLRAFLKNEDGEL GNSNGHFSWGDRDFSGSASNIRLDEDLRANLDAADGTE GNEDGWFMWDGENFSHSAND:|RLDG TLLTAELPMRDGGY
 GNEDGWFMWDGVNFSDSAND:RGEG TLLTAELPMRDGGY GNENGHFQWGGRNFSETARNVHFGFEPVLRAELRTPAGTW GNRNGRFTLCDRDWYHSARNVQLIGSKLKAELAKEGGEEW GNDDGHFQWGGENFSHTADDVHFDEVPVLRAVLLNGEGEP GNDNGNFQWDGENFSDTAQNVHFADEPVLRGELRDLEGNW VNDDGNLRWQVGGGFHTSCNFKDFGDSELYFNCRKKDGSY GNDNGSFVWDGEGFSGSAENVHFSDEPVLRATLFDGDGNG TNTNGGLHWQGGNFAASARNMRLTEGRVFEAELGDGRGGW GNQDGRFEWGGQGFSDSGQNFSFGDEPIGRGELSNVEGEP GNDDGYFTWKGVNFASSASEIRLGETLVLTAALLKKSDGEE GNSNGRFAWDGADFSESAEDUSTGGEDTARARLRGSDETY GNSEGSFEWGGQNFSHTAEDIHDEGDPVLRARLASSDGEL GN NGAFEWDGENFSESAENVEFSTEPVLRALLGTGDDEP GNTDGWF I
GNDDGRFDWSGQNFSETAENTSFSTEPVLRARLQ
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QUERY
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FSRDVNDAERTGNNDGRFEY
ERQGLELNDRIGNENGQLVYR T S TS S DL N R YVGNDDGTLKW A A A DVVNLSERVVNENGTFVIF HASEI DLNDHYGNSNGEFK HASEI DLNDHYGNSNGEFK



 NESAADDLNATLGNIDGTFVW
 RQASADLDEYVANEDGNL EPRDVNLDERVFNNNGHFEFQ
 V DA DI NLAERLQNNDGAFSFD
 ØDADVNLCERLSNNDGNFHF KHNAVNLDERITNEDGRL
 ERQDI DLNDRI ANESGDLVFR





FDRDVNLAECTTNNNGCFELQ VSANVNLTERLDNTFGEFQFQ QESKVNLGHCVKNVDGHWSY

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1

GNFHGSSRNVY LD GST LVAECADVNGHHHRTADDLNDCL
 NF Q E T C Q D C H L E F G WL V C T C Q T M D GE WK S T Q I L L D S Q i


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SFYESSRRNTWLD GH LLHAECAYGDDEWQESTDDLN DFVV MSSFAESSRDVRIENTWLVCEAQAEDGSWQPAEINLDDVI.

$$
\begin{aligned}
& \text { NF ANSCTGVELYGY LIRGDCDNEDGHPHATSDNDNYY I }
\end{aligned}
$$

GFHKSSNGTNVDKHILTAYCQKPGGETYYSELDLDGFD

 NF Q A S A C D S W S L L S S H Y L I G K C S S A V D G S K H D A A V F S Q T A Q DFRLLD G S LL V A TVVA T E A G D WVV S VL D D SFHESARDVRVDGRTLVADLRNGNGDFVTARLDLNTVL SFHESATDIVTVEGSILKAQLSNGE EYLEAEFDLDTVI
 MGNFSKSSKDI SFKDGKLHAKCQTTRQELLPSSSIDLLNYFF GNY H L S S R N V R L D G N F L V A E C C N A G G D R WQ E S R I D L D D N D I
 GGYTQTCYMYDMEGHLLACRCYDQYSRWHYTTAH TM TV SSQCDNDRLQNTWLDADCDTGSGTTRQSSVY NERLL G G Y T L T C TM Y D M D G H L L R C Y CVVGP Y N P Y T W S TVVHLNERLL



G GF LIK TCWVIWELNSATWAHCRERRGRLFWSRTGLDHMV GDFSKSCSSISFRSTSISASCNDKFGDSVGTNIDLTRCLL GGF A S T C S D MT Y S GT T FTAA Q C K N N D P Y S E R A P

F S A T C D N
FSVTCSDLSLDGTVLKAQCKKEDSTRAPASMDLNGII H G S V L Q C S CR T WY G WY H T A Y F L L S K K V
HFSSSCTEDRFYGNIMSANCRTDAGKVVRSSVDVNECV FSSSCTGISFDGHTMHAKCRTPYGKHVKSSIVDVQCV YRDTSRNAVLSGRTLRAECMKLDGSWVTSEI DLDTCII

 S F VDD S A Q N Y R L E G S E L V A D V C R V D
 $G F G L T C S D L H L D G Q N I V A T C L N E G G G N N G A Q L G L N S C L$

NFSKSCDILGVQQNTLTALCQAPRGE IRTSLDLNHCF GNFSFSCRDI KLD GHHLVATCTAGDGTEITSKLDLNHCY
 GNFAASCCSNTY V Q G N F $\begin{gathered}\text { N } \\ \text { S F Q N S S C }\end{gathered}$ HYTDSSVDTALSGTTLSGHCGDNKGNNPYSSVDVGUKV G

[^0]UniRef90 M1 W181 UniRef90_E5AAZ0
UniRef90_D8T2B0 UniRef90_A4D9V1 UniRef90_A4D9V1 UniRef90_M2ZNZ9
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GNDNGSF|V|WDGDNFMDTAANMELLDGS VLITAT|LDDNDGEP GNVD GNFVWD GENFSHSAQDDEFTDEAVLRASLSDAEGNH $G N N N G Q L D C S S G Y F$ Q S CAGMQYSGT$T V$ SATMPSVVNQP M S LR GF H T TCDTIVVLKDKHILSSRCKRPD GTY $M S L R G F H T T C D T I V L K D K H I L S S R C K R P D G T Y$ T NTNGS LHWRGGNFAASARH IQL DNGNGLEAELGD GR GGW $K N N K G T L K C G K N H Y S G S C \square N C T L R G \square A E F S C Q C R N S D H R H$ D N N D S QLEIG
D N N D S QL E G
D N ND S QL E I G
GNLDGMLSWDSQNFSQTCED $\square$ S L EKRRP LIMATCQEGGENY SFHVTAEDARI DNRTILEARLRREDGEW
 GNNDGHFEWNGNGYSNSAEEDHFDNVP L RARRLNNGGGEA GNDDGHFQWGGEN S F HL S A EDARI DGHTYLYARLRREDGEW SFHLS A E DAR I D GHTY Y Y ARRLRRED GE W
GNSDGWFDWNGDN GNDDGWFSRDTTGF
$N V V P G K A W A T G E F S A S C T N V T I S G T P D L D A S C Q N L D G G S$
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GNENGHFSWGGRNFSHDARNDTLTRGPVLHSDLRNSSGDF

 GNND GRFCWGGGGFSDSASDTYFTN LPILRAKLTASDGSK
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 GNDDGK LT WG EVVDFS QSTKNVWLDPS LI L E GRCE G DE S Y A



 $K D N A G Q F Q W R N G D G L K S C E P C R Q D G T V L$ S CQQATGKGGR GNNNGSFEWGGSNFSQSAED DHFSDEPILRARLFNVEGEA
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 GNDNGRLVWNSSDYFWTCDNQEIVENHDLRATCARSDGAR
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T N Y D GRI GCYTH
VNNNGKLDPK S GRFMESCTPCNLKSTS $\square$ L R C Q CP T $\square N N G T$ 1 NNNGEFACQFNGGGNSCNDCSLGGGTVITCNCFRANGGT $F G G T C V Q V T L G G H T T L E A R C V D A A G M W$



 GNDGRNLVCRNGNYAT GCSACLI HTGTYMRCQCGS GS GUA GNQDGRFSWNGQNFSNTARNVRLQREPVLHAELKKDS GEY GNHWGVLLTWGGQGFQNSCSEIVYNSNGVLSAKCGNGGGRD A NNGGSSLDCSSGSYSYTCS GCSLES GTYFGCSCSDCDCGT
TNTNGQLLS R K N NAFQSCHNCFFVVGTDMRCTCQLIDS GAD GNSDGFF T WE GDSFTES A ENDDLED GVWLE GDLPE GD G ER
 TNTE GKL E WKAD GYEQSCSDCVLDS GATLQQCYCR GT FTK E GDEHSALTWQKRGFTKNAHDDRFDDQPVLRATVYGNS $A N V G G Q V V C R P G S P S F K F C D C G L A G D K T L N C R C T D S T$ GTK
HNSNGILSCH
H N S N GI L S C H
VN M D GELLYQ G K N N F H Q S C T Q CN $\square E N G R W F N C G C W D \square K N R L$


|  |  |
| :---: | :---: |
| UniRef90_M1 W181 | TRDNLGERISNN |
| UniRef90-D8T2B0 | Fs SRDLNSCVRNSG |
| UniRef90-A4D9V1 | SFSEMDLNDCLGNN |
| UniRef90-A4D9V1 | SFSEIDLNDCLGNNNGKF |
| UniRef90 M2ZNZ9 | KHNRNN NER1SNDNGR |
| UniRef90 ${ }^{\text {B6HJJJ }}$ | VATTLDLNKClSNDHGEL |
| UniRet90_Q2MDE2 |  |
| Ref90_O2MDE2 |  |
| Ref |  |
| UniRef90-B7K |  |
|  | DASYELD |
| UniRef90-Q7S6 | NDASYELDQl\| GNNDGHF |
| UniRef90-L2GD | DADCNLSERIGNDNGN |
| M 7 GA | HWRDİGER GNNNGEFCF |
| iRef90-FVMV3 | NDAQ |
| UniRef90_F7VMV3 | NDAQFN |
| UniRet90-E9F9 | GRQGINL |
| UniRet90_O2U8 |  |
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| B7KA | ET |
| UniRet90-P86326 | VD RDM L |
| UniRef90-B6HAO5 |  |
| Un | RERG |
| Uni | CEADVNLA |
| UniRef90_B2AEJ6 | WHDVNLAERITNNGGQFELQ |
| UniRet90_RIEU96 |  |
| UniRef90_J3KEP1 | NHSEMDLDCLGDDN |
| UniRet90_3KEEP1 | N ${ }^{\text {S }}$ |
| W6QNB9 | QESEVKLADC:KNVDGR |
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| UniRet90-UPIO00441175F | VNTTLNLATYVGNSN |
| UniRef90_G9NL90 | EEQVINLDDYI GNQD |
| UniRet90_C5FSK0 | FDGVVNLSERITNNNG |
| UniRef90_C7ZG32 | TSSDINSEYISNNCGE |
| UniRef90-M2N | DHNKVYLDERISNDGGRL |
| UniRef90-D8R751 | AFELDFDIDIVNKEGKL |
| UniRef90-K2S3Q4 | FVLSEH1TNDGGNL |
| UniRer90_L8WNAO | N |
| UniRet90_EOUKF2 | VETSLDLNPYIGNVDG |
| OU | VETSLDLNPY GNVD |
| UniRef90 M4G3U8 | TLA A DL |
| UniRef90- J3P |  |
| UniRef90-H1VRB7 | HASAINLDKYIGNHDGL |
| UniRef90 R8BS. | RTTSIDLNEKVGNDDGKL |
| UniRet90-E3QUH6 | VDCNVNLSERIGNDNG |
|  | HTAYI WL |
| UniRef90-J3PGS11 | HTAY1 WLDRK1 GNNNGQLIW |
| UniRef90-E3QNX2 | QATS N DKC GNYDGLL |
| UniRef90-A0AO10Q412 | KPSSLNLDTCLTNNDGNL |
| UniRef90-W4K847 | VPTSIDLNGCISNDRSEL |
| UniRet90_J3PBQ5 | VEQT LLDEKIGNDNGK |
| M4G937 | PVTTLDLDNY ADRDGQL |
| UniRef90-D8RCB2 |  |
| UniRef90-D5GMG3 | ERQGIDL TKI HNSDGMLCYR |
| UniRef90-M4G0G4 | KDSKLDLDNF:HNSNG |
| UniRef90-Q2UDL7 | ERQGl NLADHI GNDC |
| UniRef90_G1XF | QPASINLNNFLSN |
| UniRef90-G9NSN8 | ARAF DLNSCLNNGNGKL |
| UniRef90-G9N7 UniRef90 C5PC | EEQFLDLNDYVSNEDGVLVF |
|  |  |
| UniRef90- N4V4W2 |  |
| UniRef90-UPIo004410A7F | DTS ${ }^{\text {a }}$ - |
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| UniRef90-G9P1Z7 | WDTSLDLNSCIGNVGGHLVYE |
| UniRef90_D8SHL7 | VASTLDLNDCIGNI |
| $19 \times$ | EDTKDDMA |
| UP10001F2AD | QAARFR G |
| UP100036 | RFAF■T |
| UniRef90-MC8C85 UniRef90 A0A017S | VGSDTQLGEHVGNV |
| UniRef90-G33503 | $V \mathrm{~V}$ VVLNLINNYISNN |
| Uni | SSTGIDLDQCVSN |
| UniRef90-JoW | T SDIDLNVNI GNDNGQL |
| UniRef90 A0A017SFR3 | GRQGINLSEHIENQNGQL |
| UniRet90 181BG3 UniRef9O-UPLOO03FC05E2 |  |
| UniRef90 - $66 \mathrm{QJB5} 5$ | NNSTLNLEEYi |
| UniRef90-B0) | NI NTREH\| RNTNG |
| UniRef90-L2F | KASSLNLDTCLSNSNGSLR |
| UniRef90_J3PFX0 |  |
| UniRe990 ${ }^{\text {J3P/ }}$ |  |
| UniRe90_K3V919 |  |
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UniRef90_G5EHI2
UniRef90_K3W3B4 UniRef90_D8RJH4
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UniRef90-B0DCY3 UniRef90-N4VUN1 UniRef90-T0KR34 UniRef90-S8CBH9 UniRef90_S8CBH9 UniRef90_JOWWS0 UniRef90_W9C2I8

GDFSATCSGTSYFSTSVKSYCQDTSQEDSYST|L|L|TKC|L GF $\square K T C W Q V W D A N N V L W A R C R R G R G N M Y W S R I G L D H M L$


 S S Q C I
SFH Q
 G S



G

## G



GN

N Y R
QKACTDFHITDR』LGATCE

GF LLGNCRGANLT GS WLGMYCLD DNFENKWTWHDLNLCV



GGFHLAANS $\square H L R D G F L C A L V R D N S G T L Q Y S E I N L D G S L$
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NFSETCRNISSLQGKYLSAVCMTSMK DGRPTAIDLNQGI

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FSATCKDTAFDTNVLSASCLPRDNSYLPTQLDLDNCF GWF K R S CKDYKLG GHSLEASCRALDGSYKDNRLDLT $\quad$ C $\quad$ I

TCE Q $\quad$ T L G GT T L E G K C T N N K G E WWK T S I


NF GQTCSS $\square Q L V G S Q L E A T C R N S S G D N G A Q V I A L S T C L$


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UniRet90_UP10001 F2B22B UniRef90_F8P716 UniRef90 B8PER7 UniRef90-A0A017SQG8 UniRef90-C4JQD3 UniRef90-W712U0 UniRef90-A1CMLO UniRef90-TOKVN8 UniRef90-E8RTP2 UniRef90-B8NAG5 UniRef90-J3PGR8 UniRef90 M4G935 UniRef90 A0A017S6L5 UniRef90-A0A017S6L5 UniRef90-A0A017S6L5 UniRef90_UPIo004415C93 UniRef90-G1XGC3 UniRef90_UP10003B7196E UniRef90-UPI0003B7196E UniRef90_UPI0003B7196E UniRef90-UPIOOO3B7196E
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UniRef90 G9MW80 UniRef90-G9MW80 UniRef90-W3XMQ3 UniRef90-Q0C7L7
UniRef90- $00 D 6 Y 4$ UniRef90-H1V3W5 UniRef90-H1V3W5 UniRef90-D8RR28 UniRef90-181NU4 UniRef90-R8BJG2 UniRef90-C7Z6A3 UniRef90- U4LTV5 UniRef90-D8RWS6 UniRef90-D8RWS6 UniRef90-S3C294 UniRef90_B3E4D9 UniRef90-A0A016P765 UniRet90_S7R7G5 UniRef90_S7R7G5

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| :--- |
| niref90- wocro |

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SWSSGQLRPTKFTFYDVGTDCH
SWSSGQLRPTKFTFYDVGTDCH
ANNNGIFACKTGNAMNSCKSCSLAG TFDTCTCNRDNGGT ANHEGVLEWADNNFAASCIECSISGPLTLNCKCRPTWGQH ANQNGRLVCPRGSYLLSCYNVQSYGNTLSASCLDQNNYS ANQNGRLVCPRGSYLLSCYNVQ SYGNTLSASCLDQNNYS ANQNGRLVCPRGSYLLSYNVQ ANQNGRLVCPRGSYLLSCYNVQ ANQNGRLVCPRGSYLLSCYNVQ ANQNGRLVCPRGSYLLSCYNVQ GNTEGRIESGSSHLFKTGDEFQSYGNTLSASCLDQNNYS GNI EGRIESGSSHLFKTGDEFQLCPSPHLRCHPRSNHTTW GNIEGRIESGSSHLFKTGDEFQLCPSPHLRCHPRSNHTTW GFDHDGI DWCEKPFQGGCRQCGLNGTVMWCPCFGDFSEAF QNDNSDLRCPPGSYMASCRETRVVAG WLKASCQDRNGRW QNDNSDLRCPPGSYMASCREIRVVAG WLKASCQDRNGRW ANYGGHLAYKNGRYSFSCRDCAIVDSTWFQCNCKGYSGET ANVNGELKAGNGNFSKSCNHERWVEGNVLTASCGDGRGGV GNSDGNLVWFSSDYQESCRNFSLRLGRYYYAACPDKDGMW ANDGGNLVARENGMGGSCRDMRLSGTVLLS RCVNNNGGT GSSNGVLDCS SNFASRCDNDSFNGLNV AARCNRGDGVL EVENGKLQPGSRGFLHHGANGNQSFTLRDSYLCARLNGRQ EVENGKLQPGSRGFLHHGANGNQSFTLRDSYLCARLNGRQ GFDVSTAWSPMGKFRNYCRNCSLKAPSELQCTCGTDN GFDASTAWSPMGKFRNYCRDCSLKAPSELQCTCGSDS GINNASLLWSYGKFSEYCSSCWSAGTRVFGCACRLLTGNS ANLNGTLQNGNAMLNGSCDSCSLDAPNRMDCRCFRUNGSA ANVDGRLTCR
ANVDGRLTCR
GNY $\square G M L R P Q E F H Y S A S C R G C \prod N F D S T L W C \square C P D \square R H \square$ SNDQGQLKWHPGQFAKSCSPGRLDETN LYTTCNK GAKDGRLVWGGQNFTHSAGQVFLEQGA MCAEMNKDGGSA SNQDGQLWCQRGSYRQTCTRVEFRNG VLSAFCLTRGGNY SNQDGQLWCQRGSYRQTCTRVEFRNG VLSAFCLTRGGNY ENRNGNLVCRD
ENRNGNLVCRD
ENRNGNLVCRD
TNSHGTMYWSY MGNFRCSDCKVNEAVILECKCRD NV DGAAFDGTCVQTLGGHTTLDGLCRNAGEW DGAAFDGTCVQDTLGGHTTLDGLCRNSAGEW ANNNGEMYYAGSYQGSCRDCGLEATSHLTCNCFDMGGNL GEERDELVWGDQNFTAESKSVNFAFEPILRATFFDNNSAP $T N N N G Q L T F Q K N N A L Q T C H T C S L S G G T L Q C T C Q R V S G A S$ FQRSCKNTQLLKEPFLLAECKDNAGIK FQRSCKNIQLLKEPFLLAECKDNAGIK GNHNGHTGPAGSDFAQSCDLSSIASGTRIRIPCDDGKGET QHTYGGMEFHEDGHFYGCTGCQVDSPNMLQCVCGTSQGAF GLDQSQLAWSYTKYTNYCADCYLTEPANLTCTCMTGAFAP GNSNGTFTTSRKSRATISANNLHLDGSNII ADLPTNAPGR SLSNGQVVYGQGGFVENASDLYFDGLPVLHATLKSETELAA
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UniRef90 N4VZ25 UniRef90 O7S460 UniRef90-F8MZ16 UniRef90-Q2UE39 UniRef90-G2R7H3 UniRef90 - L2GDC9 UniRef90-H1 W5R7
UniRef90 J3NXJ1
UniRef90-J3NXJ1
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MDDFGSSCRS $\square$ KVDGRHATAVCRT $\square$ LGD DRCSRVDLTE CI GNFWQSCRECRIEGSDIVCQCAKGDGSFKESSLNVDDIV GNFWQSCRECRIEGSDIVCQCAKGDGSFKESSLNVDDIV DFSRSCTGUDLFHNFLSATCCHPDDNGADAELDLTMCI AECQQRDDSYVK GSCTNTQUDGNTIAADCKNNAGQTNNTKUNIDSCF GFAASCSWSWQEPKYVVATCAKKDGTPWRTRQDMNLCV QKSCRDFATNKHLLEATCKDSRGK GDFSKVCTDIQLDKTFITAICPPR
GNFSASSQD RLDAHVLHAQCRRADGSV
GNFSGSAKDIRLDAHMLHCECRRDDGSY
KTCYNVRLYHGELWANCEPSG SSGSEVVGTTFYATCTTDSGAQQSTSI NLDNCV SCVNTTIQQEWFVGWCLTGEHKKRQSSVYLGNKV GF $\square \mathrm{N}$ SCEDFDYED D MNP


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G G
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F IDP H C S N I E L V N
 F S L S A R S IVL E Q N L L C A E L K T S G G D W W Y D Q L
 No SASSRD RLDSHNLHAQCRRADGSYQAS




 G FGKTCRDEHIDANVLTAKCDTGDGTLLDTSLNLNDCF O S S S S P WL VA K C P D K N G K Y L L T WL A L S K C L
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GNFTTSSNDVRLDSHNLHADC RTDGSYQS


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UniRef90-L2FJA2 UniRef90_UPI0004413EB2 UniRef90_E4UNN8 UniRef90_UPI00037BA8F7 UniRef90-D8R1P3 UniRef90_N4VZ25 UniRef90 Q7S460 UniRef90-F8MZ16 UniRef90-Q2UE39 UniRef90-G2R7H3 UniRef90 L2GDC9 UniRef90-H1W5R7 UniRef90-J3NXJ1 UniRef90-E3QNX3 UniRef90_Q2GM57 UniRef90-L8WVH7 UniRef90-Q7SHG5 UniRef90_L2GB25 UniRef90_G9NYQ9 UniRef90-B2AZU0 UniRef90_TOKH85 UniRef90-D8SQF6
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 GNDDGTLRCPAGSYQRSCAPLRYRRG VLQALCTRSGTTT

 $G N R N G T L E Y D T G N Y T T T C R D C R I L N N Y R L N C D C P D M A H V L$
$G N T D D W F I W G G K N F T Q S A R D D R L E D G P K L V A V M R S N D G G D$ GMDQVSGYMKWEKFSNFCKNCTMAGGAKYLYTCA $\square G D R G P$ GNDNGDLA WQNGGFHYDCSGCQUIDTEDMQCYC GNSNGSFEWGGGGFADSAEDDHFDNVP LLRARLFNVEGEA KNSYGSLQADPPSFFQECFNCSTSAPTFLHCQCDPKTGNW HNYNGYLSCHGQ
HNYNGYLSCHGQ
GLDQRSGQMQWEKFSNYCTNCTLGTEHQLTCACQPGSRAF GNTNGTFTTNRTQPLDVDTNVHLDGSNDIAELPTNAPGRS ANVDGYLIMQDNGFGNTCGDCWLSPDPWLHCSCYDGEKW TNTDGNMGFSYGNYGKGCNDCKINEDVIMECKCKDNDNRG SNSNGALVAQNGSFHSSCTNUILTG TVLSASCRNTGGAN GVDRRLVSRDTGNAF LDEWNTRKDGNTDLKSTCWNWDEEE TANNDKLYWQYQGNFK CSSCYVTDPVEMRCKC WWNLN GNTNGKLCYPGSDF LLTCDEVSVDGDYYLLAMCRTNDHLS ANDDGSFRWSGSSTDRS
GLDGRMRWEVYGKFSNYCTDCTDYTPTLLTCSCEPGGRGP ENSNGNFRWSGGAN $\square$ NSCSSVTVQPGDTLRD $\square$ AQRHGTNW SNDNGEMVVPGNGFSQYCYLFQI FD DNTLGAWCKNEHNKD ANYNGNLACATNGGYGGSCSGCVTGVQYMECYCTDDAGQQ KAVNGDLTWGDSNYGVACYSCQLNNLTELSCDCPAYGKP L $G T R N G E I G P G F T N F L D G C F G Y G L N Y K G V L R G T C N G R G N A F$
$G N T D G W F I W G G V N F T Q S A E N I A L E N G P K L T A E L H K R D G G Y$ GUDDSTLTWSYGKFSLYYCSSCHVVGRTSGGCSCATLSGVK ANLD GQLAVGKGNAFATCCGLCFLEGEKLTCSCRRSDMRS
 VNVSIEFRRCDHGRLQGCYNLRLIDQRLLAAKYLDGDGVW VNVSIEFRRCDHIRLQGCYNLRLIDQRLLAAKYLGPNEKA GNSDAHLVWQRNGMFQNSCGCSLQDPN LCCGCGKANGGT ENDGGSFRWSGGQSSNGASTYTVQQGDTLRADAAR
GN QLLASNHNFSKTCTNDHGDDDTVVWACCSNMNGSW GN QLLASNHNFSKTCTNIHGDI DTIVWACCSNMNGSW GNENGVMVVGEGFARSCEQTSIKIRGVLGAVCRNRSNVL GNDHGSFKWSDNGFSYYARD DKLLNDGRLAAGGDTGGGGW ENDQGSFRWCSGGGNNSDSSYTVQQGDTLR ENDQGSFRWSSGN
EN $\square$ D GVLRVQEASFH LSSEN $\square$ SVDGD VLSAECRK $\square D G$ GNKDGVLIRG $G F Q N N Q Q Y N Q G H D V C K D C E \prod F G V F R V W M N C Y G T K G V L$ $G F Q N N Q I Q Y N Q G H F G D V C K D C E D F G V F R V W M N C T C C N G S P$
$E N D N G N L Q C P P G S Y L Q S C S E M R M R G G G V L E A T C G G S D N R R$ LNSEGELYRGSNNFHGSCTACKLTGSN FNCGCNDFGNRV QFADHNLHRKEFNFDGSCSGVTLEDKHDLVTQCGGDDKK ANNNGEFACKVGNAMQSCSNCSPGGTVLTCTCVRNNGGT ENDRGSFRW
YNNNGQLYYPAGTYRETCRN■QV $\square L T A Q C T T D S G S S$ ENDNGSFRWS
S NQNGQLTS GSSTFQQS CGN DQ SS GAMLSA DCRTAAGGA GNNGGTLVASENRFHDSCETCKLDGTQYLACRCHRAGEGT ANTDGNLIWSPGG GFRCFGCKLTNTNTMECGCMNKKDK $\square$ ENDNGSLRWSSGGGGHGGSTYTVQQGDTLRA
SNQDGQLWCPPGSYQRSCRNAFVGPDNVLRAQCRAGGHVW GNKRGKLVWRNNNFDHTCHPCDLDDNVGLKCACSRRGKKP TNTNGQLKFQKNNAFHSCHDCTLSG TVLDCICQRTSGAD F NWNGYLACHSQ
FNWNGYLACHSQ
G $\square \mathrm{DQEEL} \mathrm{L}$ WDYGKYTNYCQDC $\square \mathrm{L}$ QFNHLLSCECAPLVGGP E NDQGSFRWVSRH
GNNAGQLVYENGNYSGSCENCTFDKSLYLSCLCWDMNGGH TNNAGVLTCPTGPYQSTCTGAADNGTMMLSATCDGPNNTK SNVLGDLE EKPEHFWKTCKDCGADSWDGLKCQCETDDGTY GNPDWE GWWT TLPDGQKPGTLQLKGGNLLTATLTQDYGG GNPDWE GWWTTLPDGQKPGTLQLKGGNLLTATLTQDYGG SNEHGNF
SNEHGNF
SNNNGNLVQGGSTFQKSCGNDQ DTAGATLTALCRNSGGGS QHTYGAA
ANNDGQLIYNNGNYTSSCGNCTVSKTLFLNCDCWNSAKHY KNVNGRLQADPPHFDDQCVKCTNSNPG\|IYCKCNPGPGAW AYEGNSI KWSSTNFGEACSDCYVTTRAWMNCTCNGA
TNLNGNLAWNDQG GLQYDGNSRLNCMCDNAAGQQ ANDGGNLVA TNNNGALACQANGGADSCTGCSLSGTVLTCTCFQSGGGL AFSNNKIESKKEHFGDVCNDCFSVTHVWMNCTC N NGAP KNTEGVLEPGRGHAFYSCQDCASTTDATDSCQCRNSHNDY GVQTDPLNGPKPGFTPFCSGCVLTGGPVTWMNCR CGSPS SLDGEGK】SCKKGDDGACK CQQLATNKSMTCNCNNSKGAK

NNDNGLLVCGRFRYRQSCTDASVRGG RLFARCEGSGRDR

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| UniRef90_JODAL7 | T T S SVDSNRCI GNRNGS |
| UniRef90-L2FJA2 | NRST NLNGK1RNEDGLL |
| UniRef90 UPIO004413EB2 |  |
| UniRet90-UPI00037BA8F7 | QRSSLDVAQGI SNVDGRLR |
| UniRef90-D8R11 | VTSTIDLKDCLYNDNGN1 |
| UniRef90-N4V2 | QPTVVN |
| UniRef90-F8MZ16 | HNTTIDLNTTLYNVDG |
| UniRef90-Q2UE39 | RGQGMLLGDKIENRNGEL |
| UniRef90-G2R7H3 | IWSTLNLDDGI SNNMGT |
| Ref90-L2GD | KRTT N NG\| |
| UniRef90-H1W | ADVNLSER! ${ }^{\text {a }}$ |
| UniRef90-J3NX | PAAVMDINTVIDN【DGI |
| UniRef90-E30 |  |
| UniRef90- O2GM ${ }^{\text {a }}$ |  |
| UniRef90-L8WVH7 |  |
| UniRet90-Q7SHG5 | GDtYTNLDGII SNF |
| UniRef90-L2GB |  |
| UniRef90-G9NY | VNTSIDTNVIGNAD |
| UniRet90-B2AZU00 | NLNTD |
| UniRef90- D8SOF6 | ■GTEПNLDKFVFNKGGYLR |
| UniRet90-M2V4 | VRSTLNपDEGTANDWG |
| niRef90-B2 | AK1 |
| UniRef90-D8R2 | SS |
| UniRef90-J41A85 | EASALDLDNCLSN |
| UniRef90-D8SH40 | DLNNYISNENGQL |
| UniRei90-A0A017SF86 | RERGLFLADKIENRDGHL |
| UniF | ANST:DLDSGISN |
| UniRef90-UPIOOO1F2AEF6 UniRet90-G4MMB4 | QASTLKLDDGVVIRDGSL |
| UniRef90-Q2GQQ7 | KDSALDLNEGI |
| UniRef90-W7DQN1 | KDMYIDLKNYLGV |
| UniRef90 W7DQN1 | KDMY DLKNYLGVKNG |
| UniRei90-UP10004415011 | YSASFDLNTCUGNNDGVLV |
|  |  |
|  | FQNRFHLGQCLENRRGNLV |
| UniRef90_L2G5z\% | QNRFHLGQCLENRRGN |
| UniRef90 U1HV28 | $\frac{L}{\text { R DA }}$ ( $\square \mathrm{DLGERLAND}$ |
| UniRet90-E3QYU9 |  |
| iRef90-H1 |  |
| UniRef90_UP10003452CF3 |  |
| UniRef90-Q2UAD1 | APSSVNLDDF SNQG |
| UniRef90-2F God | TESAM |
| UniRef90-N1RGD7 | DLNVAVGAVDGYL |
| UniRef90_D8QXJ7 |  |
| U |  |
| UniRef90-B7K | QPSTFSLDEF\KNNNGL |
| UniRef90- UPIoooth8s | NATTTPGS GTNNNNGNT |
| UniRef90_C9SMD7 | Ni DLD ${ }^{\text {d }} \mathrm{L}$ Y Y |
| UniRef90-E3 | QTRVVNLSEGUWVYDG |
| UniRer90-G21 | TPAAVNLRYCIANFNGQL |
|  |  |
| UniRef90-JoLDI5 | T SA\\|DLNVNपGNSNGQLV |
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| UniRef90-H1VLW8 |  |
|  | VR |
| UniRef90-B2 | TNSTRDLN |
| UniRef90-G5C | VQTSLDLRNCI TNN |
| UniRef90-L2FG60 |  |
| UniRet90-A1D8N8 | KDMAICLDFFFSNNDGKLEYD |
| UniRef90-A1D8N8 | KDMAUCLDFFFSNNDGKLEYD |
| UniRef90-D8R |  |
| UniRef90_D8F |  |
| UniRef90-80T5 | NATSTP |
| UniRef90-UPI0001F29EB3 | K KAELDLD ${ }^{\text {d }}$ MVWNNDGLLQ |
| UniRef90-G2R2F1 UniRef90 G2QAC1 | S S |
| UniRef90-E3QUM2 | EAATNLDTSMSNSFGTL |
| UniRef90-B2AV31 | DWSEL |
| UniRef90-11S1L5 | TDAS: DL CLVGNRDGAL |
| UniRet90-UPIOOO44146 |  |
| UniRet90 W3X566 | APTSSLDL |
| UniRet90-S3DM46 | VTLESNLDENIGNDDGV |
| UniRef90-G4NJT8 UniRef90-Q2HHW1 |  |
| UniRef90-Q2HHW1 UniRet90 Q2HHW1 |  |
| UPI00037DA92F | SLDYSRCIANENGLLV |
| UniRef90-B8MY02 |  |

## UniRef90_UPIO0047EA263

UniRef90_C7ZHC0
UniRef90 G2QWW8 UniRef90-J3P4Y3 UniRef90_J3P4Y3 UniRef90 C7Z6A4 UniRef90-M4FSA9 UniRef90-H1UX46 UniRef90-J3P8K8 UniRef90_B2ALQ: UniRef90-GOSH52 UniRef90-B4WC71 UniRef90-Q2U1Q7 UniRef90 U7PZE5 UniRef90-SODHU5 UniRef90-L1K2T0 UniRef90 L2FGS4 UniRef90-G3XKS3 UniRef90-K9QVk9 UniRet90_V4JBS3 UniRef90 N1RKC2 UniRef90-G3JE28 UniRef90-G3JE28 UniRef90 L8WWD UniRef90 s3C4X3 UniRef90-G4UZQ4 UniRef90 I9WV48 UniRef90 UPIO004414C6A UniRef90-L8WGZ2 UniRef90_U7Q7T9 UniRef90 A7EC66 UniRef90-L71466 UniRef90-S7Z4Y2 UniRef90_U7PVLO UniRet90 T5AJF6 UniRef90-C4JWK6 UniRef90-G4MW15 UniRef90 A0A010SMQ6 UniRef90-N4VX34 UniRef90-N4V X34 UniRef90-Q2GX86 UniRef90-J3NQ36 UniRef90_N4VPS9 UniRef90-G4MPK4 UniRef90-UPI00035FF59D UniRef90 ${ }^{-}$V4HS40 UniRef90_UPI0003486B5A UniRet90_FOXQQ1 UniRef90 M4G6M0 UniRef90-H2EDY3 UniRef90-J4WFI4 UniRef90 M5G132 UniRef90 G2R7Y8 UniRef90-M7TQR4 UniRef90_W4L7F8 UniRef90 Q4WB52 UniRef90 M7S7S UniRef90-J7KUV4 UniRef90 L1JYDO UniRef90 LiJYDO UniRef90-UPIO00422A115 UniRef90_TOLP40 UniRef90- J3NJ10 UniRef90-UPI000262B09B UniRef90-U7PT70 UniRef90 F7VK00 UniRef90 C7YVS5 UniRef90-S8F5E4 UniRef90-S8F5E4 UniRef90 12G7G0 UniRef90_12G7G0 UniRef90-F9FLQ9 UniRef90-L8NVC8 UniRet90 M4FN26 UniRef90-A9B3B4 UniRef90-S4XSG3

GNFTASSRDTHLDTH LLSASCGRGDGSRSHSSTSLNRVL NFLGSCNSIKVSGRTLTANCKD\|FGQSKCSKLDLNRCI GMFSGSAQDI RLE GD WL R A S CRRGDGSWNNSSSI S L S S R Y V
 NFHLGT TNVRLQGRYL DAS $\square$ S V V GQWED

CSK $\square R Y$ TADHMEATCANEAGEP VF

 HFSKTCSSFELEGSMLFAKCQESPDKERHTTVDLNKCLD G G F $\square \mathrm{A}$ Q C D F Y Q V T GSFLDSCSGCS $\square E G T L Q C T K C T K P C G A K V F A A!K L L D C F$

A A S C T D WS IN T A T I A A VCRDSNGGSHNTNDP LSDCT GS Y L N S CTHAY ID A GNLNAVCKNRRGYWVETYLNPRRCI



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| $\square T K$ | $G K$ |
| $S$ | $R$ |
| $S$ | $W$ |

 GSYAASCRRDHMEGPYLTALCGDGYGGARWSRIFARECV CSGFSMCGTALRATCKDDKGVAHRTSFDLNTCV D S QF NL S A M I



NF GASCTNDAYFGYR $\square E A D C T S D G G S L Q H T F L D M G Q C \square$ T A K C S R SPG GPMESQL S LE HCLL G G Y F E S C T D C R L GDFSKSCT DEH LDTQVLTANCNAGDGKGKS TSLDLDNQCF $S D C F$
SCES TKVS GRTLTANCRNDFGQYKCSKLDLNRCL SFFTTCKDVRTSGVFLFATCDKKPGSSIHSYLDLRNC
 GSYMQSCQNVRDDGRTLTAQCRDRDGRYRSSSLRYRDCL

 QDKYL GAYCANDKKEYDWTWI N D W W G A WQ Q T C T N P S L N GS ILLTA Q C R D S S G T P K S T T GGFVKHCYTYEVGERRLLAKCGEGRKGAQTKVFDLDS L C H D A S L L G E T L EA T C A Y E G G Q R C T R L R L D S C F GTYK Q TSEDDRFERHVL RARCQK DDGTWVDSELKYD GYSKDCSD I Y L Q E G WL VA T CK D D N N G R I T S S V Y LP NK I Y L I G H C G D K P H D N R C S Y L D L D L C Y GSYQKTASQ $\square \quad N S N L Y G K A Q R R D Q T W V A A G F D L S G G L$ GSYMGSCHGCRLEGRRLHCTCMNTRGERVDSSILLSDCV GSYMGSCHGCRLEGRRLHCTCMNTRGERVDSSILLSDCVV GSYA QS CTGSYVNQGRLYADCRDRNGN

G\|SESCTAIFAQDKFLGAYCTNDRKEYDWTWID GSWQKSCKNASMSGTQLGADCKTGGNGWRYTIIRTI
 SFRKS CVNWQVDP KAL TGFCKLLTD DS WHET S L D L L N Q CI


G GFYDKCKDVRFSSPWLVAKCPDKNGKYLCTWLALSKCL
FFETCDPQHDNGTTLLAKCQTDNNPKIQTSLDLKRCL GSYQRTSQNDNV TLTALCQKNDGSWVQSSINMDGVL


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    GDFSSKS SK DAY I E H T I L K A L C R R N E R G Q WV H S E L D L D D H I
    GAFS K S C S H E R W W T N $N$ V L
    
    

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

