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LASARYGKDNVRVCKVQRDEKTGFHTVTEMTVSCLLEG ASIASARYGKDNVRLYKVDRDPKTGVQTVNETTVCVLLEG SQLSYARYGKDNIRLYKVHKDEKSGIGSVVEMTVRILLEG ASLAAARYGKDNVRVYKVHRDEKKQTQTVTEMTVCCLLEG YLSHARYGKDNVRLYKVDKDPKTGTHKVDEQTVCVLLEG SIAAARYGKDNVRVYKVERQAD GTQIVTEMTVCVLLEG
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 YVSVARYGKDNVRVLKVSRDAGTGVQTVAEMTIRCLIEG SLGPNQYGKAEVRLVTVRRTG GVHHLRDLTVSSALRG SYLSHARYGKDKVRVFRVVREGK WHHVVEYNVTALLEG SYLSHARYGKDKVRVLRVVREG ALHHVVEYNVTVLVEG LGANQYGKAEVRLVRVTRD

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ELGAYGYGKNNVKLGYVHRN TLSANRYGKDKVRVLRVDRPS DELRCHEIVREVEVWTALRG MGPNQYGKAEVRIVSVNKD GGKQ VEYTVRLLMIEG LGPNQYGKAEVRLVHVDR STPVHRISDLNVSTALRG LSDAQYGKDNVRLYKVHRDAGTGVQTVYELTVCVLLEG ASLSYARYGKDNVRLYKVHRDADSSKQDVTELTVCTLLEG

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SLGENQYGKAENRVVRIYRD TPRHEI RDLTVSTALRG SSITTARYGKENVRVCKVERDKRTGVHTVTEMTVKVLLEG LGPHQYGKSENRVVRDYRD TDRHEI RDVSVSTSLRG A TLAQAKYGKDNVRLFKVHRNTDGTQDVVEMTVCSMLEG GPNQYGKAEVRVVAVDR S GKNQYGKAEVRVVRVTRD
LGQNQYGKAEVRVVKDTRD TA
LGPNRYGKAEVRVVRVTRDG TARHEIEDLNVTSQLRG TRRELEDLVTSQLRG GKNYVKYRBD Y LKHAKYGKDKVRTFRIVRNKD
LGGBYGKAENRVVRIVRD
SYLSYARYGKTSVRVFRIVREGK
YLSAARYGKDLVKVARVVRDGE LGPNQYGKAENRVVRIVRDGEQ HHTVEYTLRVLLEGG LGPHQYGKAENRVVRIYRD TARHEI RDLNVSSCLRG

QTYGKDMVKVLRVQRNGK
SLATARYGKEKVRVERVVKKGT YHSIKEVATSVELNL

GQNQYGKAETRVVRIVRDGA WHEVVEYTVSVLLEG HHIRDLNVSVSLS G
 $\qquad$
 R【GDNQYGKAEVRLVHVNRE
TTLSSSTYGKDNVKFLKVKKDPQ TLGANQYGKAENRVVRIYRD SPRHEI RDVTVSTALRG GLPNQYGKAEVRVVRVNRESTPVHRLMDLNVSSLLRG TLGANQYGKAENRLVTVSRQGS
LGDNQGGAENRVVRINRD S
STHTAAEYGKDKVRVFRVVREGK GK H WH HVVEYNVCALLE G ELGANQYGKSEVRVVRVDRDG ARHEITDLNVSVALSG EQRHGKARVRVGRVWREANGRHLFVEWNVSISLLS RGQNQYGKAENRLVVVTRKGSDGWAE:RDVNVSVALRG LESSKYGKDNVRVLKVKRDPQNPKQEVTELTVRVLLEG EQRHGKARVRVARVWRNKSDHTHSMVEWGVSIILLS LGQNQYGKAETRVVRMVRDGD
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## QUERY

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UniRef90-F4WZW5

 D $\operatorname{D}$ SSSYTRADNSVVVATDSMKNTVYLLAKQYPVTPPELFG D ETSYTKADNSVVVATDSIKKNTIYI KAKEFPVNPPELFA
 DI DVSYTKGDNSVVVATDSMKNTIFITAKQNPVNPPELFA
 QIETSYTAADNSVVVATDSIKNTVYIKAKEHPVNPPELYA K TDPAYTTADNSVIVATDSDKNTDYLLAKQNPVTPPELFA DIETSYTEADNSVVVATDTQKQTCYILAKQNPVTPPELFA

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DLAKTHLTGDNSDVVATDTOKNTVYAKAKESPVGEDEDFG DFAAAHLGDNSHVLTTDAQKNTVYAFAREHGIGQUEDFA


D RF S S Y T R A D N S V V V A T D S M K N T V F F V LAA K Q H P V T P P E LAF A DIG N A H T T G D Q S EVV LAPT DTQQKNTAFAFA K E K GI GA IGEDFA D L S A S Y T G A D N S S V V A T D S I K N T I Y I L A K Q H R V H P P E L F A

## D

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D E T SYTK

D FS GA H LT | E |  |
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 DFA A A H LHGDQQSSVLPT DTQKKQTVYAFAKQRGLES DESYG

 D F A A A H L D G D N S HVVVAAT DTQQKNTVYYA FAR D GI G S PA A F L D FA A DA Y L S G D Q S K V L P T D T Q K N TVVY A Y A K E K G V A T V E G Y A DMDEVVHLSGDNAAVLTTDAQKNTVFAFAKKHGVGE』EEFA NNVK DYTHGDNSDI I ATDSQQKNTVYVVAKQHGVKSAERFA

 E I E T S Y T K A D N S C V V


 EMTEVHYSGSNASVLPTDTTKNTVYAFAKEYGI DSAAEQGG


 NF
N
D
D A SSKKDYLHGDNSDIIATTDTQKNTVYALAKTKGVTTPEQFGG




 D SVNE Y VH G D N S AV I P T D T I K N IV I A LA K CN G I D T I E Q F A K L E T S Y Y N G D N S WVV V P T D T IVK N TVV Y V L A K K H P F T D I E V




## QUERY

## UniRef90_M4G680

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UniRef90_O74409

90
100
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120
S I LGTHFTEKYNHTHAAHVNDVCHRWTRMD\|DGKPHPHS F
SILGQHFI GKYSHI HAAHVKVVVHRWTRMTIDGQPHPHSF
 S L L A S H F I E L Y P H I H V T R V K V V T H R R WT R M T I D G E P H P H S F AKLGQHFLDKYAHLSVAHIDI KVHRWTRMVIDGEPHPHS F


 LRLGGQHFVVD F E WV S G GRWA A E KY S WD R I P V H GE GHD HA F

 AI L A AHFPAKYSHI HAAHVNIIVGRWTRINVDGKPHPHSF
 S L L G S H FII EKY K HI HVANVSV KTVRWARDDVDGKP HPHS F A YLGTHFVEKYAHIHTANVSVDTHRWTRMTIDGKPHPHSF LR L A R H F V GRF GQI T GA RVVII DEHAWDRDAVGGRPHD HA F
 SILGSHFI QTYSHIHAAHVKVVTHRWLRMDVDGKPHPHSF

 ATVGAHFVVDTYPHLHVAAVRVVTTRWARIRVVGRPHPHSF
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L H L G T H L V S K Y G H L H K A F V T T V E Q L R W S R I D D V N G K P H D H S F
 L L L C S H F L Y T Y E QVVVEVS I NVEEYP WARYMVVNRP HN H A F

 SIL G K HF IIT QYK HI HTAAHI DI TCHTWERMTI ENEAPHPHS F LALARHFVDDVEPVAAARIEI DEYAWERVVVDGTEHDHTW ASLGSHFLQQYSHI H TAHVDLKVHRWTRMIVDGQPHPHSF A M L G Q H F L D T Y S H I S A A N V D I I K H K WT R M IV D GKA H P H S F T E I G Q H F I S T Y S H V S K A N V WI S K H K W T R ML V N G K L L H D H S F I A L A R H F VV D DVA P V N E A R I E I D E H A WD R A I V D G A E HE HA W
 S I L A E H F L
 I R L A D H F TS S Y P WV S GARVA I E SY GWDRDTV G GQP HD HA F


 LLLCEHFLRKYRHVTRAKVY I EEAPWKRMEI GGQQHVHAF L D L A S H F LA L A R H F V D S VA P V S G A R I EVVEEYA WS RVVYVDGAE H D H T W LHI GTFFVVSKYAHI HKAHVTVVEQLRWKRI SI NGEEHPHS F L H L G L H F V $\quad$ T K Y K K H I I H K C C F V
 $M H V C E H F L S S F N H V D R V G V C V E E V P W K R L E K N G V K H V H A F$


 L L C R H Y L S T Y A H V L K A QVVQV E L Y P WQR I DA D GK K H NHA F LKMARHFVDGHDYVHGARQEVVEYSWERIDTGKGPHDHAF AKLATHFVEKYSHVSGVSVKIVQDRWVKYAVDGKPHDHS F



 LDLCHHFLSSESHI TRVKVVI TMAPWRRMKIGGKDHAHAF L H L G T H L V S K Y A H I D R A Y I TVVEK L R WS R I A V G E QP HP H A F
 L L L A K H F V S S Q A P I R E A QI R IVEE F A WE R I P V P T R K E Q H S F




 | $I$ | $T$ | $I$ | $A$ | $R$ | $H$ | $F$ | $L$ | $N$ | $E$ | $Y$ | $A$ | $H$ | $Y$ | $S$ | $K$ | $A$ | $E$ | $V$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $L$ | $R$ | $L$ | $G$ | $R$ | $H$ | $F$ | $T$ | $D$ | $S$ | $F$ | $D$ | $W$ | $I$ | $D$ | $G$ | $G$ | $R$ | $W$ | MELARHFLTSSFNHVTRVKVFI ECHRWTRMDDDGKPHPHS F



UniRef90_F4WZW5

| QUERY | $\square \text { RDSEEKRNV } \frac{130}{V} \mathrm{Q} \text { VDVVE }$ |
| :---: | :---: |
| UniRef90_M4G680 | YRDGQETRNVEVTV |
| UniRef90-COS2N5 | LRDGTETRNVSATVTK |
| UniRef90-D5G6J2 | LRDGAETRN |
| UniRef90-G0SFM4 | WRDGEETRNVSADT |
| UniRef90-V9D7E8 | FRDSSEKRLVQADVVE |
| UniRef90-C5P059 | MRDGMDVRIADADVIE |
| UniRef90-G0RES7 | LR D GQETRNVEARV |
| UniRef90_E3Q2G3 | YRDGEETRNVEARI |
| UniRef90_L8G103 | FRDGNETRNVEVTARE |
| UniRef90-G2QCV7 | YRDGQETRNVEVAVS |
| UniRef90-UPI00047BDAA0 | VRGGTETRTA |
| UniRef90-U4LE60 | YRDGTETRNV |
| UniRef90-R7YUE3 | FRDGEETRVVE |
| UniRef90-UPIO0047BDE30 | VRS GRATRTTVVQU |
| UniRef90-G1XJT3 | LRDGAETRNVEVT |
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| UniRef90-M5G7Q2 | VRDGDEKRLTS VEV |
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| UniRef90-E9ILA5 | 1 MSPTATRFCQVSQV |
| UniRef90_G4T710 | VRDGEERRTTSVEV |
| UniRef90-A4FPC7 | ARSTDEKRTTAV |
| UniRef90-D3CV49 | $\square \mathrm{D}$ S GQSRRTTV |
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| UniRef90-A0QRZ8 | IRKGQETRTAAVTV |
| UniRef90-N1PI04 | LRDGEEKRTVSAVVS |
| UniRef90-W3XE17 | HRDGDDKRTVAA |
| UniRef90-U9TE82 | LRDGEDTRNTKVVITK |
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| UniRef90-M3D202 | VRDGEEKRTV |
| UniRef90-M2X3F2 | I RQGQEVRTAAVTV |
| UniRef90-M3AJP2 | LRDGEEKRTVYAVV |
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| UniRef90_R7XZ69 | VRRGAEVRTT QV |
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| UniRef90-J3Q3B3 | TRDGNDVERTEATVTK |
| UniRef90-UPI000455DC2D | WRDGGEKRIVKVEV |
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| UniRef90-UPI0003460D76 | VRRGGETRTTV |
| UniRef90-E9FVX2 | V F T PVATRFCTARM |
| UniRef90-UPI00034884AB | V R S G A EVRTAVVT |
| UniRef90-P78609 | 1 HEGGEKR ${ }^{\text {I }}$ T D |
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| UniRef90-W5WA83 | ARS GEEKRTTTVTV |
| UniRef90-H0R461 | VRS GAEDRTADITV |
| UniRef90-I2N8X3 | VRTRQETRLAQ |
| UniRef90-C3YTP0 | 1 M T P D A VRFCHVEQA |
| UniRef90-F8NWB1 | VRDGDDKR\VNAED |
| UniRef90_UPI0003755650 | TRSGSGTRRAV |
| UniRef90-A0A022PY94 | KL GSEKHTTEVIV |
| UniRef90-D9W293 | VRKGQEVRTAQI TYSE |
| UniRef90-E3J0M2 | SRAGAERRTTVVTV |
| UniRef90-A0A024JK66 | IQD GAEVRTATVV |
| UniRef90-A9PGD8 | KL GSEKHTAEVTV |
| UniRef90-D9W6C8 | VRAGQETRTAQV |
| UniRef90-K7GHM3 |  |
| UniRef90-L8GQ21 | LPGSGEERTAVVR\A |
| UniRef90-UPI000364BA19 | VKS S EKRNTVVTI DE |
| UniRef90-Q75QK6 | 1 R DSEEKRNVQVDVVE |
| UniRef90_Q6P700 | 1 Y S PEGVHF CELQ Q |
| UniRef90-A2SXS2 | KRGSETHTTEVI |
| UniRef90_O74409 | 1 RNPGETRKTHVVFSE |
| UniRef90-F4WZW5 | V M NPTATRFCQVSQV |

UniRef90 MзJCY2 UniRef90-Kok9x4 UniRet90-B9XKX5 UniRef90-A2SXR
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UniRefol $10 H F 12$ UniRef90-10HF 12
UniRef90 UPIOOO4416DA6 UniRef90-UPI00036F8FD9 UniRef90-B6K6G8 UniRef90-UPI0003F4A20D UniRef90_M7WIR6 UniRef90_C6WEX2 UniRef90-Q5YNZ7 UniRef90-A2SXR3 UniRef90-UP100036878C8 UniRef90-G7E365 UniRef90-UPIo003B6BA3D UniRet90_S8EV19 UniRef90_M2QMF1
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UniRef90-U5E8D7


KLAHQQYGKDRVRVMKVTRNGSE AVHTVVDFTVSTSLLEG $K Q Q F V V E R V S D N L S$ A LKEHQHGKSRVRLGRTWREGD QLGPNQYGKAENRLVRVHRDGSA TTGGQNQGGAESRVVRIVRDGPT ARHHIRDLNVSTALRG TARHE KDLSVTIALSG KLGPNRYGKAETHVVGVTKNG GVHEI RDLNVGVALSG ELSAARYGKDKVRVLRVVR GEGWHDVVEYEVCALVEG SQLNYARYGKDNVRLYKVHKHPD GTQSVVEQTVRVLLEG AELFDSSYGKANVKFLKVRKDAHDPDQDVLEANVQVLLRG LGSNRYGKAEVRLVRVTRPGDTMHGLVDLNVSVALSG ATLQSSTYGKDNVKFLKVKKDPLINPVHEVMEATVKVLLVG SQLVSSSYGKGNVKFLKVKKDPSNPDQDVLEANVKVLLRG SYLSHARYGKDKVRVFRVVRDGAWHNVFENVTALVEG LDRNYGKGRVRIMRVKRD SARHEVRELSVQAMLSG LGQNYGKAECHVVRVTRDGAT H TVLTASTYGKAEVRLVVRVTRDATSRHAMEDLSVVTTQMRG LGQNNYGKSEVRVFRVKRD TERHEVWDLDVRVSLEG LGQNQYGKAEVRVLKVTREGAG HRIRDLNVSVALQG SLVRNSYGKSRVRLVKVRR ADGRHELTDIDVDIQLEG AVLGRNQYGKAETRVVKVTRDG GTHHVRDLSVSVALSG
 LGDNRYGKAENRLVRVDRDGDE HRITDLTVSVSLSG LGKNQYGKAGNHVVRITRD TAR

Ar HF K K VE VVCTHLRL

EQRHGKARVRVARVWRS KE PRHEVRDLTVSTALS KEGRHFMVEWNVSTSLLS MVKVLQUQRDGK
$\square G A N Q Y G K A E N R V V R D Y R D G S$ $\qquad$
Y EGGAYGYGKNNVKLLYVRRENA tLGPNRYGKAETRLVRV1RDG
TRLGQNQYGKAETRVVRVTRDGA VKOCAYGKTKVKFLKKVRDPKTK AWHHVVEYNVRALVEG SAARYGKDGVRVCRVVRDKD
LAVAKYGKAAVRVSRIVRHPD
A GPNQYGKAEVRLVSVTRDGDT
$\qquad$ HHVKD【NVSVALS G EQRHGKSRVRVARVWRDRD पGTNQYGKAEVRLVHVDR
KLTYARYGKDKVRVFRIVRGPT
RLTANQFGKAENRVMRVYRD T SYLSHARYGKDKVRVFRIVREG LERARYGKDKVRVLRVVREG YGKNIVKVLHIKREGKT TKRHSIVRDYNVCATQEGG AAHRVVEYNVTAQVEG KT HYIKEVEVAVQLAL TOHH H I E ELANVQLTL
RLGDNQYGKAEVHLVHVNRD
LGDNQWGKAEVRLVRVDR
LGPNRYGKAEVRLVHVER
STPR
STPV
STPV
STA

TVLGPAGHGKAETRVVRVTRDGAT EQEVLEANVQCLLKG KLGPNRYGKAGVRLVRVVREGT VHHLKDLNVSTALSG TISDYGYGKDSVKVLHVKRNG PVHSIKEFEVGTHLKL
KLAAARYGKSNVRVLRVARDDGAGRQDVAEYVVQLLVEG SYLSDSTYGKDNVKFLKVKKDPRNPDHEVMEATVRVLLTG
 SYLADSTYGKDNVKFLKVKKDPSNPKQQVMEATVKVLLRG LGQNQYGKAENRVVKITRDGDT LGPNRYGKAETRVVRVTRHGDA YGKTGVRLLKIKR RST SLVKARYGKDNVRVLKVSRDPSN
 LSGNQYGKAENRVVRVRDGT LGDNRYGKCENRIVRITKQG DQRHGKARVRVGRVWRHAHDG
A $\square$ L
SSLTATYYGKAKVKVFRLRAEGN
$\qquad$ KDLNVSVALSG HRVKDLNVSTALSG RHEI EDLNVTSQLHG NPIDQQVQELLVVKMELKL VHE QDLVNVSQLRG PRHEI RDDNVSSCLSG
 GSHHFVE WNVSISLDS T VHHIKEFEVNVHLS TLGQNQYGKAETRVVRVTRDGAT EGQNQYGKAETRVVRVRRD LKENAYGKNAINLSKI ${ }^{\text {K }}$ RH GQNQYGKAENRIVRVYRD
STLCTAKYGKDGVKILRIVRN TERHEVKDLNVSVAALSG STHHEFRQISVNVSLKG

## 

UniRef90_M3JCY2
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UniRef90_B9XKX5
UniRef90_A2SXR2
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UniRef90_UPI0004663CE1
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UniRef90 G3BF23 UniRef90_G3BF23
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KFDESYTKADNSS\|VVPTDTVKNT\| LIVEAKTSDVVWPIER FA DLEDTHLT GDNAKVLAT DTQKNTVYAFAKQAPVGEIDEFA
 DMAHAFLDGSNTDMTATMTQKNTVYY DAK QNKRCSPEEYA RFADAHVTGGQK D ILPT DS QKNTIFAFAEEK GVAADEDF G
 $D M D D V H L T G D N G A V L P T D T Q K N T V F A F A K E H G G I T S P E A A G G$


 DFDVAYTKADNAPIVPTDTVKNTILVEAKKFDVFPDEGFGV DFSEAHVRGDQGEVLPTDTQKNTVFSFAKEKGIESPEQFG
 DFDAAYTEGDNSKVVATDSIKNIVNDVARDHVGAENEEFA



 DMDEVVHYSGTNTHVLPT DTTKNTVYAFAKRHGIESPAAFA D I D I S S T Q A D N S VVV VA T D S R A Y Y R Y H DAAKTS P V L V P E R F A




 DFSP A HLVGGDQSNVLPPTDTQKKQTAYTYAKSKGGLLHII E S Y G
 DLAATHATGDNSTVLPTDTMKNTVYAFAKEHGVGEPESFA
 AMD DVVHTS G S N A A V L P T D T T K N TVVFA FAK Q H GIVESAE QF G
 DVARAWTHSDNAPIVATVSDKNTVNIVFKTSPVLQPESFA DL V D T H L T G D N T K V L A T D T QK N TA Y A FA K L Y G V H QVVE D F A
 DFADTFHTGSNASVI ATDTQKNTVYADARTGGVGADEEFA
 D ID A S Y T Q A D N S V I V A T D D S I K N I I Y Y Y LAA K T S S V L S P E R F A K S R K D Y L K TR K D Y L T G D N S D I I P T D TV V N T TV H A L A K L K Gli K S I E S F A




 D MEAAHLTGDNAAVLPTDTQKNTVFAFAKRYGVGEIITGG
 D DD T S Y T K A D N S CVVVAT D SRLMRRSALAKTS PVVEPE LIG G

 D M D E V H L S G DN S A V L P T D S Q K N A V Y A LAAKR H G I GADE D FA
 RSKKD Y LDN GDNS DVI P T D T Q K N T I Y A L A K K H P L D S I E E F G


 DF T D A Y LT GEQSKVVLPTEDQKHTAYA YAKKVVGI NS PE E Y A

 SSKKDFESGDNSDI I AT DTQKNTVVYALAKLVGVKSPEQFG

 Y S S K D Y M Q G N N S DVV A T D S Q K N TVVYLLAA K K H GliE S P E K F A
 D I S A S Y T E A D N S VI V T T D S $\square K$ N TVIV V F A Q N S QV L Q P E T F A

UniRef90_UPI0003B7BAFF


|  |  |
| :---: | :---: |
| UniRef90_M3JCY2 |  |
| UniRet90-B9XK ${ }^{\text {a }}$ | SGNSEACPFAHV |
| UniRef90-A2SXR2 | KL GSEKHTTEAI |
| UniRef90-1077F3 | A HTGAETRT |
| UniRef90-UPIO004663CE1 | VQRGGGVRT |
| UniRef90-B5G | VRAGQETR |
| UniRef90-X5LR2 | YRSGPETRT |
| UniReef90-K0EU | VRSGQETR |
| UniRet90-UPIOOO4408525 | WRDGDEKRTVNIET |
| UniRef90-F5XEL2 | VRKGQATRLATVQKVD |
| UniRet90-K2S6Q5 |  |
| iRef90-G8BES8 |  |
| UniRef90-U5W6 |  |
| UniRef90 W10H15 | VKDGEELRTASL |
| UniRef90 W9GJN6 | VQMGGGVRTAVV |
| UniRef90-G33F23 | K ${ }^{\text {K }}$ |
| UniRef90-UP1000462488E |  |
| UniRef90_D7A9A0 | VLDGNGKPFVEL |
| irRef90-M3A | VRAGRE |
| UniRet90-M5B6 |  |
| UniRef90-W6M | LKDGE |
| UniRef90-A0AO23X2F |  |
| UniRef90-UPIOOO475 UniRef90- $4 \times X \cup 3$ | VRSGRCVRTAQV |
| UniRef90_S4XXU3 | RAGAERRTAE |
| UniRef90-UP100035 | VRRGRETRVA |
| $\begin{aligned} & \text { UniRef90-R7SM35 } \\ & \text { UniRef90 UPIO004 } \end{aligned}$ | YRDGDEKRTVEVEEQTQ |
| UniRet90-D9VG08 | ARSGAGTRT |
| UniRet90_LODJ26 |  |
| UniRet90-G1NA18 |  |
| UniRet90_C8XJZ7 |  |
| UniRef90 UPIOOO37E1720 | GL |
|  | LSPSERHTCEEVEQFE |
| UPI000365214E | K |
| UniRef90-K4GOH3 | NPKGTHFCEVEQFQ |
| UniRef90_K7IUT3 | VFTPTATRYCQ |
| UniRef90-10HF12 | AKRG |
| UniRef90-UPIO004416DA6 | YRDG |
| UniRef90-UPIO0036 | VRGGRETCRTETVEFSE |
| UniRef90-UPI0003F4A20D | VRDG |
| UniRet90-M7WIR6 | VRDGDEKRTVSV |
| UniRef90-C6WEX2 | GGGER |
| UniRet90_Q5YNZ7 | VRRGPEVRT |
| UniRet90 A2SX | KLGGSERHTTEVMV |
| UniRef90-OPIO0036878C8 | VRDGDDKRLIGVIV |
| UniRef90-UP10003B6BA3D | YRSAPEDRTA |
| UniRef90-S8EVI9 | FRDGDDKRFTS V |
| UniRef90-M2QMF1 | WRDGDD |
| UniRet90_M3XGK0 | S |
| E9QGD6 |  |
| UniRef90_UPIOOO34B2FA1 | SQDGSETRT |
|  | VRNNQETRTAVV |
| UniRef90 F8B603 |  |
| UniRef90-R7TA00 | VEGGLGTFFCSVEQ |
| UniRef90-UPIOOO3750E5D | VRQGRQVRV |
| UniRef90-A3LMZ3 |  |
| UniRef90-UPI0003FE43E6 | VRDGTEVRTA |
| UniRef90 UP100035E48AE | VRDGGEVRTCV |
| UniRet90-W8BM | Foplor |
| UniRef90 UPI0004411888 | RDGDEKQTV |
| UniRef90-W4 ${ }^{\text {UTRAS }}$ | VKOGDELRKS |
| UniRef90-W0T534 | VHQGPEKK CF |
| UniRef90-S6E2X7 UniRef90 O8CJN8 |  |
| $\begin{aligned} & \text { UniRef90O8CJNB } \\ & \text { UniRfon WlEX1 } \end{aligned}$ | VRTGQETR ${ }^{\text {V }}$ |
| UniRef90-UPI00047D41C8 | dPSEVRT |
| UniRef90-A7SY11 | MTPDVQRFCEV |
| UniRef90-Q6C2B4 | VHDGTELRTVHV |
| UniRef90-K0F7V3 | VRQGPEVRTAAITVA |
| UniRef90-DoVWQ1 | SRNKSEV |
| UniRef90-UP10001CBBFCD | NP P A ${ }^{\text {a }}$ |
| UniRef90-G7GK12 | Y YSPEAVRF |
| UniRet90-C7PZT3 | RTGGGTRTCTV |
| UniRef90-004420 | KL GSENHTTEARV |
| UniRef90-13ZD73 | GS |
| UniRet90_W4Z5N0 |  |
| UniRef90-B0DD | RDGDDKRV |
| UniRe | RDGRGDRTAQ |
| UniRef90_UP10003AA098B |  |
| UniRef90-B4K8G4 | V ${ }^{\text {a }}$ ( ${ }^{\text {a }}$ |
| UniRefan - 4 UN1R1 | VRKGQEVRTTEV |
| UniRef90-14YHY7 | - |
| UniRef90-C4RL78 | ORDGAQTRTATVV |
| U5 | VRQGPEVRTVAVTVAE |
| Ref90_UP10003B7BAFF |  |

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UniRef90-U5ERF2
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UniRef90

W7IWV3 UniRef90-R4XN45 UniRef90 UPIIO003A2973E | UniRef90 - 4 Q170 |
| :--- |
| UniRef90 | UniRef90-B4JEU8 UniRef90-Q3S561 UniRef90-R7QQV2 UniRef90_U5D1M4

UniRef90 E6QJZ6 UniRef90-UPIO001FFDB3A UniRef90-H9GAL3 UniRef90-E9CB10 UniRef90-Q9RV70 UniRef90-UPIO00370DA36 UniRet90_C1BS10 UniRef90-B1M7C7
UniRef90 A0A034VS80 UniRef90_UP10003643097 UniRef90-UPIO00479F6F4 UniRef90-UP10003B5CCAC UniRef90-S4PC28 UniRef90-ToPV45 UniRef90-UPIooo3A7B6B1 UniRef90-K8F881 UniRef90-UPIO003795D9D UniRef90-UP100046D5E1B UniRef90-K3W9W7 UniRet90-K9FYY9 UniRef90-M4BL02 UniRet90_B9RSB9 UniRef90-UPI0003B7A6FE UniRef90-W5D3R0 UniRef90-F5SCJ4
UniRef90_C1BR88 UniRef90-D8LM50 UniRef90-W7TW56 UniRef90-UPIOO04181047


1
RLG 10
10
20
TPRHEVV/RDVIR/V/RVAMTG RLGENCYGKNAVQLSKIIRRP AYHEFRQLSVNVSLKG EQRHGKERVRVARVWRT KGGRHF VEWSVGUSLGS SSLSRAEYGKANVRVFRIVRDGK WHHVVEYNVTVLLQG EIVSKSYGKDAVKVLHVNRRG SKLTTAKYGKDGVKLLRILRNGD HTGYGKNTVKVMHVRREGRQ YLSDYGYGKDAVKILHVKRDGN SiSNYGYGKDNVKILHCVRNG TLGPNQYGKAGVRLVTVDR GGAQYGKAEVRLLRVDR
LGPNRYGKAETRVVRVVRDG A S
 WHDI AEYTVTVLLQG HYI KE四KDVELTL ISNVYGKGRVRVLRLFKDGD YIESHRYGKDLVVKVLRVVREKKNGI VESHRYGKDLVKVLRVVREKKNGDH CIGETVRALLDG ATLIDNRYGKARVRVLRVEK GPND KLGKNTYGKNAVNLSKI $\quad$ RHPD

YGKDVKVLHIQXDGK E ПT
$\qquad$ DHGYGKDAVKVLHVSRKG HQHGKSKVRLGRVWRDGN
ARLGANNYGKAEVNLMKVKRD SER EVLNSEYGKNLVKFLYI RREGKN YGKNTVKVLVIRR KAGQH EIVANRYGKSKVRLKVTREGRSDVH KLGANNYGKADVRLFKVFRDA PRHETKDVWVRVAMEG QQRYGKANVRVLRLHRQGD LGQNNYGKSDVRLFKVFREGE
 LGPNQYGKAEVRLVRVIRRDDP KLVSQNYGKARVRLCKVLRDG LGHTNYGKSDIRLVKVFRNP TLLHKTYGKGRVRVMRVHRDG
VVREANG

$$
\begin{aligned}
& \text { RLAEASYGKDLVRTLRVVRDASDSSHRIVEYTARCLLSG }
\end{aligned}
$$

I LEQKHGKARVRVARAWRQ
ELAENRYGKSRVRLMKVTRHDHG
AKLDDSRYGKARVRVMKLDR SQP LGPTQYGKAETHVVRITRGG
LVQHOHKSHVVGRRVWRGN LVVQHQHGKHVRVGRVWRRGN ARLDVNQYGKAETRVVRLCRD
 TLGPNQHGKAEVRLVKVDRDGT ELGDHGYGKSSVKLLHVHRD EG LDS STGKSNVKFLKVHRDDETK AELVLHQHGKSRVRVARVWRQGS ELGENQYGKAEVRLVRVDRGPQA

$\qquad$$\xrightarrow{H}$ | H |
| :--- |
| H |
| H |
| T |

LGPNRYGKAEVRLVRVTRITATE ATL1DNRYGKARVRVLKVNKNGD
 MVKVLYI RRKG

40 DVHSIVEFFEVCTKLKL SERHI EDLGITTQLSG GVHHIKDVNVSSALRG QEVRELTVQPMLTG
 Y HEFROTSVNVILEG YHSTKEVATSVOLTL PVHTIOEYEVGTHL KLL E H E I R E L Q V R VA L I G G K Q WI V E WN VNVML Y S

 T D R H E I R D L V V T S Q L R G


 LVDSWHGKSRVRVAKVRREGT



 H H S MKE WN V S
 Y LD D R M Y GKA DVR LLHVRRETRF H HVVMELRCRVLMRL RLGENNYGKAEVQLMKIKR GTPRHELREAKVRVAMYG
 $L T A S R Y G K E R V R V L R L A R D G D$ HHTPREVTVSVMLTG



A
AVLGFNRYGKAEVRVVRVSRGVGTG
 FLS S Q Q Y G K D K V R R L V K K V T D D L P A S T A H HVVQ E L T C C R V L L A G



QLLQHEHGKGRVRLLKVTRTPKK
 AEMHAASHGKGGVHLVRVEREGS

G GH
MF YGKGDVFVYRTYAKP LVGVKQIPEMNVKDA KlLERRYGKSFVKLFHVER
 HHD FI QLLTAQ L L T G


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UniRef90-Q1J399
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UniRef90-UPI000364309 UniRef90_UPI000479F6F4 UniRef90_UPI0003B5CCAC UniRef90_S4PC28 UniRef90-T0PV45 UniRef90_F4P2L1 UniRef90_UPI0003A7B6B1 UniRef90-K8F881 UniRef90_UPI0003795D9D UniRef90_UPI00046D5E1B UniRef90_K3W9W7

## UniRef90_K9FYY9

UniRef90_M4BL02
UniRef90_B9RSB9
UniRef90_UPI0003B7A6FE UniRef90_W5D3R0 UniRef90_F5SCJ4 UniRef90_C1BR88
UniRef90 D8LM50 UniRef90_W7TW56 UniRef90_UPI0004181047

DF GAAHVDG
50
N T G|L L|A T D T ${ }^{60}$
70
80



 N S N K D Y V L G V N S DVV A T D S Q K N TVVY L L A K K Y G V E S P E K F A

 D DE T S Y T K A D N S DVVV $\operatorname{T}$ T T D T C K N T V SSQKD Y LQ GDNSDIVAT DSQKNTVYLLARRYGLKTPEEFA
 DMDEA HLSGGNTAALLDPTVTQKKNTAYAFARKYGVDQQDEDFA DFSAAFTDADNSKVVSTDTVKNVVNIVARESLNLGNEEFA



 DFAAAHEQGDNTDLLATTDTVRNTIYGLAKEGFQASPEAFG


 DFEAA HTRGDNSALLAATDTMRNTVYALAAKE QLTGGSVVEF G Y S K K D Y Y Q G N N S DIV A T D S Q K N TVVY L LA K K H GI E S P E K F A

 DFAAA HVGEDNTGLMAT DTMRNTVYALARDRLTGSAAAFG


 DFETAHTVGDNSNLLPTDTMKNTVYSRAKESKAETPE E FAA
 DFADAYVTGDQGKVLPTDTQKNTAYA YAKLHGDGTVVQYA DLT DVHLSGDNSHVVPT DTQKNTVYAFARA GIDQVETFG

 DFATAFTEGDNVHVHATDTQKNVVYAKAKELGITSPEGFL
 D LDDVVH LT GANTHCLDPT DTMKNTVYVFAKEHGDASPAEFA





 DCPQAYFKGDNSDIVATMSMKNTVYVKAKECQULSVEDFA D F A S C F I D A D N K I L P T D T VK N TVVY WL A R E S S A T E M E S F A

 DFGAAHSEGDNTDLVAT DTVRNTVYGLAKEGFESSDEEFG A F D A A WT DG D N R A CVVA T D S V K N DVV NVV A A K N L S L D D K E A F A RFEAAWTGGDNRASIATASDRNDVNVTAARNLALDAE GFV RTHKEYYEADNADVI GSDVQENTIVVHAQRHGLRTPEEFA


 AF D R A WT K A D N R L VVV|PTD TVVKNTV Y Y L A Q Q DTVLE D I E S F A
 DVADSYHSGDNSKVLATDS QKNTVYAFARQFGLANPEADG DLS DTHLT GANDKVLPT DTQKNTVFADARD GIDDSAEDFG
 TAASAYNNGDNGHVLPTVSIKNTVWVLAKKHEMASLEDFG

 D F L S S Y T S D D N S A V VA T D S $\quad$ K N TVV VKA K E C EVVVSME E F A
 PTNAAFTAADNSLI I P
 UniRef90_L9X3X2


| UniRef90_H8H050 | V/RQMP KHTAR\|V|E |
| :---: | :---: |
| UniRef90-C7PNR9 | I SGGQEKHTTLV |
| UniRef90_UPI0002B47D00 | KL GSEKH |
| UniRef90-L1JQ23 | TKTTTERRYAKVVQS |
| UniRef90-K5X4N4 | WRDGEEKR\VNVVV |
| UniRef90-B4JEU7 | LFSPPTAEHYCDVIV |
| UniRef90-R9AP25 | RRDGDDKRTASALV |
| UniRef90-W5MP19 | \Y NQES ${ }^{\text {PHFCEVEQ}}$ |
| UniRef90-T1P9Z3 | I FTPTEI RYCDV |
| UniRef90-S2JLI2 | VRDGEDIQ T T S V |
| UniRef90-U5ERF2 | $V Y$ EPTSHRYCNV |
| UniRef90-A0A010YYA7 | ARSGAETRRARVIVTE |
| UniRef90-A1SFS3 | VRTGRETRTA |
| UniRef90-D2B6G7 | VRS GREVRTCVV |
| UniRef90-UPI00035EB8ED | TLD GNGRPFAEA |
| UniRef90-J5SX73 | VHDGDEKQTVSLVV |
| UniRef90-D8RMJ6 | KL GSQKRTAEITIS |
| UniRef90-FOZVM7 | TRDR EVGH AV |
| UniRef90-G8T6J5 | CSGGNEKHTATVVQ |
| UniRef90-UPI000292A959 | ! HTPTGTHFGEVEQ |
| UniRef90-B3MJN3 | 1 F T P T A Q Y C |
| UniRef90-D8TNZ2 | ALA GTEMRTVYV |
| UniRef90-Q1J399 | VRQMP QRTGRV |
| UniRef90_UPI0003C26FB8 | LAP EG $\backslash$ R F C EVV ELC |
| UniRef90-G3P575 | RSPEAYHFCDVEQ |
| UniRef90-E8WYY0 | MRGSNEVQTATVEQA |
| UniRef90_UPI000360794E | VRQMP KHTAV |
| UniRef90-W4L779 | VK A EGGTPFA AJVTVT |
| UniRef90-K9ZVW7 | SRQVP KHT |
| UniRef90-P16163 | FTPTALHYCDV |
| UniRef90-D2S7K9 | TRDGRFVRTATV |
| UniRef90-UPI0003794896 | VRGAAERRT |
| UniRef90_UPI0001745B8C | TQTQRATPLARLVQT |
| UniRef90-Q1AS73 | VRAAGE RTAEV |
| UniRef90-B0UMZ6 | TLDD G G T SVAKVTMA |
| UniRef90-K5X4L4 | WRD G D EKRLVDVEV |
| UniRef90_UPI0004560CA2 | VRDGDEKRTVRA |
| UniRef90-A2SXR6 | K $\square$ GTEKHTVE\N】 |
| UniRef90_UPI00036CB49B | MRGSGELQTTSVE |
| UniRef90-E8UXZ9 | MRGSDELGTV |
| UniRef90-C7M9Y5 | VES S Q |
| UniRef90-A0A059LS78 | TSTGGGVRTARVT |
| UniRef90_UPI0003B36AB1 | VRRGPENRTARIVV |
| UniRef90-D3Q644 | SRSGGETRTA |
| UniRef90-UPI00036904BD | VQHKDEVRTAVV |
| UniRef90-R4WL14 | LHGPKAERWAAVTLS |
| UniRef90-A9TDH8 | K L GSGKHTAEVII |
| UniRef90-E9UUD4 | ARRGQETRTADVN |
| UniRef90-Q3HWK9 | VFSPDAT R WSEVS Q T |
| UniRef90-G3AKA9 |  |
| UniRef90-B5GK38 | ARRGGETRDAEVT |
| UniRef90-E1Z5Y0 | T A LGEEELRTAYVT |
| UniRef90-W7IWV3 | TRTAGTRTASA |
| UniRef90-R4XN45 | YRDGEE $\square$ R T |
| UniRef90_UPI0003A2973E | TRA AGSRYAGV |
| UniRef90-F4Q170 | VRSRD V H |
| UniRef90-M0SGX3 | KL GSEKHTTEVRV |
| UniRef90-B4JEU8 | VEAPTAVHFCDI IV |
| UniRef90_Q3S561 | ILSPETSRFCDVK |
| UniRef90-R7QQV2 | SLTADGSRKATV |
| UniRef90-U5D1M4 | KL GSERHTTEVDV |
| UniRef90-E6QJZ6 | QMRGSELQT T EVT |
| UniRef90-UPI0001FFDB3A | ARDG |
| UniRef90-H9GAL3 | LY S S E GVRFCEVEQS |
| UniRef90-E9CB10 | I N A RECVRT@SVTQT |
| UniRef90-Q9RV70 | VRQMP KRTARVE |
| UniRef90_UPI000370DA36 | T L D G N G T |
| UniRef90-C1BS10 | S ADS S LT RTCKVT Q |
| UniRef90-B1M7C7 | TRDGNGAGFAGLT |
| UniRef90-A0A034VS80 | MRNSNGTHGCEV |
| UniRef90_UPI0003643097 | VRNKD Y VRTVT |
| UniRef90-UPI000479F6F4 | RYS $\square$ N E Q A C A SVEV |
| UniRef90-UPI0003B5CCAC | VRS GQQTRTTTV |
| UniRef90-S4PC28 |  |
| UniRef90-T0PV45 | VQGGTETRHATA |
| UniRef90-F4P2L1 | YRA GEQKRTTNVVAT |
| UniRef90_UPI0003A7B6B1 | T LD G N GVGFVKL |
| UniRef90-K8F881 | TFS S GI RTCFVNV |
| UniRef90-UPI0003795D9D | R R V E A E Q T TVT |
| UniRef90-UPI00046D5E1B | SRDGGEHR EVTVV |
| UniRef90-K3W9W7 | VGVD S G ${ }^{\text {V }}$ S T |
| UniRef90-K9FYY9 | 1 KPGSETRNVQVDVIE |
| UniRef90-M4BL02 | V S S SLGFSTTHV |
| UniRef90-B9RSB9 | KL GSEKHTAEVT LTT K |
| UniRef90-UPI0003B7A6FE | VRQGKEERYAVV |
| UniRef90-W5D3R0 | KL GSEKHTTEVNV |
| UniRef90-F5SCJ4 | RHSRNEHATVSMEVT |
| UniRef90-C1BR88 | NADTSADHFCKDT Q S |
| UniRef90-D8LM50 | LKAGP |
| UniRef90-W7TW56 | IKVGPQT T H T H $\mathrm{K}^{\text {V }}$ AE |
| UniRef90-UPIO004181047 | RYSQNERATAA |
| UniRef90-L9X3X2 | RVSDDESAFGEI |

UniRef90_C1EID1 UniRef90- M5BPC7 UniRef90-UPIO0047C6364 UniRef90-M2X7H9 UniRef90_UPI00030F2E12 UniRef90_UPI0003EBDA35 UniRef90-F4S0W4<br>UniRef90-LOK456 UniRef90-D5WQVO UniRef90 Iollyo UniRef90_IOIIY0 UniRef90_UPI00047D41EA UniRef90-L9ZM30 UniRef90-D4GPU7 UniRef90-F8FF76 UniRef90-D6XY45 UniRef90_UPI0003B5387A UniRef90 M0B3U5 UniRef90-M0M8J8 UniRef90-Q9KEU0 UniRef90_UPI00035E39B3<br>UniRef90 Q45697 UniRef90-L5N8W1 UniRef90_UPI00044145F3 UniRef90_M1XT14 UniRef90- G3HMI9 UniRef90_UPI0003148713 UniRef90_G0LH78 UniRef90 Q5WBJ3 UniRef90 Q02C45 UniRef90_UPI0004738BF6 UniRef90_O32141 UniRef90 ${ }^{-}$NOBOS 4 UniRef90-Q3S560 UniRef90_D3BGR1 UniRef90 A0A015MGM1 UniRef90-UPI0004178D6B UniRef90-UPI000475D980<br>UniRef90_12K1D6<br>UniRef90 H3GV01<br>UniRef90-UPI00035F6C85<br>UniRef90-W4D517<br>UniRef90 UPI000364744C<br>UniRef90-B7G802<br>UniRef90-D6TYV<br>UniRef90_UPI00027F74CA<br>UniRef90 D7CXM2<br>UniRef90_U2FZV1<br>UniRef90_C6D261<br>UniRef90_UPI00045DB51s<br>UniRef90 UPI00035F98EF<br>UniRef90_Q9FEH0<br>UniRef90_UPI00046F7761<br>UniRef90_U1NXW2<br>UniRef90-T1GZG9<br>UniRef90-D2VL29



40 LTS SMHGTESVRVCRVIRNEGHHFIVEYAISAMLEG RTMYYGKGDVFVFRTYAKPDQGVKQIPEMNAKDSLKG $\square K$ QFSHGKTRVRVAKVSRPSATYTKLFQEFMDEVSLEG RTMFYGKGDVYVFRTYANPLKGLKQIPEMNAKVALKG


RTMNYGKEKVAVYRTYATPLEDVRPDPEDDVRVQVDG RTMYYGKGDVWVYRSYAKPLRGLGQIPEMNVQMAVEG TLTHSTHGKSRVRVSK LLRPREKPTHRFLEAAVEVLLEG SKKRTVSYGKGDVFAYRTFLSPLTGVKQIPEVNVKI EVGG RTMNYGKEKVSVYRTYATPLDGVRTI PEHDVRVQVEG
 MYGKGDVFVYRMYATPLTGVKPIPEWNVDVALGG RTMYYGKGDVLVYRTFAEPLTEVTRI PEMNVKVAVRG

 RTMNYGKEK A VYRTYGTPLEGVRTVPELDVVRVQLEG
 MYYGKGDVWVFRTYGTPLGSPHTV GGVNI RI AVSG

$S Y \square S H$


YGKDMVRVLHDQRDGK YHSIKEVATSVQLTL
 RTMSYGKGNVFAYRTFMEPLSGLQPIPEDNVTVEVGG KQNYYGKGDVIVYR $L$ NRDGPQGCCPVFGANVKMLLYG RQMYYGKGDVFAYRTYWKPLKGVKVIPEVNVKVA GG $\begin{array}{rl}R T M S Y G K G N V & F A Y R T Y Y K M\end{array}$
ATLIDNRYGKAKVRVLKVNKN KDYHTVFDLDCCVLLQG YGKGDVNVYRTYAKPLGDGNVIFAHNVHFSVSG
RTMYYGKGDVFVYRTYAAPLQASNTI FAMDAQVSLEG SYGKADVFAYRTF[LTPLSGVKQUPEFNASIEIGG
$K L L Q H E H G K G R V R L L K V T R T P E K$ HSVAQLEAQVLLEG MAYGKGDVFAYRTHLAPLKGVKEIPEANIRVEVGG
 Y GKGDVLAYRTYAQPLGDGNVIFAHNVQMAVSG

SYGK $\square R$ VP $L Y R V Y A Q P \square S G \square Q A \prod P E T E D D V E V T G$ QTGYGKDMI KVLRIQRDGK YHSIKEVATSVQLTL TLSAIDYGKGDI GVYRTYRSPFTGRHDLFAAEVGVQLGG
 Y GK G D VY N Y R T Y A A P LG DANVIFAHNDT FSVS G
TT $\square S Y G K \square N V P \square Y R T Y A R P L D R S M A V P E A E \square D V E V G G$ TYATPLDGVETLPETEVRLQVEG

QTSNKTLVETK $\square Q \mathrm{~V}$ SLES

[^0]| UniRef90_C1EID1 |
| :---: |
| UniRef90-M5BPC7 |
| UP1 |
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| UniRef90-UP100030F |
| UniRef90-UPIo |
| UniRef90 F4S |
| UniRef90-LOK4 |
| UniR |
| UniRef90_0111 |
| UniRef90-UP100047 |
| UniRef90_LIZ |
| UniRef90- ${ }^{\text {dar }}$ |
| UniRef90-EOID |
| UniRef90-F8F |
| UniR |
| UniRef90-UPIo |
| UniRef90- M0B3U5 |
| UniRet90-M0M8J8 |
| UniRef90-Q9P |
| UniRef90-UP100035E |
| UniRef90-Q456 |
| UniRef90-L5N |
| UniRef90-UPIO |
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| UniRef90-G3H |
| UniRef90 UPI000314 |
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| UniRef90-05W |
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| UniRef90-Q3S560 |
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| UniRef90-H3GVO1 |
| UniRef90 UPI00035F |
| UniRef90-W4D |
| UniRef90-UPI00036 |
| UniRef90-B7 |
| UniRef90-D6 |
| UniRef90 UPI00027F74 |
| UniRef90_D7CXM2 |
| UniRef90 U2FZ |
| UniRef90 C6D |
| UniRef90-UP100045D |
| UniRef90-U |
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| F7 |
| Un |
| T1G |
| D2V |
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 EY ${ }^{80}$ MARSSSTRVAPVPTKDTCYVLAKTSPVLSPEDFG AF LTSFTEGDNSLVIATDSMKNFMLRHAAQYEGATLEGFL
$\stackrel{\mathrm{E}}{\mathrm{E}}$


 E F R PS RSKK D Y L Y G D N S DI I P T D T I K N T

$\begin{array}{lll}D & F & W \\ S & F & L \\ E & F \\ \text { K } & \text { P } & \text { P }\end{array}$ K F L S S F
Q F E E T Y LTT G N N E R V VA
ESLSSF AGDNSQVIATDSMKN

APAAAYYDGDNGQV
TDSVKNTVWVMAKKHEFASLEDFG


NF $\square P S Y T E G D N R N V V A T D S M K N F$ L $L$ HQGLHFEGSTGEQLL SSKKDY LHGDNSDII PTDTDKNTVHVLAKFKGMMPV

 ELLTSFTEGDNSRVVATDSMKNF | $D$ | $F$ |
| :--- | :--- |
| $E$ | $A$ |
| $L$ | $A$ |
| $P$ | $S$ |

LVK LDD
D N
TVKNGLYEMANSNENSS
E N F A

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| UniRef90 C1EID1 | IFTAPCDRVCAADVS |
| :---: | :---: |
| UniRef90 ${ }^{\text {M5BPC7 }}$ | LRDGEEKRSVTID DV |
| UniRef90-UPI00047C6364 | RSSRNEFATTTVEVA |
| UniRef90-M2X7H9 | VRQEDECSFSNV |
| UniRef90-C5HDG5 | RKSRNEYATATVEVA |
| UniRef90_UPI00030F2E12 | RRSRNEFATTTLEV |
| UniRef90_UPI0003EBDA35 |  |
| UniRef90-F4S0W4 | SRDGNDVIQVEAVV |
| UniRef90_L0K456 | RVSDNESAFGE |
| UniRef90_D5WQV0 | RYSMNEYPTAFVAV |
| UniRef90-1011Y0 | TGSDAEARRVTVVAE |
| UniRef90-UPIO0047D41EA | K HSRNEKSVATVEMV |
| UniRef90_L9ZM30 | RVVSDDESAF GEVYLT |
| UniRef90-D4GPU7 | RVSDNE |
| UniRef90-EOIDR4 | RHARNEQATAR $\square$ A VV |
| UniRef90-F8FF76 | RRSHNDHTSASVVV |
| UniRef90-D6XY45 | REGMLEKPGTRISV |
| UniRef90-UPI0003B5387A | KKSHNENPAAMVKV |
| UniRef90-M0B3U5 | RVS D DESTFSEVYVEE |
| UniRef90-M0M8J8 | RVSQNES GF GEVYLT |
| UniRef90-Q9KEU0 | QQEESVKPFAKVEV |
| UniRef90-UPI00035E39B3 | NYSRNEAPTCMV |
| UniRef90-Q45697 | KKSRNEYAT A Y Lin mb |
| UniRef90-L5N8W1 | KHSRNER |
| UniRef90_UPI00044145F3 | Y R D G DERRTVEVK $\square$ |
| UniRef90_M1XT14 |  |
| UniRef90-G3HM19 | 】HTPTGTHFCEVEQ |
| UniRef90-UPI0003148713 | RRSRNERRTGE $\square$ T $\square$ T E |
| UniRef90-G0LH78 |  |
| UniRef90-Q5WBJ3 | K H S R E R NEAS I ELV |
| UniRef90_Q02C45 | AP S GP DVA T A CVEL |
| UniRef90_UPI0004738BF6 | K R SRNE |
| UniRef90-O32141 |  |
| UniRef90-NOBOS4 | KKSRNEKSFSTVEII |
| UniRef90-Q3S560 | ILCPEACRFCDVEQ |
| UniRef90-D3BGR1 |  |
| UniRef90_A0A015MGM1 | RRSHNDRA GAMLLELV |
| UniRef90_UPI0004178D6B |  |
| UniRef90-UPI000475D980 | NRSRNEEAYAS! |
| UniRef90-I2K1D6 | VK N GDEVRVCEL |
| UniRef90_H3GV01 |  |
| UniRef90_UPI00035F6C85 | NHSRNEK |
| UniRef90-W4D517 | RHSNNESYSASLTI |
| UniRef90-UPIO00364744C | RRSRNDHSCAEMEIA |
| UniRef90-B7G802 | VK S GPEAQHAAV |
| UniRef90-D6TYV6 | SRSHNDVAVATMAFT |
| UniRef90_UPI00027F74CA |  |
| UniRef90-D7CXM2 | VP S P |
| UniRef90-U2FZV1 | SRSRDDF GYAEMTV |
| UniRef90-C6D261 | RRSHNDHASASMKLV |
| UniRef90_UPI00045DB519 | $\square$ HTPTGTHFCEAEQT |
| UniRef90-UPI00035F98EF | RRSHNDHASAAMSLV |
| UniRef90-Q9FEH0 | KL GSEKHTVEAIV |
| UniRef90_UPI00046F7761 | RYVPGDYATASL |
| UniRef90-U1NXW2 |  |
| UniRef90-T1GZG9 | LFTPTAKRHCDVILS |
| UniRef90-D2VL29 | $\checkmark \mathrm{R}$ |
| UniRef90_B4HYA1 | I F T P T A LH Y CDLVI |
| lupas_21 |  |
| lupas_14 |  |
| lupas_28 |  |
| jnet |  |
| conf | 8648855899998818 |
| sol25 | В В В В B B |
| sol5 |  |
| sol0 | B |
| jhmm | $\rightarrow \quad-\quad 1$ |
| jpssm | $\square$ |


[^0]:    lupas_21
    lupas_14
    lupas_28
    jnet
    conf
    sol25
    sol5
    sol0
    jhmm
    jpssm

[^1]:    lupas 21
    lupas_14
    lupas_28
    jnet
    conf
    sol5
    jhmm
    jpssm

[^2]:    DSLGRAFFEAYPDMETDRDTGREVPFAAAPVRQGE TF HFLATRFDDTYADMAGMKILGREQPFMAAQVPDEASDRLF AF $\mid$ SRKFMDRYPHMDAVELVADRDPFHTLGVTSQPSPLVY
    
     DLLGRRLLARYEVMQAVRVT GRALPFARLP H GEDSDVLY QFVGE ELLEE Y S HI EA V EASADEFLFGDRPDPTEDSDLVF LLLIAKHFLGQYNHVEEVHIH IEEYPWQRICKDGVKHNHAF LITSKHFFREFDNI NEVKLDVVEQSNWQQVENNKAGHFQAF

[^3]:    lupas_21
    lupas_14
    lupas_28
    jnet
    conf
    sol25
    sol5
    sol0
    jhmm
    jpssm

