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$Y$
L L Y $\begin{array}{r}\mathrm{F} \\ \mathrm{Y} \\ \hline\end{array}$
LY F PR R F L S D PAAVA DL S
YFNPAF
L
EF N S D F

F DPGFLNNGTGQAVDLSRFSRGNVVQPGSYTVDLVVGG


$L Y F N P R B L S D D P D V V A D L S A F S R G Q E D P P G T Y R V D V Y M N D$


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 Y F A F L S S DP S AVA DLSRFEQGKGQVPGDYHVDVVVND
Y N P A F
$Y$
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$N$



## L

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## L

 F NPAFLSSDPSAVADLSRFST NGQAPGVYRVDVWLVNG
 VIFNPAFFDGANGLQLDLAKFSQGNVVLP PGTYY N MVVVHINK
, VF NPSFLSSDANNVADLS F S $\qquad$ NAQAA
$E Q P A$ G GMY R S DV Y L N G
 VEFDTTAD $V$ EF D T T F L Q $V E F N P A F F A G G A T G H V D V A K F N H G N V V L P G S Y R T D V H L N G$ WF YPAFFKDDPSMVADLSRFEKGQKITPGVYRVDIVLNQ F NPAFLSNDPHAVADLSRF

QK NQQA
$\square$ F NT D
$\qquad$ FN TVVLDSDRSNIDLSRFAHSGF LI

## V D F D P S F L N

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VQFNTGOM


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 VE F Q G G F L





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V
V
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$\qquad$ $\square$ EFNMD\LDAEDREN NDDLSARAGY円MP Y F PPSFFNGEGGTSVDGSRFENGNPVDPG FEFNPEFLSDGDAQDSDLSRFDRSHQLI GVVYVDVYVNE EFDDSMLVGSAKEQKSIARFNQANAIEPGTYQVDVFING FNPRLLELDPADNDDI HQFNRSNTLPAGTYKVDVMING FDSSFL GDAQK VDISTFRYGNPI DAGEYNVDI YVNN VEFNTDVLDVKDRARIDLSQFSHAGYIMQGSYQMVLRLNK LQFNPAFLNGESANSADLA WVNAGSALPPGEYNLNVYINN ITFNMDMLDVNDRNNDDLSQFARPGYLMPGEYSFTVFLNK YFNPALLELDNQGKTDLTVFEDGATQAPGTYRVDIYVNN YFDPSFLAAPGKSPVDLSVFSQRGGMAEGRYLVTLYINQ VEYDNTFEMGQDAFNIDLSRYTEGNPTLPGVYDVSVYIND IMFNTDFLRDNDRANIDLARFSKTGYFMPGEYTFSIIHVNK VEFDGAFMQNRLGKHFDVSRFAQRNVTAPGVYTADIHVGA LEFDSSFLLSDRAGVDLARFARGAAGLAGTHRVALFIND LYFDPALLETSGQRIVDLNVFSQNNAQLPGEYIVDIYINK YFNPASLRGSAEKLTDLSQFSRAGGQSPGTYWVDIYLGD EFDPSFLRTPGSSVIDVRRFTHGNPVPSGNYYSDIYLNG VEFEGGFLNNGAS DDVSYSRGNVVRAGTYSPDVYVSG VEFNDQFLFNTG SKIDVGRFSQGNPVGPGKYOTKIVNG VEFNDQLLENDHPVDVDIHRFNRANMLPPGDYKVDITING VEFNDQFLDAGGSDKVDISRFNKGQQVLPGTYRVEAFVNE LAFNTGF QGGSAQPADVLALLQGGSVLPGNYRVEVYVNG VEFDAFLANRVGKNFDI A
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 FQ F N T DVL D I N DRKNIDDLDLFSRSNY IMPGNYLMSVQMNK
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 $V D F N T D V L D A A D R Q N I D F S R F S Q A G Y I M P G Q Y Q M E I M V N D$ $V$ A F D P T F F L N T D D E K T V V L S R F A Y G S S G I P G V Y K T A M Y V N D $V$ E F N D QF L L N M G S NV DV S R Y A Q GNPVPP GVYRVKVVSLNG V $F$
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Y F D P D L L E I D H P V DV D I R Q F N R S N A L P P P G S Y K V D V Fill N G L I
$\stackrel{V}{\mathrm{~V}}$ FQFNTDVLDLQDQQHIDLGLFSKANFIMPGQYRLVLQVNQ

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 V Q F D P Q L L M G I G G A T I D L S S R F E R S S G Y V A P P G Q Y R L
 F NTAF LT DGNAQDA DLTK LQ S SPQQLP GVYRVVIYAND YFDPAALEDPQQQTS DLHYFAKPGGQQPGTYSVTMVVND YFDP $\square M L E T S G M Q T T D L S R F S K K Y A Q L P G T Y Q V D W W L N K$ F Y Y N P Y F L S D N P E S VAA DL S S F E K G L E VVPE G N Y L V D I Y L N D Y F D P S TVV H GAQRSNLDLSSFSQS G GQLP G $\square Y$ HADI Y L N G YFDPELLAGTGTSDVDLSAFANPGGVVEGDYLVNIFINQ
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$\qquad$ E F D S Q F L
$\qquad$ V





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$Q E L P E Q S V V F Y P S E D A N E S S A C L S P T V E Q F G L D P D D N K K$ AWIGRRDVQMKEQDEGRVLACFNRAMLDDLGVDFSRLPQ QYAFTRDINF AKMEQPITFFNPNYDDKDSLACVTPE YYALLGLKKEWDSQ QPVTFLEQPASVADGKKMLQPCLTAEMVSRMGLTEASQKK QFINKKDDELRARNDKSUYPCLSTEVLKSDTFNYDKLPD QATLTSEDDVVAQSDKTSRVCLTPDLIKTMPFNYETLPK QALGRREVEFVAAHAKTGAQPCLSREVLEKDGVAMDKVDT QFLKTENLAFDYNAQNKLTPVLSDEQLEALGVNTASVPG QLV SNTDVEFK ARADKSVYPCLTRELIKNIPFNYGRLPP
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 NFYNRETLLFS ADKQK QVSPCFSREQLVA DGI L P GS IQ A HRDP E QVI AF YRRDDEPNSSEVCLPEAVVVEQFGLKPDVLQQK $R L L P N S Y I T Y L P V D E G K S S R V C L S P E L V D L L G L S P A V R E S$






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

 RLI K E Q QLIF NNNPD GTGSYA CLDDNS IV S RLAALKEEVVSRN QWK GR Q DVV N F S LA S P Q S I A Q P CY Y L K L L S L F D I A L D K L D K



 QLIDDRARVTVRGDNEAS QLLCFNSALLTRLLNLNTTRLSE NEFP EMYPII A P P D DP K GSEA C I S P E L V K QIVVLKP E WME K $K$ K LT Q R K I P F A A G D N H Q $L$ D P Q F T V G QL R E L GF K V D E DP A
 L P V G R H E L A F I L E L P G Q A DVVS P C L D W P L L A R L G V V K N K V E D

 $E L Q G T N D V D F R M A D G K G S L Q P C L D V A Q L N A M G V K T D L D P B G$



 EQQDTMDVNFDTGTD GKLYPELTPALLSQWGVKVAS LKT








 QPLPD D Y DIV A T E N DP NK S Y A C L S P E L V A Q F GLLK E D I A K N




 QWIGRE DI NFA P VA A A T DA QP CYT L K L M D L L GGFDLDD K I D K

E
 E WK GK A NV Q Y L Y T D N A NTS T L CLLT P ELLL S L I DVVVK G TVVP E Y Y V V S A R T V $M L K$ G R TVVR
 QRLDT R TLAF SLQQPDEQRLVPCLKWEDLQGFGVDLAABPA E QV D S REVVFFVQQEDMPVLQPCLSRKQLLRYGIKTEDYPA
 EKVVDAREVLGNNKDGKNTLQPCLSVKELQGYGVKTSLGAS
 QWI GRQEMRFAPSPESKVATPCFDVKLFDELGVDTAKLSS



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 Q WM GRHRMP LRRVQEQHQVPTPCYSEP LLRQLGVDTSREVR

 N WV G R Q S $\operatorname{L}$ R $\operatorname{R}$


 TEDGARNVDFQLSDGQQALQQCLRLQELKDNGVKTDLPBT

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## R

 K L P R A Y N L E W IMK S D N E N G S L L C L T Q E H L T E F GFA D A F I L S




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








 NNRGKRSILLKKN ITNNKRADACFTPEQIEALGI IPDSRNQ




GFI R NVSIVEFKQSNDKK VIDACFTKEVV SLIPFNKDTQEK




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










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| :---: | :---: |
|  |  |
| UniRef90- UPIOOO4690ADD | NKLPRTERIADLAHYIAGAKVRPDLENLC |
| UniRef90-V1N | $L \mathrm{LFYPGTQCFRLT} \mathrm{IPDSSVVYSPENQTLSVTVPQADLQ}$ |
| Q8 | VVYWHDGQCADFHGL-PGVDIRPDTGAGVLRINMPQAWL |
|  | PVVENDCL |
| UniRef90-AоАог3МW73 | AGQC |
| UniRef90-G8LLD2 | N NGECANLQ |
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| UniRef90-UPIO002D33408 | SEENTCVDLPA |
| UniRef90-U2 | ADDTQI DLA LLVEGASSDFDVG |
| UniRef90-G5MDN4 | SEKSCVDLSA |
| UniRef90-K8QUC6 | GESQCYILADYYPSSSVSYDP |
| Y1D6X6 |  |
| SODE64 | E CVKLSA PQASADFQFGTQR |
| UniRef90_U8MWG4 | (eadele |
| UniRef90-K8W | HDKQCLNLSALLTGAQLNVEL |
| UniRef90-A0A | AENCLDISRLPG I ALN |
| UniRef90-E2C | QAASSENSCLDLRIWWPDVVYMP ELDAQRLKLTEPQA |
| 12EL | EKQLSDERCYRFDELTKSQVNA |
| UniRef90-D4 | TWWHOGOCLN S Y K A V |
| UniRet90_UP10004 |  |
| UniRef90_J7TGG7 | V SWTAQDQCLDIRTIPDMQATGDIADNKLNARIPQAYM |
| UniRef90-UP10003025 | SERSQPGDCVDLETYLPGSSUGYDLSESRLNI SVPQTYL |
| UniRef90-V3G) | LA AGESECADL RAIPQASADFQFGAQRL |
| UniRer90-6RJ56 |  |
| K6BS65 |  |
| UniRe990_1Z1ZJ6 | REACFTLRETLPGS |
| UniRef90_B2VLo3 |  |
| UniRet90_Q883W9 | Q S |
| UniRef90-V1H8C | PRTQCVNLTAKDRSVVYSPDNQTLSVTVPQAD |
| UniRef90 G9 | VAFDDIIPQAASHEDFADQTLIMSFPQA |
| UniRef90-C4TON | SAGVCSSLSTLLDGGN |
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| UniRet90_UPIO00471E189 |  |
|  | TAKLATDPCPVINELI DGATA |
| UniRef90_UP10002556EDC | QEQVAASDCVEVQALIPGASFSMDVAELSGTLS |
|  | ESAE |
| UniRef90-L7ZJF5 | AETACLLPGRDLKDTMVNADTSRLRLDLSIP PA |
| UniRef90-D2Z180 | NAERCEAVPELPGSAWDFDGEKLALNVSVP |
| UniRet90_K8WL97 | IQWSNNGQCLKIDS IPGMTASGSLGTETIAITIPQAYL |
| H5 | N |
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| UniRef90 B8E317 |  |
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| A0АО23 |  |
| UniRet90_D4COU2 | QCKPFSAFEKILPYASSHEDFNQQRLYLSFP |
| UniRee900-C2LMQ8 | DSNQCIDLSNL GSQMNUDLSS |
| UniRet90-U3T17 | TVKD S PAPDAYYDFDLSTQKLA STIP |
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| UniRef90-A0A058) |  |
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| 90 B1YYQ4 | S |
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| UniRef90-D1NZ41 | NPD |
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| UniRef90-B7LKQ1 | NN CVDFKSR PEIVFVFDQSNQQL N T\| PQAWL |
| UniRef90-A919L3 | DENECGRALEDIPSAKASYDQDANLLRLSIPQA |
| UniRef90-M5C | GT |
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|  | LSVAGDCANF AAIPQASATFLLFNTQKLRLSTPQAALS |
| UniRef90-M4TN59 | ANPTLADLLSRL |
| 900W2DGE1 | T CPAMAEL |
| UniRef90_W5IMC0 | A EPV |
| UniRet90_UP100046 |  |
| UniRef90-A4Y249 | APDTGG CSLGYTVKGNNFSFDSGSLRLELTVPQAYMD |
| 4BK13 | KGFDSGDTCFNLQAVIPDVKDDYNSEKQELNLFISQLYDN |
|  | ELSQQSGFCGRLSAWDPMVKDTLIQSALRLEISVPQIY |
| UniRef90-UP10003C77F5C | QASTDFQFGVQRLVISIPQAALIS |
| 㖪e90-H2IVA4 |  |
| UniRet90-KIHTS4 | A |
|  | A |
| UniRef90 |  |
| UniRef90-T5Y9D7 |  |
| Uni | K |
| UniRet90_E | 1 |
| $\begin{gathered} f 90 \\ f 00 \end{gathered}$ | dell |

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UniRef90_V5ZBL1
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E GIAANVDLS
位
FKPSMLDNVNAANVDLEQFNQQDLVTPGNYEVELFTNG YFNPHLLEVNGASVVDLSYGS NVLLPGEYKVDLYVNG YFDDDALEIHDPSPPDLSYFAEKGGSAPGKYNLDVYI NE
$\qquad$ FNPDFLDGENAKNDDLNYFANASGAAPGQYTVDVIING FNTDVLDAADRTHVDLTRFSTDNYVTPGTYLLDIRINS

 EFDPSLLLGS KNNTNDNQLHDSNYVEPGDYDVDI YINN EFSAGFLKNSDHSSVDLSAFNRDGYVAPGDYLLDIYLND
 QFNTDILDTNDKKNLDLSVFAVAGYIMPGVYRMAVILNQ
$\qquad$ JEFDSDVLMLQNNGKADLSAFETGGQAPGTYHVDVIGLDD FDASQLDGGG FPPSALLEGDSSQD
EFNTDVLDAEDMNNVDMSQF
GAGUKNEAEKVEAGTYKVDLYVNN LQFDPRMLWGSA SQADLRRFARRNVLEAGLHQVEVLLNG MGDGKSSIDSRYADGNPTPPGVYNVVFVND YFNPALLATDGEGN DLSAFSRHGGGMEGEREVAVYNN FDSALLGDGGYPNDDLSVFSKPGGQLPGSYYIDIVMNG FDPALLVGNNNTKTDLSLFEQGG FEFDSRFLRGNG GESYLARFNTVGQATPG
SNVNVSHFEHSNLLTE FDDSLLLGGGY SHVDL DEFNTDLDKEKESID EFDADFLRKNSQEIP GQFKQAGYIVPGEYTMQLLVNN VQFNDAFLPVGSSG DDLELYQSGNPVMSGEYRADILVNG EFNASALGVSDQ DVALFNQGG QLPGTYRVGVLLNG
 EFDDRLLLGSSLGGGDLSRFNQDGRIDPGRYHVDVYLNE FEPSMLNVDGND TDLSDFESGAQLPGTYYVDIMLNG YFDPGLLMGDDDNQ DLNSFTKNNTLTPGNYDVAVNVNL TQFDSRFLELKGDTKI DLKRFSSQGYVEPGKYNLQVQLNK VDFNTDFLTDKGDENTDFTKFSYANYVQPGTHLLATDVNK $F D S A L F R G Q S V N Q S G L Q R L S Q K Q S V L A G Q Y K V D V Y V N G$
$F D S T M D D N S G E S I D V S L F N Q G G Q L P G N Y V N V F V N G$
FQSGFLRDSEAAASVLNQLAVADSLGPGDHWVEIHVNM FDPAFLS GENNITADSWVNARNALPP

V DQLFRGSRFSQSSLAKLTTRESVAPGNYKMDIYTNN VKFNAF YFSPHSLTPVNGQNISLEQFSTPGGQQEGEYHVDIVLNG FNTSFIHGDPSA
EFNLRILELDTENTATLKNFIGNNSLLAGSYPVTIMWGR
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$\stackrel{50}{ }$
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80
QFIJAQTS|V|PFK EDKNGKIISACLITPEQ\|R TVG|LKEE
80
 GPAGVRKLQFELSPDGRQLVPCLAPSLMAEGGLRLDADAD QDKGSQQLEVRAGADPQSPRFCFKSAQVEQWGLKLPHQQA
QKIASRDVDFLLANDNALIAPCLSISALKSFGVATDKFSE QK ASRDVDFFLLANDNALLAPCLSLSALKSFGVATDKFSE KEKGEMTLRFRDNEDMPFAQLCFTPELEALLDLESAADKR NKMPLQKIPFYESDKGKGGVACLPQDVIPKLALTDEA:AK DF GLNENNFIGVDDSNQLVPELTKGQLDEWGVNSDSPAL VFVERSKIRFVLGDDR RVLPCFDRQQLERLGL KFITSESIVFKPQNDGASAQPCISVAHLKDWSIKVEDYPA QNKGAQDVQFVLGAGRK LQPDLSVQQLADWGVNVAAFPV
a

## S


O
RFR K TV S F QL N D K GKV I P C F
RWRGVEEVELRRQPGRESAVFCYDRGLLERAGL DLEESSAR KMSGKYNIRFESVAGESTAEPCFKLEQLEELGLKFEISDA KKDTDFDTLYYTPEDQKSSFPCLTKEQVAQLGLKEGYLSN
 SEVGNENIETKTRADNSG YVCI
 RFIERRADEFKPKENTQGVEPCFMPDLLENAGIVGSWDYR TLLESEQQVLSWHESDTGSQVCDPPTMADRFGLQLSVRQS
ARAVPMTVRFRDPSAPQRARACFDQGQLLETGGVNLDALDP KDT TNLEEPFD DVGKNDAEACDSKKNLAQLHINQPEKIK SFSHRRSLRFDLFEGQG VAACFKAQDAAMLNLRPDL

| T |
| :---: |
| K |
| K | EKVDSTNVTFHAKKSPSSLQSCLTKDQLSRYGVDVDNYPE KEPFDQEVNVVNGPDEEPVVLCFSETAVQQWGVRFGALPD NKVDSREIEFRLVNGGHLVPVFTVAQLERYGVNTRELPA NPVGERKVRFYEQETNSSQLCLNASLADELGLKTHEQPA



| Q |
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UniRef90 UPI0004294FFO UniRef90- UPI00046500C0 UniRef90_UPI0004147F03
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UniRef90 A0A029N UniRef90-A0AO29M9RO
UniRef90- AOAO23MPFO UniRef90 V2J9W1 UniRef90-K8WJT2 UniRef90-LOM8B6 UniRef90-D1NZ766 UniRef90-АоАоз8СТіз UniRef90-M4LUN5 UniRef90-UOBL70 UniRef90-E9VUQ3 UniRef90-H3MG07 UniRef90_V3TOP9 UniRef90_UPI00036A8E81 UniRef90-D1P1N9 UniRet90-WCG43 UniRef90-T8RLJ7 UniRef90-N8TGU0 UniRef90-A0A010Q1N4 UniRef90-X8LPN7 UniRef90-UPIO00462BAB6 UniRef90-DOZ5B4
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UniRef90 G8WGI7 UniRef90-N2Z798 UniRef90-V214S5 UniRef90-UPIooo3EE7E77 UniRef90_C4UL41 UniRef90-V3PVH5 UniReffo-D5FKUO UniRef90-D2TTU9 UniRef90-U0MWQ1 UniRef90 D7RVW9 UniRef90-A0AO23V9X3 UniRef90-A1KYN6 UniRef90-V3L992 UniRe990 U2N8E2 UniRef9-LJYB10 UniRef90-UPI0004741936 UniRef90-D1TZT3 UniRef90-H1C433 UniRef90-100ZW9 UniRef90 K8W9Q7 UniRef90_VIYVK9
UniRef90-H3RAA

1
EFDTSLLVGESAKG DTSRFYSDGQ\|IPAGKQLAD\|YVVINQ FNSDFLVGEGARNVDLSYFTKATGASPGRYEVDVILNG YFDPALLQGATYGQ NIARFNE QQTPSGDYLADVYVNG FDTHFMKGNARHAALSHITLSPDAPYPGEYPLDVQVNG FDPALIREMMPGQVAMPVDSQDAWFQPGRYDVDLYLNG FDTHFLMGGMKDKKVTHFQLDPNKPDPGDYELDVYNK FDTNFMTGGMKGAKVSDFRDDNHPLPGQYDIDIVVNA YFDPSLLDTGNNDKLDLSDFSHPGGGVKGEREVSVYIND
 FNQ
HFSPELFRGGRFSEARLAQLTKKHDVAAGTYKLDLYLN FQSGFLRQVPGQPQSLSMLTSDQGLAPGRYRVEVQVNG
 MKFDTSLLAG ASSESDLSRFYLINNDMPAGTQTVDVYVNQ EFDTSFMHGGENVRSDFLDYTSSNV PGKYLVDFYLNN EFNMSFDRGGAQDK\PEVFDKNVNFVPGEYLLDVELNG FDTHFMIGGMRDKVSEYRFDNKQP LPGNYELDFYVNH


E $\square$ NDDF QQGTSVIPS $\square L$
KANTVLPGHYVVDVVNN FDTNFMFGGLKGEK VSRYQDSTKPMAGVYEMDVYVNK YFNPAFLSDDPSAVADLSTFSR NAQAAGMYRVDVYLNN YFESSLLKGNALSNSALDKFNSKNEDQAGNYNVEIYVNN FDLSALESNRSELTEYQQLSQVDQQLPGTYPVDVILNG YFPPSLLDIKANGKVDISALEHSDGPPGSYLVNIYINN EGNEAFLRGRDK MRFNDD QG V
$\square D F N V N \square L A E D R E N \Pi N L A V F R D \square Y V P G \square Y P F K T Y N N$ FNRAHLHGAAQ VDLQKYQYGNPLHAGQYRSTLSVNG FDPNFLKMSDGEEADLKYFMRPGGMSPGTYTVAIFLNG QFDNSFLYGQNSKTDDLEKFVSSDKVAPNDYILDI YLND

EDDFSFLQGSDQPPDLQEFDRSNSVLP
LDARALGGRNQDIDLT

VEFDPALVOTHQDPKLADAFRQAPRFMPGETRVA FVG

 DMSFIQGGAGTNPDVWA ALNSNY APGRYLVELSLNG VEYDSSFLMGTGASTDDVKRYAQGNPTPPGDYNVRVFVNG FNSSLLVGNS ADMDWSNSKLVMTPGAYDLDVYVNN DEFNMDVLDVKDKENDDLSVFTSAGFILPGEYMMVVQINT EFNYSFI RGGSKEVPEV LKNSGQNIPGKYIIDLGFNG NMDFLHGGVQSQAESDFDDNVKYPTGHYIVEVIFNR EFDDNALGFGTENSAT DQNFDDNNALLPGSWLTSVYFGE
EFNYSF VGGGSDDPDULDSNKKNDDPGKYVVDVVFNG FKTEFLYLGHNENUNFS DEDKPGKHFVLVYVNG
VEYDHTFLMGQNASNDDLSRYSEGNPAПPGMYDVSVYVND DMSF QGGGDMDPEIWAVLNGSY APGRYLVDLTLNG DQFDSRF ELKGDTKDDLKRFSSQGYVEPGKYNLQVQLNK VAFDTDILTSVGGVPNDADVLKSDVNYPSGEYYVDVLVNG LTFDTGILSGLGMDPTПAELFRYAPRFMPGDTSVDLYTVNG VTFDTSIIRSRGLS ADLNYFANAPRFLPGTHSVQVTVNG EFEPRLLNSSGGQ $\square$ NLEVFNQDSFQ DGTYVVDIFVNG $F N Y S F\|R G G S K Q \square P Q\| L A S N Q N \quad P S G K Y L I D I \frac{1}{I} N G$ YFDPSLLQGTAYGQGMASV NGPGTPAGEYLVDVMVNG QFNTSFI H G D D NQAQVASLA SGDDDLPGKYPFDIVMNG VVFDTDILKSRGLGT DLNYFSAAPRFLPGDHPVSVRVNG FDS GALLKAHGLDPALATQF QLSNAFPPGVNTVTLHVNG LE F DARVLRDRGUDPALAAYFREAPRFUQGEHSVALEVNG

TNKNESPPGDYVVDMVN YFNLEALDNNDDENLILNLTNDNPEGDYAVDVIVNN YYPPSLRRDEGTDNEDLDVF RENDLAPGKYYVKFYINN



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| :---: | :---: |
| UniRef90-B6XDA9 |  |
|  | TLVASSTNIFNAAKEGQQTEPCLPLSVMKAAQI |
| UniRef90-UP100040F96C3 | EWRGQYTLTIDQQPDN |
| UniRef90-B5E) | QWRGKYDITVADDPGS |
| UniRe | KFQQSTALQUVRAE GALSVCL |
| UniRef90 | QWRGKYNVNVTDEPSE TCLC |
| UniRef90- P46000 | FFYKNVTLDFENGDS |
| UniRef90-E9A3Q0 | QWRGKYDITVKDNPDD |
| UniRef90--J74482 | OAVGGOLLEFRYH |
| UniRef90-16CK | EKVDVGEFPFHRPE |
| UniRef90-UP1000329 | EPADAAEEVRGGSGRAAPCLR |
| UniRef90 ${ }^{-}$X3P |  |
| UniRef90--D4C4 | SWKGQ FEDDTNNDGKLISLAADDVQKLNLNLS S EV |
| Ref90-X7GGL1 |  |
|  |  |
|  | QWRGKKDTT PESPAKPCLPKVLLTTLGVKTD |
|  | Q W |
| 6F | ERQDVTFVQNNPDAD |
|  |  |
| A0A029M9RO |  |
| UniRef90-V2J9W1 |  |
|  |  |
|  | AIRFVKCDAE LCPVVSPKMLTRWGI |
| UniRef90-D1NZ766 |  |
|  |  |
| UniRef9- M4LUN5 | RSTLV ISPEDEQAGQLCLSPEWLQNAGI |
| UniRef90-U0BL | TD ${ }^{\text {a }}$ SKEDEQNNMLCFTPEWL |
|  | A D A |
| UniReef90 H3MG | NLAEHTEVHFV DNGKQRVAPCLTREQLISLGI K |
| UniRef90_V3T0P9 |  |
| UniRef90-D1P1N9 |  |
| UniRef90-W1C |  |
|  |  |
|  |  |
| UniRef90-A0AO10Q1N4 UniRef90- $88 \mathrm{PN7}$ | SFVETRNVAFKRRQPEGKPQPCLSADDLRRYGUNSEAESV |
| ef9- |  |
| iRef90-Doz5B4 | KK\GRQTLT ${ }^{\text {KSQNEKQS }}$ |
|  |  |
|  | G1 |
| UniRef90-G9W9 | QTLPQEFPVNLPEHDPQGSEVCAEPELVTQLGUK |
|  |  |
| W0 |  |
|  | GS EGE |
| D2 | TGTAELNITPADEKNN ML |
| UniRet90-A0A026U | ERTKRANLVIEEDETND |
|  | N |
| UniRef90 X ${ }^{\text {ENYN88 }}$ | ENVGKARLSUTPQEESANA LCLSPEWLKAAGVPVRLE |
|  | KLFSKKSL |
| UniRef90-H4SL98 | QATSSLEIPFV DTGENSAAACLTHKNLAQLHIKQPEQP |
| UniRef90-UP10002378 | AWRGKFDMT ${ }^{\text {a }}$ ANDKGTVLVP KDDVPLLGI |
|  |  |
| UniRef90 A0A02 | SK1A T S |
| iRee90-K8 | RV1 TYTISADEKRLEPOLSVADL BYGVRTDAVTG |
| Uni | GL |
| UniRef90-G9Y4D9 | STEDNTTKEDVSEL |
|  | KKVGTEFIDFKLS KKNITPCFNRNNLSKFNLNYNL |
|  | SLQETADIRFVDKKDPQKLAPCLS |
| UniRet90-N2 | KDTGKQS Trip il |
| iRef90-UP10003EE |  |
| C4UL41 |  |
| V3P |  |
| UniRef90-D5F | EWKGRYDL |
|  | N |
| -90 U0MWQ1 | Q ${ }^{\text {P }}$ |
| UniRef90-D7RV1 | S E |
| UniRef90 M9HXY2 |  |
| A0A | SLLKSGKIRFNPVNGEQRTEPCLPFSLMQAARVKSLPDKA |
| UniRef90 A1KYN6 UniRef90 V3L992 |  |
|  |  |
| ef90_L5Y |  |
| e90-J2X | QARGRVRVSF NERGELCLHPQWLNVAGVRPPTSMD |
| 90 UP |  |
|  |  |
|  |  |
| UniRef90-K8W9Q7 | KDI NFVMMPDPKQLTPCFSYTEWQNFGI DLD |
| ef90_V1 | NT D M |
| f90- H |  |


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| :---: | :---: |
| niR |  |
|  | LSSDGVG Lek |
| UPI00040F96C3 | FDTNCTTLRQALHGGSYRFDTGLLQLNLTLP |
| Ref90-B5 | GATDCIALKDVVRSGGYTFNDGVFRLD |
| Ref90-D4G | LSALLKAEDCARPEAFLPGATVNVNTASLRVD |
| Ref90-FOUU | SQTKQSTDCVPLLREMIRSGSFAFDIGVFRLDLSVPP |
| UniRef90-P46000 | S TA DFLISLVPYGMVRFDQADARVD |
| UniRef90-E9A300 | QGGSYAWNTGTFRLDLSVPQAFV |
| iRef90-J74482 | NTAPVDITALVSGVSLSFDSARQS |
| UniRef90_16CKZ7 | N |
| UniRef90-Q88LP0 | PEDQAS ACLDLLTVVPGAQ\VFTPTELHLALS |
| UniRe90-D4C4 |  |
| UniRee90-X7GGl | LSIGVDKGP ${ }^{\text {SPVQTLVQGGRADFDVGTLSLKLTVPQS }}$ |
| UniRet90--22C0X4 |  |
|  |  |
| UniRef90_H4U UniRef90-L3IS |  |
| UniRef90-16F |  |
| UniRef90-X2KY65 |  |
| $\begin{aligned} & \text { UniR } \\ & \text { UniR } \end{aligned}$ | $\mathrm{Q}$ |
| UniRef90-V2J9W |  |
|  | $\square \mathrm{NGNCLFSDETEDN} \mathrm{\square NYKFDFQQ} \mathrm{\square R} \mathrm{\square N}$ |
| UniRef90-LOM8B6 | D N |
| Ref90-D1N276 | D |
| V6 |  |
| UniRef90 ${ }^{\text {M }}$ - ${ }^{\text {a }}$ LUN5 | QDTFDSTRGCYQPGKKDSTKVSYDAGSQTLDFG |
| UniRef90-UOBL70 | QDVFDEGKGCYVLAKKPHTLIDFDYGAQALNFNUPQAYLL |


SSAFNSTLQCYNFEQWQGGKANFDYSQQSLKLSRPQTVLL LDKLDPKKPCLT TKE LNPDAYYDLDMSALSLDISLP LAII N RQGYDASRQCYVLSKAAAVKVDFDUATQSLSLAUPQ LVWI

PGFNDQSPCFD【KTAWPQT\IHपDPGEERVDLVVPQA ENEFDAERNCYNLGHYPGVKI DFDNAKQVLTFNIPQVALD DDVYNREKNCYELAKKNHTQVVFDYSAQKLLLD:PQAYLL DGVFDKEKQCYVLTRNPHTKVDFDYGAQTLKFKIPRAYLL
 PEALVNDRKYALEAVLPEVKTSPDLSSQRVNITVPQ
ANK【NGQ $\square \mathrm{D} \square \mathrm{STLLHGGKST} \square \mathrm{RPGE} \mathrm{\square R} \mathrm{\square D} \mathrm{\square EVPQAF}$ LS
KAF पNPARNCYFTDKDKNSQVKFDSS पQELS DDMPQA ENYFDTTRECYKISQYSGAEVNFDNYKQDLSFNMPQAAL


RDGYDTTRQCYVLTKAPSVNVDFDVSTQTLA $\square A \square P Q$ LQw
QNAFDTARGCYPLARNTHTRTEFDYNAQSLDFVIPQAYL VNTGKNEPCHDLRTNYPSAVVNPMPNSESLELFVPAQALD QLSAKEGYCGRLQKWRENVSDNLIQSSGRLDVGVPQUY PGYTEETACFDLRSAWPQTNVQPDPGEGKVSGVLPPEALS KNKCNEYTHHRW RKSDDGRHCAFLGARDPGSRFSLDVARLRLDLSVPQALL NAEFDAARQCYITENDANSQIKFDPSLQELSSIMPQA PPNSCRPLREWVSRGEWQFDSATLQLWLTLPMSELM
VPTSANETCHDTRSDYPHSATNALPNQETVELYLPQAALN DDDKDNTACADLKKTWPQFTVVAHPADGVLELVVPQEAL

 ETHAPTNQCLPLSTRVKGASFRFDQAKLRLELSIPQALLQ MAFDKNDNLASLSTMIEGYFHHFDFNHLTLDINTPHHYLN
 KDVFDQERQCYSLTKKPHTLVNFDYGVQSLVFNIPQAYML
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UniRef90-LOM8B6
UniRef90-D1NZ76 S
UniRef90_V6MFP7
UniRef90_A0A038CTI3 N

UniRef90-M4LUN5
UniRef90-U0BL70 S

UniRef90-E9VUQ3
UniRef90-H3MG07
UniRef90 V3TOP9
UniRef90_UPI00036A8E81 N

UniRef90-D1P1N9
UniRef90-W1CG43
UniRef90_T8RLJ7
UniRef90-N8TGU0
UniRef90-A0A010Q1N4 S

UniRef90- X8LPN7
UniRef90 UPI000462BAB6
UniRef90-D0Z5B4
UniRef90-N9RBP2
UniRef90_V5Z3L9 UniRef90 G9W960 UniRef90_V6MT15
UniRef90-I6DXC9
UniRef90 W0LC08
UniRef90-X8LTL1

UniRef90-D2TV39
UniRef90 A0A026UQ48 S

UniRef90_U4VXF7
UniRef90-X3ENY8
UniRef90-U4VYX7
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UniRef90 A0A028AXW8
UniRef90-K8WRQ8
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UniRef90-W1A420 H

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UniRef90 G8WGI7
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UniRef90-V3PVH5
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UniRef90-S6J759
UniRef90 D2TTU9
UniRef90-UOMWQ
UniRef90-D7RVW9
UniRef90-M9HXY2
UniRef90_A0A023V9X3 H
UniRef90-A1KYN6
UniRef90 V3L992
UniRef90 U2N8E2
UniRef90-L5YB10
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UniRef90_UPI0004741936
UniRef90-D1TZT3
UniRef90-H1C433
UniRef90-IODZW9
UniRef90 K8W9Q7
UniRef90-V1YVK9
UniRef90 H3RAA4

UniRef90 L3FXB0 UniRef90-N4HN32 UniRef90-G8LL744 UniRef90 ${ }^{-}$P12050 UniRef90-C4U489 Uninefoto-V5F633 UniRef90 A0K7M9 UniRef90-A0A0131FY8 UniRef90-G2J820 UniRef90 V9QR22 UniRef90_U5MM45 UniRef90-G2GZ58 UniRef90_J2PXG9 UniRef90 UniRef90_UPlooo29AF05A UniRef90-W8U589
UniRef90 A8ALX5 UniRef90-V5Z7V1 UniRef90-D41390 UniRef90 UPIO0047D2B50 UniRef90 UPI0003C7AB50 UniRef90-। 2 RK68
UniRef90-U3C977
UniRef90- 13 CQV8 UniRef90-UPIOOO470B609 UniRef90-UPI00037074F9 UniRef90-P45420
$\|$ QFDPRFILELKKGDKIIDLGKFSKKGYVDAGKYNLLRIVIFIN ${ }^{40}$
EFDTELINSVIKDSTDVLNF NPFPAGDYVVDIFING FNTD LATRGWSTNLAHYFSQAQRYGPGPHAVQVKING FNMDLLENDHLPAVDLQRFNQQAGQPPGDYPVSWQVNG LONPVAPGTYDVMVIVNG DMSFlQGGH NVDKAAWDMNGHFIPGRYLVDIIVNG FNNSLMGNS ANMDWNNKAVIMTPGEYVFDVYIND EF D A GA L REHGDDATTSRYFAHAPRFMPGLSAVRLTVNG

 EFDLDVLKARGDSPEVAAYFSEAPRFSPGTDPVSVSSING VQFNPDVLKSRGLDPRLAEYFSQAPRFREGVQAVALSVNG

$\qquad$
$\checkmark$ A
$V T F B K T L G L G Y$


 NPDVSYFSRKTKYLPGSVSVALKVNG


VVFD DETLERLGYSAELAKFFSGQDRFLPGQHDVTIIINA VDFDRETLKSLGVDPNISHYFSRSARFLPGEYSLIVSVNG V EFDLSVLSGRGI DPGVADYFRSAPRFREGLQLVNLELNG
 F V NE F D T HFMDGGMRGEKVSEYHLDNKQPDPGNYEDDVYVNH YYPANLLNDEGSTNEDLNVFRENNDAPGHYKVTLFIND VRIQINN
FDETRILKNRGLNEGLSHFFSRAARFTPGIHQVELMVNG $\square T F D T E W L K E R G V D P K V A E D F R H R S R F M P G V S S A D L T V N G$ QFDTSSLSSRGIDPGVSDYFRHAPRFHEGTRVVSLRVNG $\square T F D T E M U Q S R G L N V N L R F A R A P R F L P G P H S V R V K I N G$ FDMGVMQTLGL NADLNYFAEAPRFLPGTHRVNVVMSG HFNPRLLETDSTETPDLSLDFAK DEVPPGDYNVDI YI NG FDTEALKSHGLDPADAEYYSMAARFAPGNHNVTVNING S VLKP GLA DP A GQYYIDVVVNN QFDAKTLHQRGDDPALAKLLLETPRFTAGVHAVSLAVNG FNRAHLHGAAQ VDLQKYQYGNPLHAGQYRSTLSVNG YFDPNMLNGGTNSNEDLTLFNEGDS LPGDYKLDIMINN
 F DATTLHQRGUDPQLASLLLDAPRFTAGARHAVVSVQVNG

QFDTKTLEGLGFSAELADFFKGQDKFLPGQHNVTVIINA F D T QALK ENGLDPADADYYAVAPRFMPGYHNVTVLING F DARLL R S RGIDP HIAEYLSVAPRFRPGKQRVMLIVNG
FEPELFRGGRFSQSALAQLVKKNSDAPGKYRVDVSVNS FDTEMMKSRGDDPR】AEYFMEGARFSPGMSLVTLSVNG $\square A D \square W F R Q S P R F L P G E S T V A L T I N G$ F NADIAAFFNTARFLPGVHRVMLEVNA $F D L D M L R E R G U D P Q U A E Y F K D A A R F R P G D N V V T L F V N G$
FDQGMLKSLGLDPKVAEFFSQAPRFTEGRRRVGLQVNG YDLEILKSRGISPTLASHFQNGPKFLPGLQTVQLSVNG FDLAVLSANGUDPKVAHYFRSAARFREGVHVVGLQVNG FERDFLA DSEKUDAT LLESSAY PSGRYYVSGYGNG FDVKTLENLGYNADIAAFFSTSRFDPGVQRVTLEVNA
 FDLAALTAHGUDPKVADYFRSAARFREGVQVVGGRVNG

 $F D T D A L K S Y G L D A D \square A E Y Y S M T P R F T P G Y H N V T V N G N G$
$\square H F D R N L L E A N G \square T A G Q L N D A D N R N T A P P G F S V V D \square Y V N N$ FDSDALKNNGLDPA DADYYSLTPRFTPGYHNVTVNING
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|  | 60 50 80 |
| :---: | :---: |
| UniRef90_L3FXB0 | Q S LSD E Y DITYV\|S E N D P T K T Y A C L T P E L VAA L G L |
| UniRef90_N4HN32 | NYRLTHSVVFVVNNNHNELSPCLDEKLLLALLGIKKNLIM |
| UniRef90_G8LL74 | $V D K G T L A \\| R V 10 . G E E G Q L C L D D D F T R A A G L$ |
| UniRef90_W1GIU2 | V T LD A RKTVTF R Q N D R G Q LT P CLIK P E D L LQA GVNPA |
| UniRef90_P12050 |  |
| UniRef90_C4U489 | K MVGKHNI R F EVY S GES T A K P CFRLD QL D ALGGL RVE DPEN |
| UniRef90_V5F633 | K THGKQ L L DVTL N D N D G L C LT E EWL S K S |
| UniRef90_H3MB42 | D WK GKY T F I VENDNK GTLKI K T S DVRM |
| UniRef90_A0K7M9 |  |
| UniRef90_A0A013IF | EKVDQRELLRFDKNV K N EVVPCLLDAKFLKDYGVLWNASEQ |
| UniRef90_G2J820 | DERGEVHARF D Q G HLCFDRALLEQAQLVIP PALQ |
| UniRef90_V9QR22 |  |
| UniRef90_U5MM45 | NT LP EQEEIP F Y P D D D P N G S R A C $\square$ N P K LVVE Q L G L K P GVLK D |
| UniRef90_G2GZ58 |  |
| UniRef90_J2PXG9 | V PK GRVQVTFNAEGE L C F T P S LPERGGFRAADHVE |
| UniRef90-X8MND8 |  |
| UniRef90_UPI00029AF05A | R DKGATQARFSQDGS LCFDDALL AFAGIWP T TLDE |
| UniRef90_W8U589 | SKTYRTEATF GNEGQLCADRKLLMTLKLRH |
| UniRef90_A8ALX5 | SEKGSLGAKF DEQGQLCVDDDFLTAlGLRP |
| UniRef90-V5Z7V1 |  |
| UniRef90_D4139 |  |
| UniRef90_UPI00047 | $\square \mathrm{DRGTMDVRF}$ |
| UniRef90_UPI0003C7AB50 | D D K G NVIARRFDNNGD L C F K P FMEQAGL K |
| UniRef90_I2BK68 |  |
| UniRef90_U3C977 | L L I K E EVI E Y K N N Q P C I A D EVLELLFPI NKEAYR |
| UniRef90_I3CQV8 | SFSHRRSLRFDLVEGLGAAAPCFKAEDAVLLDLRQD D I A K |
| UniRef90_UPI000470B609 |  |
| UniRef90_UPI00037074F9 | SKTYRIA A T F D S EGKLCMDKALLMALLKLR |
| UniRef90_P45420 | EKKGNIA T R F DENGD I CLD Q A FL Q Q A G |
| UniRef90_UPI00037 |  |
| UniRef90_B0KS86 | SRSGTVQARFLNDGS L C I D T GLLEAGGGI RLP T A |
| UniRef90_T2KF32 |  |
| UniRef90_G5L490 | NPVVSSLSIIPF |
| UniRef90_I2RP91 |  |
| UniRef90_V6MEI7 | NRVLTTRDFDFILMMEDNQLLAPPRLSAEEWYNAGVDLP Y |
| UniRef90-X5G2S9 | T LP KA Y H LE WVQA D NES GSQLCLTTKERLAEFGFADAF DEP |
| UniRef90_UPI000348 | $E N L G \square M D A R F S P Q \quad S E L C F D A T F L Q M A G L Q P A$ |
| UniRef90_B2VKN3 | $\square T$ Q G RVKVRF $\quad$ V D A G T C A D R LFQQQQA GLVL |
| UniRef90_S6H635 | $N Q L G L T E A R F D R E G E \quad L C C T Q V L L D K A G L R P A A T V D$ |
| UniRef90_H4MWR4 | K K V S QKK LH LP P M Q S N F C |
| UniRef90_H3N3A4 | KDKGTVAARF GEDGTLLVDGDFIEFS G |
| UniRef90_F3VTC0 |  |
| UniRef90-D2ZL31 | QERGVAAVRF NQDGKLCFDNDLL DFA GL M |
| UniRef90_Y1FRN2 | S L V D TK TIIS FRKLLS D K N T T A |
| UniRef90_UPI0004721 |  |
| UniRef90_H5FU95 |  |
| UniRef90_UPI000288 | QRQGR】 1 A Q F DEHGSLCFDRPLLDAANLIIP |
| UniRef90_W1DU10 |  |
| UniRef90_S3NHR5 | NKIE HRNDY LY N A D HE Q K LA PCLLLP S ELE H Y GVK T P S L V S |
| UniRef90_J3H1S1 | QRQGRVDVTFNNEGD LTVDHALLDAANLSEPTAP |
| UniRef90_J2MZK8 |  |
| UniRef90-W2DGL6 | QRRGRLEVGF D D Q Q T L CFDRA LLDA A NL |
| UniRef90-X4VDK7 |  |
| UniRef90_I2YUZ8 | QSIA F TVIE GKKNAQACITQKNLLQFHI S S P D K N S |
| UniRef90_C4UYJ0 | NKTYKVEATF |
| niRef90_K8ANH2 | K E K Q L V P L S F K TYQKL G V D M S KVD S |
| UniRef90_D5CGV7 | $K K R G \square M P V K F C N D E G L P C \\| D G E F L D A A G L Y$ |
| UniRef90_A2WHX3 | R K A GPVDVT \DA NGE L C WTA ALLEHASLIDV R G DVV |
| UniRef90-14T9R5 | HDKKS QLGVCYTANMLMQF Gldavid F N G |
| UniRef90-UPI000 |  |
| UniRef90_UPI00031CA1B5 | QRKGAAMARF D DKGKLCFDARFLRRAGLRMP G D E E |
| UniRef90_S5EP07 |  |
| UniRef90_T6WQZ8 |  |
| UniRef90_U1U3F4 | AQRYQEEVRF DSEGELCLDERL AQ TLRLRRVASPP G |
| UniRef90_J2ZJJ2 | LRHGRVDVT F $\quad$ NGEGDLCFDRALLDAANLSV P |
| UniRef90_J3HVS5 | QL R GRLEARF |
| UniRef90_C0B2J3 |  |
| UniRef90_A0A031GAS6 | SPRGSVDARFDAEGA L C F D R A LMDQANLRVPADS Q |
| UniRef90_D4X7B2 | REAGRAQATEF DARGRLCLTPELLRRLAKLKVPESQA |
| UniRef90_V7E1D8 |  |
| UniRef90-N2NHU8 |  |
| UniRef90_E2XM05 | $H R R G R V D V E F N R Q G G \quad L C F N R A L L D A G N L S V P D N E G$ |
| UniRef90_UPI000464 | A QRYQEEVRF GQEGELCLEARLADTLHLRLTS PLG |
| UniRef90_U2NT52 |  |
| UniRef90-J3IB61 | S PIGQVLATEF D DEGQLCLDANLLDYAGIAAPPPGLP |
| UniRef90_I2BWP |  |
| UniRef90_UPI0003609CCE |  |
| UniRef90-A6D0K1 | R R K F ESIIRFY T NE QGESTPCFSEQQLSVFGIMP DIN |
| UniRef90_U5SRT5 |  |
| UniRef90_C4UM62 |  |
| UniRef90_V1HBP7 | KPRTLMPVRF NENGTPCIDSEFLENAGLIMKTRRG |
| UniRef90_M9ACX1 | M T P Q D S ELCLTT E A WL M K A GI YVS A D Y F |
| UniRef90_UPI00047AF179 | K Y VS T G S IF SENN $\quad \square 1$ Y Y SED I K N N A GI S S E S WT S |
|  |  |

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UniRef90 L3FXB0 UniRef90_N4HN32 UniRef90-G8LL74
UniRef90 W1GIU2 UniRef90 P12050 UniRef90-C4U489 Uninefoto-V5F633 UniRef90- A0K7M9 UniRef90-A0A0131FY8 UniRef90-G2J820 UniRef90 V9QR22 UniRef90_U5MM45 UniRef90-G2GZ58 UniRef90- X8MND8 UniRef90_UPlooo29AF05A UniRef90-W8U589
UniRet90_A8ALX5 UniRef90-V5Z7V1 UniRef90-D41390 UniRee90-UPI00047D2B50 UniRef90 UPI0003C7AB50 UniRef90-। 2 RK68
UniRef90-U3C977
UniRef90-13CQV8 UniRef90-UPIOOO470B609 UniRef90_UPIO0037074F9 UniRef90-P45420

VDTCSNQNNENWL LNDNAKEPCHNLLQDYPTATVTLLPNAESLELYVPAEAMD

 EKDETLGNCLNLTEDIPQASVRYDVNEQRLDGDVPQAWMK

STDQSSPEDEE TVVVPPEADDPDFGRQRVEVQGGRAAML VGEYNEKAGCYQLARSPYTRVDFNYGNQALIFSVPQ DDNPRCHDFIKAYPQTVVEQDPATLSVALVVPTDADR | AATC |
| :--- |
| VIE | LENGKQCDDWSGDDYAKSDDDLNRNRLLLQLPQAYV TNDPRCFDVLGTWPQTLIEQDPANLGLSLTVPTDAMR SSKNATEKRYDFVAAYPQTEVSLHPNKDEIFLVVPQHALQ LAPSDDGPCHAFLAQYPQSVVEPDPASLTVSLVVPTEALR LQ KRDDDLGDCLNLAEMISQSSTRYDVNDQRLDIDVPQAWMK SGDHCENIIETLWPGGVVTLFPGKFLVEMKLPQEA KAQDNENTCEPMEEQLPGTKTSFDFSKMALEVADPQTVLR LASADGPECVPFVKEWPQTRVVLAPNRNEVACVVPTAALR PGAPDAKTCLDFRGAWPETVVTLRPNATAVDLLVPTALR PGYSKKDACFDGKTAWPQTEVNLEPGEARVDVVLPPEAV SESSTCNAYSQDLGGTTNFNFYKKKLDVGVKKFVK

 AAVDGAGQCHGFLEAYPQTVVELRPGKEEVALVVPTESLR SKKDNSKECDDVLDEDEKSNIGFDFESQKLFLSIPQVMFK GQPPADSDCYDFARAYPQTEVELRPNREEVALVVS PG TAPDQACHDFLGAYPATIVKLRPGGDEVSLVVPTQSMR DPGCANLDDELDNLRTRFDFYSKRMDIFV D DPLCERTESRWPQAQVRVDPGGTGRVELTVPTDADR VIFWHQKECADFSALQQGLTLKGDDASGTLYVSAPQAFL DS ADDKACLRATEGDAAAQVRLSPGQQQVALLVP PGARPDQACHDFLGAFPATMVRLRPGNDEVVLVVPTQALR $P V D L N S$ S

 REGYDATRQRYVLTKAPSVKVDFDVSTQSLALSIPQ TKVVNNAKFHRLNHS
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UniRef90 UPI0003730DC
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UniRef90 X5G2S9
UniRef90 UPI0003486CDO
UniRef90_B2VKN3
UniRef90-S6H635
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UniRef90-H3N3A4
UniRef90-F3VTCO
UniRef90_D2ZL31
UniRef90 Y1FRN2
UniRef90-UPI0004721FE1 N
UniRef90-H5FU95
UniRef90 UPI000288FEB9
UniRef90 ${ }^{-}$W1DU10
UniRef90-S3NHR5
UniRef90-J3H1S1
UniRef90 J2MZK8
UniRef90-W2DGL6
UniRef90-X4VDK7
UniRef90 I2YUZ8
UniRef90 C4UYJO
UniRef90-K8ANH2
UniRef90-D5CGV7
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UniRef90-UPI0002D307E8
UniRef90-UPI00031CA1B5
UniRef90 S5EP07
UniRef90-T6WQZ8
UniRef90-U1U3F4
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UniRef90-J3HVS5
UniRef90_C0B2J3
UniRef90 D4X7B2
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UniRef90_U2NT52
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UniRef90 I2BWP1
$\begin{array}{ll}\text { UniRef90-UPIO003609CCE } & \mathrm{N} \\ \text { UniRef90-A6DOK1 } & \mathrm{S}\end{array}$
UniRef90_A6D0K
UniRef90 C4UM62
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UniRef90-V1HBP7
UniRef90 ${ }^{-}$M9ACX1
UniRef90 UPI00047AF179 N
UniRef90_D6DNS8
lupas_21
lupas_14
lupas_28
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solo

$$
\begin{aligned}
& \text { jhmm } \\
& \text { insssm }
\end{aligned}
$$

pssm

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\(\begin{array}{llllll}B & \\ B & B & \text { B B } & B_{B}^{100} & B & B\end{array}\)
sol0
\[
\begin{aligned}
& \text { solv } \\
& \text { jhmm } \\
& \text { insssm }
\end{aligned}
\]
jpssm
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solo
jhmm
jpssm

