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$T$ GKGH GT GPAVVLGLE GHVPEQI DPRMDEIVVSGRLLNLLG
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T GKGHATDSAVI LGLAAGEDPDSMAGDVARVHETGRIALLG
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T GK G H H T D T A I I M G L A G N LP E N V D I D I S R V E Q T E R L P I G L
$T G I G H A T D R A V I L G L L G E K A S T V D P N L E K V K H E K K V V P D I G$


T GKGHGTPPALLLGLEGAL
T GK GHGTDKAVVIGLMGESP
T G V G H A T D L A V V ML
T G L G H G T D R A V V M A G L E G N VP A T V D T D R E T C A L D N T



TGVGHATDRATILGLAGFTPEDYDQDMAEIAETRRVRPEG
T GRGHAT D T A V I L G L A GWQP E R L D P D L A D I E T R R R L P L A G

T GRGH GT DVA L C L G F L G H E P A T V D P D M A A L R R A N S V Q
$T G H G H G T D T A V L L G L E G F D P E T V L P E D A R I A A D G T V R L G A$
$T G \square G H A T D K A I I M G L A G F E P E T V D D D L E D V A S D Q R L A L A B G$

T GRGHK T DEAVLLGLMGEVPDSVDIVMEAIVNTKTLSIVK
$T G \square G H A S D L A V M L G L S G Q D P E N I D S D I Q K I Q K T N Q L N L G E$
TGKGHATDKALILGLAGFRPDDIDPDLAGAAMAGDLALPD
T GKGHASDRAVMLGLLGFDPDAVDSDLARLHDTKTLDILG

T GRGHAT DRAVVLGLVMYRPATLDPDTRSARDPNWRLGGD
T GKGHATDVA I I M GLA GNSPQDVDDDIQRVTESGRIPVAK
$T G V G H A T D R A T I L G L A G F V P D T Y D A D L A K I K E T K T L N V D G$
T G K GH Q T D DA I I M GLAA GEKP D MVNDDD E K I S Q T H R L P I Y D
T GKGHHTDRAVLLGLMGNRPDTLKVTSAKRALKQCLPLAN
TGKGHATDRAVILGFAGFEPATLDPDQAEDRASGIVTPPG

T G T G H A T D L A V V ML G L
T GI GHGSDRASJV GLMGYWPDQVDPQVDEVIDREKILLAG
$T G K G H H$ T D R A V L L G L L G N Q P D T I N D D L H T I Q Q T A T


TGLGHGTDRAVLAGMEGNVPKTVDTERDECEKNGELMLAG

T GRGHAT DTA T I L G L A GWEPERLLDPDAAP I R TS G Y L M M G G

T GRGHATVRAAVVMGLA GYEPETCES LMEEVAAAAGELVVVG

$T G V G H G T D R A V I I G L T G E M P D R V D P D V A E V Q R S G K V C P A G$
T GAGHGTFTAVLLGLEGYQPDEILDRLVAI GESGAVDLAG

T GMGHGTLDAVVLGLEGNDPATIDPRAKDIDANGGLMLGG
T GKGHLS DEAVLI GLHGDYANELDDTLHEAFENKVLKLAN
T GRGHGTDRAVQVGLAGFDPATVEPDLSA DATDRSLLFLGG
T GKGHAT DRAVQLGLLGYAPADLEVDVAEQRRTKTMEQSDG

$T G F G H G T F T A I Q L G L E G S D P D T M P A R L E A I R S E R T L L L N G$

T GRGHNTDRAVLLGLSGYSPENVS $\quad$ RAVAADDSSGTLTVPG
T GKGHATDRAVILGLCGLKPDTLDPDRAQVRRTGLVEPE G
UniRef90_W1KSF5
UniRef90_R9GW08
UniRef90_B8CU58



UniRef90_B5JCU6 UniRef90-M9W1X6 UniRef90_C8WCY1 UniRef90-N1V8Z
UniRef90- J6I292 UniRef90_U1QYV9 UniRef90_F4AZR7 UniRef90_A0A024M1E9 UniRef90-A0A011R469 UniRef90-H0QVX1 UniRef90-D5SN42 UniRef90-UPI000472FD61 UniRef90-U1LQ06 UniRef90_UPI0003B516CE UniRef90_UPIO00408070B UniRef90-UPI000478C37D UniRef90-Q0SFP7 UniRef90_F9FGJ4 UniRef90_B7VR29 UniRef90-B6B2S0
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UniRef90 UPIO0046 UniRef90_UPIO0046F4D99 UniRef90_FOXNB0
UniRef90_A3XM67 UniRef90_A3XM67
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UniRef90_E6KSM3
UniRef90_G0L4Q8
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UniRef90-B2HKH0
UniRef90_G4R948
UniRef90_C7D8V5
UniRef90_UPI00022608D9

S H TMGPWKA A QLLFSDLL DERGLLNS|V|TR|V|R|VEL|F GS|L|A|L
 S S H T L GP WR A A EAF LIK EL R E K QL L E K V Q K V R V D L Y G S L S L S H TVV G P M R A G G L A F T T T E L A A A S H T $V$ V $\operatorname{GP}$ P M R A A G M F A D Q Q L S H T T V G P M M R A A





 SHTMGPMVAAARFLLDRMRAADFACAAGVKGSLHGGSLAF



 S H T L $\operatorname{G} P$ P WL A A A R R W L

 S H T L L G P W R A A E R W W
 SHTVG PMRAA LRRMMEACAE QDA GQPVA H I R V T L Y G S L A W S H TVVGP M R A G NDIF I V D L A E A G L L D R V









 SHTMGPMVAAGRFLDTLRAAPF TAHGLRASLHGSLAF S SHTMGPWNAAESFLNLI EHERSLEEVKEIVVEFYGSLAK
 S




 SSHTVGPMRAAARFVQLVGDR QPAALAVDVFGSLAA SSHTVGPMRAARAFACALADQGLLERTARVSCRLYGSLSA

 SSHTMGPMTAAADFLDLLRRHEARAAAAALRVTLHGSLAF
 S S H T L G P WR A G R R WI A E L

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 SHTVGPMVAARRF FTT LIE C G SL Q
 SHTVGPMRAAFRFSKLLQQKKVLDRVSHVKTELEGSLAQ
 SHTVGPMVAAKRFRDELP S H TVVGPMMKAAAK E F V SHTVVGPMRAAANEF I A A L R S A G QR D A V A A V Q DDD F G S L A A



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| :---: | :---: |
| UniRef90-M9W1X6 | GQESVDQMADDV |
| UniRef90-C8WCY1 | GDIIPFDPDKDILWEK |
| UniRef90- ${ }^{\text {N1V }}$ | QVEGTEYKVEDMVLHPLTVLPRHTNG |
| UniRef90- J612? |  |
| UniRee90-U1QY | GTAVPLDLAADVRFAPRTVLPYHVNA |
| UniRef90-F4AZ | ELTFDFNPDEDI TF NRKFLPFHPNGIKFTATLANDKKVV |
| UniRef90-A0A024M1E9 | RVLIALTE SDVQLRPSRRLPQHPNAMT |
| UniRef90-A0A011R469 | RVAVPFDWGRDMRLDP VSLPYHPNALRLGAHG |
| UniRef90-HoQv | QLPTVVLAVDDLVMHPATILPFHPNALTIKASDRTGVEL L |
|  | EFLPDRDIFFHYNEVLPQHPNGMKFVALDKNGLPLA |
| UniRef90-UPIC | GHEVDFPREGGMGF RSDNLPGHENGLTLTAW EDDMCLL |
| UniRef90 | RLPVPFDESKVFVFRPLTVRREHPNALRITAYDASDATVA |
| UniRef90-UPIO | AFDPDRDLVFDYGPPLPGHANGLILRAYDERGNPYL |
| UniRef90 UPIO00408870B | THTVPFPREGALLFHRNKSLPQHSNALTFHAQLNS |
| UniRet90-UPIOOO478C37D | GKRIRFVEAQHLI YRDGEFLPAHPNALRITGLAGE |
| UniRef90-Q0SFP7 |  |
| UniRef90-F9FGJ4 |  |
| UniRef90-B7VF | HFDVESDLLFH KTNLPLHENGM |
| UniRef90 B6B2SO | FGALAFDPRNDLKFDFGPNLPGHANGMI |
|  | LTENPETD ITF Y DVKLAGHANGMML |
| UniRet90-C9QGK1 |  |
| UniRet90-UPI00016A6E56 | QQRVAF EMVFHTA NLPLHENGMQI HAFAGDACML |
| UniRet90-14A22 | QKTIYFDFEQ KFNKEFLPYHANGMKITAFDENGESYD |
| UniRefoto-M4U468 | 1 T F D P El Cli |
| UniRef90-K2J692 | AFDPDVDVFDWGPPLEGHNG |
| UniRef90 K7RUQ4 |  |
|  |  |
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| E6ZL | DFDYDADLKWMFGQVLPHHSNGI |
| UniRef90_K9D5C3 | AKPVPFSARTNLVWHKASTLPEHPNGMRFVLHLQD |
| UniRef90_UPIO0047061FE | YKCLTFNPSEDVQFLITETLPFHPNGLTFLCASFENGENIM |
| UniRef90-W2UPU4 | EFDPKNQIIFHREFLPFHANGLTFEA |
| UniRef90 K125P6 | KKIITFDNASDLVFDYE |
| UniRet90-U1M6M4 | N |
| в3V | LGTLHLDPASDI VFDFGPSLPGHTNGMILMATDAQGDVIL |
| UniRef90_UPIO00 |  |
| UniRef90_FoXn | GRTI DFDYSRDFVWEWGRKLPMHSNGMRFTVFDADG |
| UniRef90-A3XM67 | ERPIEFDAETQIF NKKFKPFHPNGM |
| UniRef90_UP10004746 | PKTD F NKKFLPFHANALKFSAICNG |
| UniRef90 K7SFS7 | GQTIGFDPASDVVFDYETVPPVHPNTLQFEAFSGDGNS |
| UniRef90-A5VEI1 | GAAIPFDEATDLLFDRGKFLAGHANAMRFTAFRADGGE-E |
|  | D R |
| UniRef90-W9B1F7 | ALAESDFHLHPETVLPRHPNA |
|  |  |
| A0AO22L |  |
|  |  |
| 9K7 |  |
| P10003B65 |  |
| 00 | A Drand |
|  | VGEVRFDPGRDIRFLPGRVLPFHVNA |
| UniRet90-U1PDZ4 | LGQVPFSTSKDIMFLPGRVLSYHVNGMTLTAYDAAGAEIL |
| UniRef90 UPIO0047E61EE | GHRVAMTPAS |
| UniRef90 UP1000464A | LPP |
| UniRef90 K1LZ21 | KHGIPFDYGHHLLLHMNASLDFPNGMVFKALFRDG |
|  | ( |
| 0372746D | DKVVNFDSAKHIEFHSDNLPLHEN |
| UniRef90 S3DKG0 | NRVIDFKYKSDIDFHSGNLPLHENGMTDTAYDLFGSLIL |
| 10037740C0 | GFRF |
| UniRe990-UP1000470382F |  |
|  | V NFSYDSDLLFH KDNLPL |
| 000 | RVTMSRA DV |
| UniRef90 UPIO004792899 | KHRIRMNPA DLELLPHRLLIRHTNAVVFNAFSAAGELLL |
| UniRet90-UP100031DD20C | KWAVEFSEKRDVKRERGRGLSHLPNGMRFEAKDAAGALLA |
|  |  |
| UniRef90-UPIO00425EB06 | GKPIKYGVD DIVMRPLTILPRHTNAVSFEVTDDGGNSLH |
| UniRef90-19WVU1 |  |
| UniRee90 ${ }^{\text {O }}$ UPI00036B6974 | SRFIPFDFDKDVVFKKDFKEFHPNGI |
|  |  |
|  | TRTIVFNP\TDLVMEGRRRLRFHPNALSLTAYRDDDQELH |
| UniRef90-A0A023BP97 | QUIFNREFKEFHPNGM |
| UniRef90_Q113H2 | RLLPIEFVWARDMLLL DENLPYHPNAMTLIA EGEGGELH |
| UniRef90_D3 | EEERDILFH KEFLKLHENGLRLSAFAGE RELL |
| UniRef90_UPIOOO36 | EHEDISSMODNI F LMMESLN |
| UniRef90 W0V5z9 | THAVPFSAATGLVWHKSASLPEHPNGMRFTLKLADGSRML |
|  | SKTLPLHENGMEVQAFNAHQKLLV |
| co |  |
| UniRef90-E6KSM3 |  |
| ef90 G0L4Q8 |  |
| niRef90 ${ }^{-}$A8IE85 |  |
|  |  |
|  |  |
| UniReef90- ${ }^{\text {U2 }}$ | LVAVPGD |
| UniRee90 G4R948 | ETDLIIDRKTRLDTHPNGMRFALLDADETATA |
| UiRef90-C7D8V5 |  |
| UniRef90 UPI00022608D9 |  |


| UniRef90_B5 |  | G G G F\|VLV |
| :---: | :---: | :---: |
| UniRef90-M9W1X6 | S QTYYSVG | GGGFIVEEG |
| UniRef90-C8WCY1 | ENTAYSIG | G G G T |
| UniRef90-N1V8Z5 | EATFFSVG | G G G F |
| UniRef90-J61292 | A STFYSIG | GGGFIVKEKEEDK |
| UniRef90-U1QYV9 | QRTYYSVG | G G GFVMVQTNDD |
| UniRef90-F4AZR7 | E T F Y Si G | G G GFV |
| UniRef90-A0A024M1E9 | R D T Y F SVG | G G GFVVA |
| UniRef90-A0A011R469 | ENTFYSVG | GGGFVIDEAQ |
| UniRef90-H0QVX1 | T R T Y Y SVGG | G G G F V V |
| UniRef90-D5SN42 | MESAFSVG | G G GFVI |
| UniRef90-UPI000472FD61 | KKTYYSVG | GGGFI I E E A Q G Q |
| UniRef90_U1LQ06 | T A GYY SI G | G G GFVMRHDEGD |
| UniRef90-UPI0003B516CE | TQTYYSVG | G G GFVVT A DELE |
| UniRef90-UPI000408070B | SASYYSI G | G G G Y 1 L |
| UniRef90_UPI000478C37D | SQQYY SVG | G G G A |
| UniRef90_Q0SFP7 | SETYFSVG | GGGFVVTEAESAQ |
| UniRef90-F9FGJ4 | T NDMFSVG | G G G F |
| UniRef90-B7VR29 | METYYSI G | G G GFi ATADEL |
| UniRef90-B6B2S0 | QQT Y Y Si G | GGGFVMTEAEL |
| UniRef90-B7RHR2 | RETYYSI G | G G G F V M |
| UniRef90-X7F680 | QETYYSVG | GGGFVLT E E ELAR |
| UniRef90_C9QGK1 | FETYYSI G | G G G F |
| UniRef90-UPI00016A6E56 | TKTYYSI G | G G GFiVDEEHFN |
| UniRef90-14A2Z1 | S TFYSI G | GGGFITTKEETEE |
| UniRef90-M4U468 | K EVYYSI G | G G G F |
| UniRef90-K2J692 | TRTFYSI G | G G G F V |
| UniRef90-K7RUQ4 | ERTFYSI G | GGGFVVEHGDDG |
| UniRef90-S5XRH7 | QEVYYSI G | G G GFVV |
| UniRef90-UPI0003A96A85 | S QIY Y Si G | G G G F |
| UniRef90-E6ZLV5 | T NDYYSVG | G G G F V |
| UniRef90-K9D5C3 | ERDYY SVG | G G G F |
| UniRef90-UPI00047061FE | SETYYSI G | G G G F V |
| UniRef90-A3JQ76 | QETYYSI G | G G GFVLTEDELA Q |
| UniRef90-W2UPU4 | SETYYSI G | G G G F V V |
| UniRef90-K1Z5P6 | DEKYYSVG | G G F 1 V S |
| UniRef90-U1M6M4 | TR\YYSI G | GGGFVVCENEIN |
| UniRef90 B3VUN0 | QQTYYSI G | G G G FV |
| UniRef90-UPI00046F4D99 | TARFCSVG | GGGFIVSEEAAD |
| UniRef90-FOXNB0 | RNDMFSVG | G G G F V V |
| UniRef90-A3XM67 | T D T F Y SI G | G G G F V V Q |
| UniRef90_UPI0004746937 | S T F Y Sil | G G G F V |
| UniRef90-B8ELW7 | DERWCSI G | GGGFI TREDDLDR |
| UniRef90-K7SFS7 | CERYCSI G | G G |
| UniRef90-A5VEl1 | Q A Y F Si G | G G G A |
| UniRef90-M4S210 | ERRFLSVG | G G G A |
| UniRef90-W9BIF7 | TETYFSVG | GGGFIVTGDQ |
| UniRef90_N4VN71 | T NDMFSVG | G G G F V V |
| UniRef90-A0A022LRC4 | DETYYSI G | GGGFI ARDDEAE |
| UniRef90-W2BS60 | RKNFYSI G | GGGFIATDETVDK |
| UniRef90-A3U9K7 | S T F Y Sil G | G G GFV |
| UniRef90-UPI0003B65D34 | SETYYSI G | GGGFVLTAAE |
| UniRef90-UPI00045601A9 | T NDYYSVG | G G G F |
| UniRef90-U1PW89 | EKTYYSVG | G G GFVMVE |
| UniRef90-U1PDZ4 | R R T Y F SVG | G G G V M E D |
| UniRef90-UPI00047E61EE | RETYYSI G | G G G F V |
| UniRef90-UPI000464A534 | RETYYSVG | G G G F V LT A D |
| UniRef90-K1LZ21 | EQDYYSLG | G G G F |
| UniRef90-W1FAF2 | SKTYYSIG | GGGFIVDEEHFGK |
| UniRef90-F6IHF8 | EADFYSTG | GGGFFSSRAQLEQ |
| UniRef90-UPI000372746D | SETYYS ${ }^{\text {E }}$ G | GGGFlK ${ }^{\text {a A A ELE }}$ |
| UniRef90-S3DKG0 | FETYYSNG | G G G F |
| UniRef90-UPI00037740C0 | ERTYYSVG | G G GFVVDD |
| UniRef90_UPI000470382F | RARFCSVG | G G G F |
| UniRef90-E3BMK4 | KEVYYSI G | G G GFi A T A K E Le E |
| UniRef90-UPI000467A4FD | EEAYYSVG | G G G F |
| UniRef90-UPI0004792899 | SRTYYSTG | G G GFVE |
| UniRef90-UPI00031DD20C | EETYYSVG | G G GFVVSQSELD |
| UniRef90-UPI000367E89E | QQDMYSI G | G G GFVVDA |
| UniRef90-U2LZ22 | EKTYFSIG | G G GFVLEESEMRQ |
| UniRef90-UPI000425EB06 | S A T F Y SVG | G G GFVVRDGEED |
| UniRef90-19WVU1 | SETFYSIG | GGGFVVTAAE |
| UniRef90_UPI00036B6974 | ESTFYSIG | G G GFVVK E EREN |
| UniRef90-F8KU25 | QEVYYSTG | G G G F |
| UniRef90-D7GFN8 | NEVWYSIG | G G GFVVRDD |
| UniRef90-A0A023BP97 | S S FYSIG | G G GFVV |
| UniRef90-Q1I3H2 | R D T Y S V G | G G G F V V D |
| UniRef90-D3UGA9 | SKTYYSVG | GGGRIVEERDFGQ |
| UniRef90-UPI0003660D86 | KETFFSVG | GGGMIQKQDEKE |
| UniRef90-W0V5Z9 | E QVF Y S V G | GGGFI HA |
| UniRef90-UPI0003B5A8E5 | QHTYYSVG | G G GFVM\QT NAD |
| UniRef90-E7FYF8 | QETYY STG | GGGFI Y TQEEL |
| UniRef90-UPI000056DCC0 | S Qily Y S VG | G G F 1 V |
| UniRef90-E6KSM3 | R R TYYSVG | G G GFVMSQTNDD |
| UniRef90-G0L4Q8 | KNTYYSIG | GGGFVVVKE |
| UniRef90-A8IE85 | ER $\square$ F Y S VG | G G F VVVED |
| UniRef90-A8FRJ7 | SKTYYSTG | GGGFIVDEEHFG |
| UniRef90-Q2CH38 | T QTYYSVG | GGGFVVTAAEL |
| UniRef90-B2HKH0 | TETYFSVG | G G GFiv |
| UniRef90_G4R948 | EETYFSI G | G G GFVKTLAEME |
| UniRef90-C7D8V5 | SQTYYSI G | G G GFVL |
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UniRef90-D2QIH1
UniRef90-U0EJK7 UniRef90_UPI00037638FC UniRef90_D6ZHG0 UniRef90_UPI00047863C3 UniRef90_UPI00036B8DBA UniRef90-A0A009F3B9 UniRef90_UPI0003941C3C UniRef90_Q0S5R9 UniRef90_D5NUQ9
UniRef90_K8WCP0 UniRef90-DOYSR5 UniRef90-N6W7B5 UniRef90_S4XFD0 UniRef90_UPI0003618B8E UniRef90_B0S312 UniRef90_E2PIZ1 UniRef90-U5QMN3 UniRef90-S2WULO UniRef90-H2HTL2
UniRef90- 1 1B2H0 UniRef90-Q892V5 UniRef90_V6UN20 E

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 SSHTVGPMRAAMAFIAEL GY円PARVKVELRGSLAA SSHTVGPMRAGLAFTGELASLLARDKPRITLDLFGSLGA SSHTVGPMKAAFDFRQRLAQSETQKRADAVHVYLYGSLSA SSHTVGPMRAARTFGGELSAAGLTASVDRI RCNLHGSLAA SSHTIGPMKASFDFRQRMTQAETLDRASEI HIHLYGSLSA SHTVGPMRAGADFVALLLDS GQPFRRLEVELQGSLGA SSHTIGPMRAGGHFRRALAAAEELLRGERIEVRLYGSLSA SSHTIGPMKAAYDFWQRLTQLPVLTRADGIHMYLYGSLSA

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 S S HTVG G M R A AK TFVVESLPH
 S SHTVGPMRAGRAFAVELADLDTAADPARIAIDLFGSLGA
 SSHTAGACR $\square$ AK TAL
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UniRef90_E6TTM9











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 S S H T A GAARI GK



#### Abstract

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 S S







#### Abstract

           

SSHTVGPMTATQRFAKQ SSHTAGAARLGK VARTDADGKISAVEFYLHGSFAK SSHTAGAARIGR SSHTAGAARI GR SSHTAGAARI GK SSHTAGAARIGR SSHTAGAARLAK S SHTMGPMRAAQMF LIERNRGA  VARTLFGKQPEKVIVSLYGSFAQ VCRMIFGERPDSVEFDLYESFAK VARTLFAEKPDRAD YYFYGSFAK LA ELLDCGKH円KKVEFILHGSFAK

S SHTAGAARAGK A FA A M

DAKKTCGKDFTKKVVFHLHGSLGAA VARSLFGREPKWANTSLYGSFAK VARSLFGRQPKQAD HFYGSFAS SSHTVGPMRAGAAFAAML MHARGAVT VARQLFRHEPEKII SLYGSFAK | S HTA GAARLL | G K M |
| :---: | :---: |
| S H T A GAARI | G K |
| S H T A GACRI | G | $\begin{array}{ll}1-K & K \\ V & R\end{array}$ Q          ll ll ll ll ll

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SHTAGAARLGK<br><br><br>R<br>A $\qquad$




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UniRef90＿U5L8F8
UniRef90＿UPI0004208B92
UniRef90－M1E960
UniRef90＿L7EJ71
UniRef90＿H1D4C7
UniRef90＿UPI00262A12E

A RTLFENMPNK 30

SHTAGAAR\｜G $\begin{array}{llllll}S H & A & G A & A & R & G \\ S & H & A & G & A \\ S & L & L & L & A & M\end{array}$ $S M$
$K ~$ $M$
$\square$
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S Y G SFA K

 NPDAAKYRVEL YGSLAA V S S L R V D L Y G S L A A

A




VARDLF | 1 | $R$ | $Q$ | $I$ | $A$ |
| :---: | :---: | :---: | :---: | :---: |
| 1 | $V$ | $S$ | $A$ | $G$ |
| 1 | $F$ | $G$ |  |  |
| 1 | $A$ | $R$ | $T$ | $V$ |
| $A$ | $N$ |  |  |  | A A M L A N E DVK RVVFGL H G S F A K IA R R MV D R N F N E V D F Y L H G G S F A K

 ARNIVGGDFKAIKFYLHGSFAE SHTA GAA ARLGKK $\square A A \square I A A G E N K F$ SHTMGPRFAAEAFLKDH HSAAA HSAAA MA AK LGAK V QARI QL HGSSAA I A R K I A D DE I K E V E F I L Y E S F A R
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 \begin{tabular}{lll}
$A$ \& $R$ \& $D$ <br>
$A$ \& $R$ \& $F$ <br>
$L$ \& $F$ <br>
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 ARELL A S K ARKLL ${ }^{\text {G }}$ 

\& $A$ \& $R$ \& $K$ \& $L$ \& $L$ \& $G$ <br>
$V$ \& $A$ \& $R$ \& $N$ \& $L$ \& $L$ \& $G$ <br>
$V$ \& $A$ \& $R$ \& $K$ \& $L$ \& $L$ \& $G$
\end{tabular} VA RKL L G E PVRKA D I




 SHTAGAARIGYY ARQIFKQKPDEVDI YLYGSFGK
S S H T A GAVRIGGY
S S H TMGPQKAAKLF LDR


$\begin{array}{lllllllll}\text { S H T A G A } & V & R & I & G N & L \\ \text { S H T A G A V } & \text { R } & \text { L } & G & L\end{array}$ LAREIVGEEID

SHTAGAVRIGG LVAHRIARGKINSAEITLYGSSA


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G1WAR7
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UniRef90＿U2MMA2



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 F E TA K E K N L K Y S F K V T D LiG DVVHPN T V

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| :---: | :---: | :---: | :---: |
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| iet90-UP100 | EfTYFS | $V \mathrm{GGGF}$ |  |
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| niRe990 F6BKK8 | EVLGS |  |  |
| UP10003829E7A |  |  |  |
| iRef90_S0FMW5 |  | $\begin{aligned} & G G G \\ & G G G \end{aligned}$ |  |
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| UniRet90 ${ }^{\text {arch }}$ | ETGGS | GGGN | VT |
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| UniRef90_R7EVE0 |  | GGG |  |
| UniRef90_K4KVY8 |  | G |  |
| Ref90_Q8 | NIL | $\checkmark$ |  |
| UniRef90_A9Bl |  | G G G |  |
| UniRe90-A5C4E7 |  |  |  |
| UniRef90-A55150 | $\vdots \mathrm{V} \mathrm{~L}_{\mathrm{G}}^{\mathrm{G}}$ | G | El HE |
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| UniRef90_F9V7 ${ }^{\text {a }}$ | S | G |  |
| UniRef90 G4L1L9 | ELQAA | GGGR |  |
| UniRef90-R6EUG7 | EVQA | G G G |  |
| UniRef90 R9NBD7 | K QAYS |  |  |
|  | E V G | G G | T |
| UniRef90 V8C416 | K WTVY | GGGGK | S EGDV |
| UniRef90-D1AK09 | ETLFYS | GGGK |  |
| UniRef90 J9C |  |  |  |
| UniRef90-V8BMDO |  | GGGR | N |
| UniRef90-R5E6U9 |  |  |  |
| UniRef90-PIOOO36E0 |  |  |  |
| UniRef90- UPIO0035E90D0 | RVRGAS | VGGGN |  |
| UniRef90-FOK7P1 | E1MGSS | GGGN | K1 |
| UniRef90-17L930 | SIK | 1 GGGN |  |
| UniRef90 UPIOOO3FC0221 | lGGS | GGGN | L |
| UniRet90-R2SNR9 | GIS | GGGN | ElEETDN |
| UniRef90-R7HBT1 | GES | GGGR | N $\downarrow$ A Q |
| UniRet90_U2P2H8 | EWTVYS | G |  |
| iRef90_H3NHF9 |  |  |  |
| UniRef90 A A HN35 | El EG | GGGA |  |
| UniRef90-UPI00037490B3 | QVLIAAS | GGGN | 1 Ml E |
| UniRef90-Q5FJA2 | S GC | GGGA |  |
| UniRef90_R6ASI5 | SLVGVS | IGGGN | E |
| Ref90_A0A010PR34 |  | GAGQ |  |
| UniRef90_R5KK61 |  |  |  |
| UniRef90 N2F | SKT | VGGGF | VEEEHFG |
| UniRe90-C6LD05 | VLGGVS | GGGS |  |
| UniRef90-14D9S7 | $Q \vee \vee \mathrm{G}$ | GGGA | R Q |
| UniRef90-LOFAA2 | G | G G GR |  |
| UniRef90-UP10002F6 |  | GGG |  |
| iRee90-G1 |  |  |  |
| UniRef90 W9A9 |  | 1 GGGK | $V E \square T E$ |
| UniRef90-UPIO00469B11D UniRef90- 5 WFL |  | GGG |  |
| UniRet90-Q5WFL8 UniRef90- UP100046F4CB7 |  | l G G |  |
| UniRee90-UP100046F4CB7 | T | GG G |  |
| UniRet90-C7HWK9 | R | GGGN | Q $\square \mathrm{MD}$ |
| UniRef90-R5NVC1 | NWTVFS | GGGA | G |
| UniRef90-E1KUE |  | GGGA |  |
| UniRef90-UPIO00248DOAC | EVLGAS | GGGN |  |
| UniRef90 R9LN48 | SVQGA | VGGGN |  |
| UniRef90 R7BD04 | E V VAA S |  | LCE |
| UniRef90-D7JF61 | SWTVYS | GGGA |  |
| UniRef90-851H91 | NVMG | $\left\lvert\, \begin{aligned} & G \\ & G \end{aligned}\right.$ |  |
| UniRef90-UPIO002FBD382 |  |  |  |
| UniRef90 $\mathrm{R} 6 \mathrm{YCH7}$ | RWMVY | GGGT | E |
| UniRef90-D4K8X6 | S | VGGGR |  |
| UniRee90-UPIOOO255C708 | EVGVS | G G GK |  |
| UniRef90-R5WGQ9 | RQQYFS | GGGE | A |
| UniRef90-R7HRR1 | SWTVF | GGGT | EHFNE |
| UniRef90_D6GU18 | YVIGSS |  |  |
| UniRef90_UP10001E2E708 | E | LGGGT | Q |
| UniRet90-R5C | SVRGCS | G | G |
| UniRee90-RJ2G8 |  |  |  |
| UniRef90- R6PKT3 |  |  |  |
| UniRef90-R6PKT3 |  | VGGGR | SVEK |
| UniRef90-D7CV32 | SVLGS | VGGGL | RV |
| UniRef90-R6HWLO | S | V G G |  |
| UniRef90-A6 |  | GGGN |  |
| UniRef90_U2MMA2 | VEGSSSII | II G G G N\|I |  |

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UniRef90- A8F8L5 UniRef90-B0P6D5 UniRef90-R5RGM5
UniRef90 E1LOJO UniRef90-UPI00028A3ABB UniRef90-R5DM47 UniRef90-Q1WQW2 UniRef90-E4U811 UniRef90_E5V1Y2 UniRef90-D4MY67
UniRef90 UniRef90-R5SNZ1 UniRef90_R5W975 UniRef90-UPIOOO3148CF5 UniRef90-U2FOG99 UniRef90_F3BBB8 UniRef90-R7CS84 Unieapo- upooos UniRet90-G9YMJ8 UniRef90-UPIO003FC08D1 UniRef90-UPIO00468AFED UniRef90-H2J847 UniRef90-F9Z7A1 UniRef90-C7MP58 UniRef90_UPIo0046859E8 UniRef90-H1PXN4 UniRef90-B9EBA5 UniRef90-D7DTH7 UniRef90-K4LGD7 UniRef90-D1XZZ2
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UniRef90 A0AO33V UniRef90-ЈзWм29 UniRef90_F5L7T5 UniRef90-C3X2E1
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UniRef90
R5QKD8 UniRef90-LOHN31 UniRet90_HOUPT2 UniRef90-D4KOT2
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UniRefgo DiMoY7 Unirergo_-D8MOY7
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1
SSHTMGPKTAAEQF
SSHTMGPQKASGMF KKKH
SSHTVGPMRTALEF KH

20
KSKTPNA ${ }^{30}$
 PEAASFDVTLYGSLAA SPSEHVDVVHGSLAA H Larrvwn (L) LLA $D$ S 1 LGAWPVKAQ ALHGSFAQ
SHTMGPRMAAERFDEKHSDAP
SHTAGAVR
$\stackrel{R}{R}{ }^{1}{ }^{2}$
$L S$ L
$R F B E \frac{L}{K}$
$A F$ LTAYSLLGERVVKADVGLHGSFAK KAANPTAARLRVTLYGTLAA
 SHTAGAAR1 GKT
 AGALL AGKLFQKEDQEVVFTLYGSFAK VARQLFGEKPKRVEFVLYNSFAH ARKLMGEEIAEAELLLYGSFLA ANDLFGGIPERVIVHYYGSFAK
SHTAGAAKLGR
F V N R M


RHRDALLGG
VA A
VA A K $\square$ CPNNYE A A GMLCCQHIDR
L A S R I L G E PL K K A H I T L Y G S F A K
ARLVLGE QATHAVI GLHGSFAQ
A HKI FG $A$
$R$
$G M E L$
$M$
$M$F A HK L F G
$\begin{array}{llll}A R R & L & S \\ V & \text { R K } & \text { L }\end{array}$KPDKVI FY
VIIF A E KPGAEKFRVTLHGSFAQ$\begin{array}{lllll}\text { S H T A G A } & V & A & \\ \text { S H T A G A A R } & \text { L } & \text { L } & \text { L } \\ \text { L I }\end{array}$
$\square L$ SHTA GAARIGGF
SHTAGAVAI GQ

$\mathrm{N} N \mathrm{~N}$G E

V A G K L L G E P I K K A E I L L Y G S F L A

F A
GGKLLG
FA
R C ..... RCAAD DID F A Q R


S H T A GAVR\|G


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\begin{aligned}
& A \\
& A \\
& \hline
\end{aligned}
$$

$\qquad$
LG RKLLGRPPVRAELLLHGSLAA ARSGGIPDHVEITLYGSFAE


 L L A N D I C Y K P F F Y K V V T F G L L H G S F A E
 S H TA G T A V I A A Y
S H T M G P E R S A K K F S H T M GPQRAAK QF LEE K TKDLP


## SHTAGACSIA

SHTVVGPMMAGKQFVD D
SHMGPKRAAEWF




$\begin{array}{lll}\text { S H T A G A A R } & \text { G R } \\ \text { S H T A GA C R } & \text { G K } \\ \text { S H T F G P M R A A Q }\end{array}$
D
V A R S L F G R E P K R I V V S F Y G S F K D
L A K K I L
I V S A
 SHTAGACA $\quad$ HA LAQKMKS G I LIK EVTFTLYGSFA K
SHTMGPQKAALRFLER
S SHT A GAVA 1 GQA
S H T A GAL RI A L $A$
$\qquad$
GNKLFG


SHTAGAVRIGY
$S S H T A G A V R D G R$
$S S H T M G P S F A A Q$ $V$ A R S L F E K Q P K K V D I Y L Y G S F A TF


## UniRef90 E4T177 UniRef90_R5BIB4 UniRef90_M1TRX9 UniRef90_14BU76 UniRef90_R61LB4 UniRef90-R71BJ1 UniRef90 C6BWT8 UniRef90_C7RJ27 UniRef90-D41W76 UniRef90-K8EOJ1 UniRef90-B0P6D5 UniRef90-R5RGM5 UniRef90-E1LOJO UniRet90_UPI00028A3ABB UniRef90-R5DM47 UniRef90-Q1WQW2

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UniRef90 E6K430 UniRee90 ${ }^{-}$UPIO003B3AB2F UniRet90-R5YBA1 1 UniRefon -R4RSC1 UniRef90_B2A3H1 UniRef90-F8F68
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FPVTVOFAWFPDTV100 FHTNGMKF 110
KNHLK
 GLEYAFSTTNLGDL THPNTVYFKLTAADGRQC SLETARQQGMDVRFEQVNDRGAHPNTVRLHVTGEHGTAD
 PTVELVWKA T RLMPRHPNGMQFEALDA
RLGDAHNSAKKVMHGA
EESDYHPNTARVRLSDS

GGGVLA VDKVGLSYQFSKANLGDVHPNTVCVKVEAGDYHH SFQI AKQKGLASFFEKNTTEDEHPNTVDIRMTGTDGRCVM | AKE |
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$\qquad$ SDGKEAH VM SLEDAKEAGTDFEFIESEVEHIHPNTAKLEVEEAGRHS SFEDAKD DGLDFSFVPNEIEDVHPNTVDI LMANENGDHIM SFSVAEKNGLSFSFGTATLCEGHPNTAVIDLRAEDGRKL
 HGYVETEWHPEVRLPFHPNGMKFEGFSNDGRLDD S EVQПGLARGEEF

VEVKWDPKTFLPYHPNGLVFRAYNERNKDTD MGS V EQGURDTDTPD OKRGA SLQDAAEANLQYQFDESSEEGGHPNEVKFDLYSKDGHMH AIEDAREQGMDLRFEKSESPINHPNTALLDMYDDHKKD SLEMAKEQGLQVTDQASEEDVDHPNTAKIELSGDQHR

GQHEGDFPAGD
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 GT AFSTQNK ESAAPHPNTVDIDIETATDEVM ■QDAKDRGUDYRFDENDIPGAHPNTARUHYVLRNGQEGG AYDLAGEQNTTWTFTRNEIETEHPNTVDTHMTGVSGKTV
 EKG【KVY WK

G $\square \mathrm{D}$ ПRFVED
EHGLAFD
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| UniRef90_E4T177 | D WLVV S S V \|G G G K|l|A D E 130 |
| :---: | :---: |
| UniRef90-R5BIB4 | E WTVYSIGG G T |
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| UniRef90-14BU76 | $E \vee V G A S L G G G V V E L Q E$ |
| UniRef90-R6ILB4 | E V I G S S I G G G Q V LV T |
| UniRef90-R7IBJ1 | TLEAA SVGGGGNI EI |
| UniRef90_C6BWT8 | T WKVV SVGGG A I R E E G |
| UniRef90_C7RJ27 | $A R V V Y S V G G G A L L D E$ |
| UniRef90-D4IW76 | EVI A A S L G G GRI EVVC |
| UniRef90-K8E0J1 |  |
| UniRef90-A8F8L5 | E I E G C SVGGGGA\\| R I T K |
| UniRef90_B0P6D5 | S V Q G A S I G G G S I LI T K |
| UniRef90_R5RGM5 | TVVR G V S V G G G K I K I |
| UniRef90-E1L0J0 | EV T G E S L G G G R MRI |
| UniRef90_UPI00028A3ABB | SVTGGASIGGGNDEI DD Q F D |
| UniRef90-R5DM47 | E V VGE SI G G S RIN N A K |
| UniRef90-Q1WQW2 | S G C S I G G G T I E I |
| UniRef90-E4U811 | EVLGS S I G G G S V R I |
| UniRef90_E5V1Y2 | D L I G K S I G G G K MVV |
| UniRef90-D4MY67 | I R G E SL G G G K A R |
| UniRef90-H7EHG4 | K I Q A S S I G G G R I C I |
| UniRef90_R5SNZ1 | TVQAASSLGGGGRIMVV |
| UniRef90_R5W975 | A WT $\mathrm{I}^{\text {F S }} \mathrm{V}$ G G G A L A NE |
| UniRef90-UPI0003148CF5 | V I G S S I G G G N M I I V D |
| UniRef90_U2F0G9 | SLTTGCSVGGG EVVRIVD |
| UniRef90-X0PHY5 | S G C S I G G G T I E I R D |
| UniRef90_F3BBB8 | S $\cap$ R G E S I G G G K M K I |
| UniRef90_R7CS84 | S V VGR S L G G G R V M I T E |
| UniRef90_UPI00036CEA94 | $V T \mathrm{GCS}$ I G G G RVVQI T D |
| UniRef90-G9YMJ8 | EVT A S S L G G G RVQV |
| UniRef90-UPI0003FC08D1 | $E \quad G V S I G G G G K \\| ~ E ~$ |
| UniRef90_UPI000468AFED | KVS G C S I G G G T I E |
| UniRef90-H2J847 | EVQGASIGGGGAILIT K |
| UniRef90-F9Z7A1 | S WEVYSVGGGGALLWDE |
| UniRef90_C7MP58 | VR G $\square$ S I G G G A |
| UniRef90_R8VSM5 | $R \mathrm{~V}$ VGAS I G G G N I V T |
| UniRef90_UPI00046859E8 | S WTVY S I G G G AL SE GKEYD |
| UniRef90-H1PXN4 | EWVVFSVGGGTI M E L D Q |
| UniRef90-B9EBA5 | E G $\quad$ S I G G G K I El |
| UniRef90-D7DTH7 | EETYYSIGGGGTIVKDSELGE |
| UniRef90-K4LGD7 | LR GS SVVG G G NILIT |
| UniRef90-D1XZZ2 | E WTVY S V G G G A L |
| UniRef90-A6P172 | EVN A S S L G G G R V R V |
| UniRef90-UPI000289D2A4 | ELVGVS I G G G K I El T E |
| UniRef90-R5BMZ3 | S I V GRS L G G G R I LV T |
| UniRef90_A0A033V5P9 | S V E G $\square$ S I G G G K V E I |
| UniRef90-J3WM29 | $R$ L A G C S I G G G A I E I R Q |
| UniRef90-F5L7T5 | EIV V T S I G G G Sil El |
| UniRef90_C3X2E1 | EI I A S S L G G G R I L V |
| UniRef90_E6K430 | E WTVY S I G G G A L |
| UniRef90-UPI0003B3AB2F | El I A S S I G G G RII QVNE |
| UniRef90-R5YBA1 | EV QVS S I G G S S I N I D K |
| UniRef90-R4RSC1 | S G C SV G G Gli EV R E |
| UniRef90-B2A3H1 | T I V G S S L G G GLI Q I S Q |
| UniRef90-F8F6Q8 | ALTTGASI G G G Ni E I T D |
| UniRef90-R5HBU2 | EVI G A S I G G G R I R I C E |
| UniRef90-UPI00036B34A8 | EV I GA S I G G G T I V I |
| UniRef90-A1VCE0 | S Y TYY SVGGGFi QWE G |
| UniRef90_G5ING7 | SMQASSVGGGNV Q V |
| UniRef90-R5QKD8 | EVQ A S SVVG G G R I M V |
| UniRef90_LOHN31 | E I M G S S I G G G E I R I T |
| UniRef90-H0UPT2 | EVVGA S L G G G AVELQE |
| UniRef90-D4K0T2 |  |
| UniRef90_R7K751 | $E V Q G S S I G G G R 1 I L I J T K$ |
| UniRef90-H0UJG5 | ELIG C SVGG G G M V L |
| UniRef90-R5T5L6 | TVRGESLGGGKVRI |
| UniRef90_E3H645 | EWLVFSVGGGTIMEDGQARQ |
| UniRef90_U2FJH6 | D Y L A S SVGG G EVM T S T D |
| UniRef90_R5VPP4 |  |
| UniRef90_R9JLR7 | SMRGESVGGGGK\\|R\|A |
| UniRef90 F3Q4U2 |  |
| UniRef90-R5PMU1 | Q A RVYSVGGGVIEVEGQ |
| UniRef90_R7LE44 | A WTVFS I G G G ALVEEG |
| UniRef90_D3R144 | TVVQG】S I G G GQAVIIT A |
| UniRef90-N1ZDB9 | KIQA S S L G G G R I MV |
| UniRef90_UPI00047682F9 | TQTVFSI G G G A V |
| UniRef90-C2KZ84 | TVEGASI GGGNI R VD |
| UniRef90-R5Q5C1 | T I T A Y S I G G G TVVEYE G |
| UniRef90-G5HDY1 | SLLRGES $\\|$ G G G K I R $\square$ |
| UniRef90-W8RHL3 |  |
| UniRef90_D8IBD2 | N $\dagger$ LA S S $\quad$ G G G L I V |
| UniRef90_UPI0003708BF0 | TKTYVSIGGGGKLM】DGQPPQ |
| UniRef90-T0V6K0 | P Q VFL SVEE |
| UniRef90-A8B2X2 | $K R V Y Y S V G G G A L Q D G D D L D K$ |
| UniRef90_G6C3A9 | EWVVFSVGGGTI R D Y D EL |
| UniRef90-N2A1L2 | VR GES L G G G K V R 1 |
| UniRef90_UPI0003B5089F | VWEVY SVGGG TIV VEA GE |
| UniRef90_G3YWZ4 | 1 G C S I G G G T I EI R G |
| UniRef90_B9CKT0 | VMGES I G G G R I R I S G |
| UniRef90_D6DEZ5 | K I Q A S S L G G GRIMMID K |
| UniRef90-UPI00037E761D |  |
| UniRef90_D8M0Y7 | Q E T Y Y S VGG G G A I |

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UniRef90＿C1A6L1
UniRef90－UPIO00376A2C6
UniRef90－R3UBE4
UniRef90－H1HSH2
UniRef90＿G4L4H0
UniRef90 E1QVN8 UniRef90－UPI00047986D1 UniRef90＿R6EQT4 UniRef90－W1TRT0 UniRef90－R9IWZ7 UniRef90－UPI0003B5B898 UniRef90＿UPIO0036CA8E5 UniRef90－D4M112
UniRef90－I2F1Y4
UniRef90－U2VPU8
UniRef90＿DODP56
UniRef90－UPI00016C0DDA
UniRef90＿W6T9X8
UniRef90－UPIO0030F4F88
UniRef90－R6Z5S8
UniRef90－C6PXG5 UniRef90－Q30WW8 UniRef90＿UPIO003764754 UniRef90＿G6CFF1 UniRef90＿F7UWF5 UniRef90＿A9KPT5
UniRef90－D3EBK1
UniRef90＿D3EBK1
UniRef90＿Q6AL60
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UniRef90＿K2C851 UniRef90＿UPI00039A9E5C UniRef90＿TOJY40 UniRef90＿UPIO003FC486B UniRef90－G1WG58 UniRef90－G8N8C4 UniRef90－UPIOOO2492490 UniRef90＿UPI00046F829E UniRef90－F3YCV8 UniRef90－F4GJ23 UniRef90－W7CDD5 UniRef90－R5ZCN5 UniRef90＿U2RC21 UniRef90＿DOWEY7
UniRef90＿C8WP35 UniRef90＿B9YCl2 UniRef90－R5UTK8 UniRef90－D3QHA1 UniRef90－C6PZH7 UniRef90－R6J3W3 UniRef90＿UPI00035D94A8 UniRef90－J7IUQ9 UniRef90－UPIO002192CE4 UniRef90－Q1IYQ6
UniRef90－F5SCT3
UniRef90－UPI00046467D9 UniRef90＿D0BLL4 UniRef90－R6YBT4 UniRef90－R7LSH3 UniRef90－13Z618
UniRef90－M7XCV6 UniRef90＿UPI000470BD2F UniRef90－R5R638 UniRef90－R5A306 UniRef90－R6JXM9 UniRef90＿C4F900 UniRef90－R9M226 UniRef90－R7FY39 UniRef90＿K2HB97 UniRef90－H1UUU6 UniRef90＿H0DK73 UniRef90－R7K8T5 UniRef90＿U4KKJ6 UniRef90－R7FBB6 UniRef90－UPIO00299D763 UniRef90－D5YAR2 UniRef90＿A0A023B978 UniRef90＿UPI000471F83C UniRef90－S6EMY6
UniRef90＿E5Z7A9



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| $L$ | $C$ | $L$ |
| A | $R$ | $G G G$ |

## G N M

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K A K E L
A G D K M P K K
$A R \| V$
$G K P K$

SHTA GAARLGR





 HTAGACR
 $\qquad$ GEK

 $\qquad$ NEDA

PQK I R F GLGMGSFAK
 IA RQMCPS EPAPGFKA DLFGSLAA
 SHTMGPEKAAKEFRKLI



## SHTMGPSQAAEFF

SHTAGAVKIGNS
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S H T M G P E KA A V I F



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| UniRet90－EORXM5 | DKALLAGI MGYKSYS |
| UniRef90－UP1000479F73D | YKGHGTDLALVAGLL |
| UniRefofo－R9L4D4 |  |
| UniRef90＿C1AGL1 | TGEGHGTDKA VGGLMGFRPDDERLRTA |
| $\begin{aligned} & \text { UniRef90_UPIOOO376A2C6 } \\ & \text { UniRefon-R3UBE4 } \end{aligned}$ |  |
| UniRef90－H1HSH2 | TYQGHGTDRAILAGILGY YSWSEELRD |
| UniRef90－G4L | THKGHGTDYATMSGILG |
| UniRef90－E1QVN8 |  |
| UniRef90 UPIO0047986D1 | TYKGHGTDKALLGGILGFEADD |
| UniRef90－R6EQT4 |  |
| UniRef90－R91W | TGKGHGTDRALIAGLLGMGTDDE |
| UniRef90－UPIOOO3B5 | TGKGHGTRFAIVAGLLGMKPD |
| UniRef90－UP100036CA8E5 | TGRGHGTDAALVAGLLGWQTDD |
| UniRe90－D4M112 | TFRGHGSDRALVGGM MGFKESDPRTR N |
| UniRef90－D1Y8Q7 | WGHGTDRGLVAGLLRMQPDD |
| UniRet90－U2VPU8 | RGHGSDRALVAG1 GLMPDDT RMRNSFALAEEA |
|  | RGHGTDFAI AGGLLGMAPDD |
| UniRef90－UPIO0016CODDA |  |
| UniRef90－W6T9X8 | THKGHGTDYAIISG\LGFAPDD ARVPYA凹KपAQDA |
| UniRef90－UPIO0030 | TGKGGLGTDAALVAG |
| UniRet90－C6PXG5 | TYKGQRSDKGLAGGLLGWEPED RURDA Vrmvns lineae |
|  |  |
| UniRef90－UP100037647 | A |
| UniRef90－G6CFF UniRef90－F7UW | THQGHGTDYALISGVLGFDPADQ |
| UniRef90－A9KP | TYKGHGTDRALLAGI MGF ETYDLRDKNSF QLA |
| UniRef90－D3EBK1 | TYRGHGTDLAVVGGLLDFATDDMRIR |
| UniRef90－Q6AL60 | T GKGHLIDKA |
| UniRef90－UP1000426 | TYKGHGTDRALVAGILGMEPSD |
| UP | THQGHGTDYAl！SGVLGFDPAD QRVPHAVDLARRQ |
| UniRef90－S9T4D5 | THKGHGTDFAIIAGILGFAADDS RVPG |
| UniRef90 U7UCY8 | （ |
| UniRef90－UPIOOO39A9E5C | TGRGHGTDEAILKMM D |
| UniRef90－ToJY40 | TGQGHGTDLALVAGLMGWPTDD |
| UniF | TYKGHGTDVAIVGGLLDYDTD |
| UniRet90－G1WG |  |
| UniRef90－UPIOOO2492490 | THVGHGTDLAIVGGULGMDADN PADA NSDE！${ }^{\text {a }}$ |
| UniRef90－UPIOOO46F829E | TGKGHMTDKA |
| UniRet90－F3YCV8 | THKGHGTDYALIAGLLGFA TNDSRVPQA】 ELIAESE |
| iRef90－W7CDD5 |  |
| UniRef90 R5ZC | GHGTD |
| UniRef90－U2RC21 | KGHLTDY VRERL |
| UniRef90－DoWEY7 | THTGGHGTDKALVAGMLGMAADDERGURDSFDCAQAAGLAFTG |
| UniRef90－89YCl2 |  |
| UniRef90＿R5UTK8 |  |
| D3OHA | IGGAMGYS TFDSR】KDA |
| UniRef90－R5FFQ0 | － 1 |
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| UniRef90－UPIO0035D9 | TYEGHGSNAILAGLLDFKTDD |
| UniRef90－J7IUQ99 | TGKGHGTDLALLAGLLGMLPDD |
| UniRef90－UPIO002192CE4 | TGAGHGTLGAClLGLDGADPQTVDPRDRE\RSSRELRLAG |
| UniRet90－Q1IYC | RGHGTHLALVAGLLGF |
| UniRef90－F5SC | TYRGHGTDVALVGGLLDFDTDDE |
| UniRef90－DOBLL4 | THKGHGTDFAI ISGVLGFETDDEE GEALSVAQ |
| UniRef90 R6YBT4 |  |
| UniRet90＿R6h | D ${ }^{\text {a }}$ |
| UniRef90 R7LSH | GKGHGTEKGLLAGVLGLSVDD |
| $\begin{aligned} & \text { UniRef90-I3z618 } \\ & \text { UniRef90-M7XCV } \end{aligned}$ | TYEGHGSDRAIIGGLLDFNTDDERIRTAFDFAAANGLQYT |
| UnRer |  |
| UniRef90－UPI000470BD2F | THQGHGTDYAIVGGVLNFSTEDT RVPH |
| UniRef90－R5R638 UniRef90 R5A306 | TGKGHLTDYI |
| UniRef90－R6JXM9 | TRKGHGTDLALLGGTMGFSTD |
| UniRef90－C4F900 | TYKGHGTNRALVAGVLGLDTDDER】RDAF |
| UniRef90－R9M2 | TGKGHLTDMI K |
| UniRei90－K7FY39 | TFKGHGTDVA，VGGV |
| UniRef90－H1UUU6 | GEGHMTPSA |
| UniRef90－HODK73 | QGHGTD\AIVGGALGFT TFDER】PE STK】AEKE |
| UniRef90＿R7K875 | D |
| UniRef90－E8SFI7 | GTDLAI DGGLLGFS |
| UniRef90＿U4K |  |
| UniRef90－UPIOOO299D763 |  |
| UniRet90－D5YAR2 | TGAGHGTMS |
| UniRef90－A0A023B978 | TGLGHGTHTAVIGGLLGWEPMTCDPVALPLLLTERG |
| 1 F | TYQGHGTDRAI AGGLLDFATDDS |
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UniRef90_R7AA13 UniRef90-EORXM5 UniRef90_UPI000479F73D UniRef90_R9L4D4 UniRef90 C1A6L1 UniRef90_UPI000376A2C6 UniRef90-R3UBE4 UniRef90-H1HSH2 UniRef90_G4L4H0
UniRef90 E1QVN8 UniRef90 UPI00047986D1 UniRef90-R6EQT4 UniRef90-W1TRT0 UniRef90-R9IWZ7 UniRef90_UPI0003B5B898 UniRef90_UPI00036CA8E5 UniRef90-D4M112 UniRef90-12F1Y4 UniRef90-U2VPU8 UniRef90-D0DP56 UniRef90_UPIO0016C0DDA UniRef90_W6T9X8 UniRef90_UPI00030F4F88 UniRef90-R6Z5S8 UniRef90_C6PXG5 UniRef90-Q30WW8 UniRef90_UPIO003764754 UniRef90_G6CFF1 UniRef90-F7UWF5 UniRef90-A9KPT5 UniRef90-D3EBK1
UniRef90_Q6AL60 UniRef90-S2XKP5 UniRef90_UPI00042627E8 UniRef90_UPI0004680470 UniRef90_S9T4D5 UniRef90-U7UCY8 UniRef90-K2C851 UniRef90_UPI00039A9E5C UniRef90-TOJY40 UniRef90_UPIO003FC486B UniRef90-G1WG58 UniRef90 G8N8C4 UniRef90_UPIOOO2492490 UniRef90-UPI00046F829E UniRef90_F3YCV8 UniRef90-F4GJ23 UniRef90-W7CDD5 UniRef90-R5ZCN5 UniRef90-U2RC21 UniRef90_DOWEY7 UniRef90-C8WP35 UniRef90_B9YCl2 UniRef90_R5UTK8 UniRef90-D3QHA1
UniRef90 C6PZH7 UniRef90-R5FFQ0 UniRef90-R6J3W3 UniRef90_UPI00035D94A8 UniRef90-J7IUQ9 UniRef90_UPI0002192CE4 UniRef90-Q1IYQ6 UniRef90-F5SCT3 UniRef90_UPI00046467D9 UniRef90_D0BLL4 UniRef90-R6YBT4 UniRef90-R7LSH3 UniRef90-13Z618 UniRef90-M7XCV6 UniRef90_UPI000470BD2F UniRef90_R5R638 UniRef90-R5A306 UniRef90-R6JXM9 UniRef90_C4F900 UniRef90-R9M226 UniRef90-R7FY39 UniRef90_K2HB97 UniRef9O-H1UUU6 UniRef90-HODK73
UniRef90_R7K8T5 UniRef90-E8SFI7 UniRef90_U4KKJ6 UniRef90-R7FBB6 UniRef90_UPIO00299D763 UniRef90-D5YAR2 UniRef90_A0A023B978 UniRef90_UPI000471F83C UniRef90-S6EMY6 UniRef90_E5Z7A9


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 SIELA A EA GMEI SF GQGTGLLFPHPN TVVRLRLVGA Q T GTEL A I D A E A Q G DK V S F E E F D L G D A H P N TVVK LIVTGKT G N

| UniRe990 R7A | TVVGESLLGGS $\mathrm{T}^{130} \mathrm{R} \\| \mathrm{N} T \mathrm{~T} A$ |
| :---: | :---: |
| UniRef90－EOP | TMQGAS ${ }_{\text {GGGNULV }}$ |
| Ref90＿UP10004 |  |
| UniRet90＿R9L4D4 |  |
| UniRef90＿C1A6L1 UniRef90－UPIO00376A2C6 | QMLGGASLLGAGRVLV |
| UniRef90－R3UBE4 | NLTAISIGGGSIQL |
| UniRef90－H1HSH2 | VEGASIGGGNI |
| UniRef90－G4L4HO | VTGDSVGGGT E |
| UniRef90 E1QVN8 | SLVGESVGGGR R |
| UniRef90－UPIO0047986D1 | TVLGAS：GGGNIK |
| UniRef90－W1TRT0 | ELMGVSTGGGRTRM |
| UniRet90－R91WZ | EVVAASLGGGRII KV |
| UniRef90－UP10003B58898 | EVVGESVGGSLIN1 |
| UniRef90－UP100036CA8E5 UniRef90－D4M112 | SLVGTSVGGGNVE |
| UniRef90－D4M12 | TVTGASVGGGSVRITDDFE |
| UniRef90－D1Y8Q7 | EAVGASIGGG |
| UniRet90＿U2VPU8 | EVRGESLGGGR |
| UniRef90－D0DP56 | TVGGCSICGGT |
| UniRef90－UP100016C0DDA | NVMGAS G G GN |
| UniRef90－W6T9X8 | FWAGCSVGGGG |
| UniRet90－R6Z5S8 | SVRGESLGGGRVR |
| UniRef90－C6PXG5 | TG號 |
| UniRef90－C30V | T WEVYSVGGGT |
| UniRef90－UP10003764754 | TMTGCSIGGGAV |
| UniRef90 G6CFF1 | WVGCS GGGT |
| UniRef90－A9KPT5 | SVRGVSLGGGKDK |
| UniRef90－D3EBK1 | A GASi GGGSV |
| UniRef90－Q6AL60 | EWTTFSUGGGE |
| UniRet90－S2X |  |
| UniRef90 UPIO0004680 | TVWGcsTGGGT |
| UniRef90－S9T4D5 | RTMGTSVGGGLI |
| UniRet90－U7UCY8 | VIGSSIGGGA |
| UniRef90＿K2C851 | DWEVYSPGGGVIT |
| UniRet90＿UP100039A9E5C | RWEVYSVGGGA |
| UniRef90－ToJY | QVAGASVGGGRVVI |
| UniRef90－UP10003FC486B UniRef90－G1WG58 | EVVGGIS ${ }_{\text {EGGGKA }}$ |
| UniRef90－G8N8C | VTGSSLGGGLVRV |
| UniRef90－UPIO002492490 | CGCSI GGGKI EVKQEDD |
| UniRef90－UP100046F829E | SMRVLS GGGDIVI EGREE |
|  | VTGLSLGGGT |
| UniRef90－F4GJ | EETYYSVGGGKIL |
| UniRet90－R5ZCN5 | WNSYESTGGGA |
| UniRef90－U2RC21 | EKLYFSVGGGSI |
| UniRet90－Dowe |  |
| UniRef90＿C8WP35 | S |
| UniRet90＿B9YCl2 | K WTVF |
| UniRet90 R5UTK8 | KWEVYSVGGGAL |
| UniRef90－D3QHA1 | EVIGNSUGGGTI |
|  | sarv |
| UniRef90－R6J3W3 | SARGMSLGGSII ${ }_{\text {LI }}$ |
| UniRef90－UPIooo35D94A8 | EVIGESLGGGVI |
| UniRef90－J7IUQ9 | QVIGSSIGG |
| UniRet90＿UPIO002192CE4 | RTY Y Sl Gagal |
| UniRef90＿Q11YQ6 | TVQGSSTG |
| UniRet90－5SSCT3 | EVGISGGG |
| UniRef90－UPIOOO4646 | RVVGIS GGGE |
| UniRet90－R6YBT4 | RWRVFSVGGGKLELEGQ |
| iRef90＿R6K |  |
| UniRef90－R7LSH | S GESVGAGE\ET |
| UniRef90－133618 | EVIGESLGGGLIN |
| UniRef90－M UniRef $^{\text {a }}$ | SlEAYSIGGGE |
| UniRef90－UPIO00470BD2F | RLTGASVGGGT |
| UniRef90－R5R638 | KITVYSVGGGALM |
| UniRef90－R5A306 | FWRVFSVGGGK |
| UniRef90＿R6JX | SVRGESLG |
| UniRef90＿C4F900 | DVRGESLGGGKMRI |
| UniRef90－R9M226 UniRef90 R7FY39 | KHAS |
| UniRet90＿K2HB97 | ELTGUSIGGGKIUEITE |
| iRef90－H1UU |  |
| UniRef90－HODK73 | G1s 1 G |
| UniRef90 R7K88 | FWEVLSIGGGAIMUNGKA |
| UniRet90－E8SFI7 | ELING S G GGGA Ve VGE |
| UniRet90－24\％KJ66 | K A Y in |
| UniRef90－UPIOOO299D763 | VGGCSVGGGKIERG |
| iRet90＿D5YA |  |
| UniRef90 A0A023B978 | REYYSVGGGFIERKG |
| UniRef90－UPIO00471F83C UniRef90 S6EMY6 | TLTTG】S】GGGN】E\｜VD |
| Ref90－S6EMY6 Ref90 E5Z7A9 |  |


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SSHTAASYRIGRMAARSLGDEPSSVTFDPEGSYAK
 SSNTCGPYRIAR LARALLGEPPRRITVARRGGYYD S SHCAAPYMMAKLVRELSCANGETLKNAVIRFARDGAYIN

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| UniRefS |  |
| UniRef90-R5AIC8 | TGKGHGTDKALI A GAL GMEPDDPNDKNA |
| UniRef90-R7HWL2 | T GKGHGTDKGLLAGTLGFPVDD |
| UniRef90-G5PQ68 |  |
| UniRef90-R5HIW4 |  |
| UniRef90_C6LTB3 | S GVG Y LT DKAILTVL V D |
| UniRef90-14AKL8 | T Y EGHGSDRAVI A GL L G L A T D D A $\square$ K T S F DEAKKNGLK Y T |
| UniRef90-UPI0003A2380E | T GKGHFTDWII I ET FKPLEVE |
| UniRef90-R5IYZ3 | T GVGHGTDRVLSEVLA |
| UniRef90-R2R2D4 | S Y IT Q C S D GLVG GLLGMDP T D S |
| UniRef90-15C3M | TYEGHGSDRAIIGGLLDFKTDD A A |
| UniRef90-R5MH03 | T GRGHGTDRIVKETLSP $\square$ D |
| UniRef90-B8FS64 | TGKGHGTNLALAAGLLGMHTDD ER\PQALDAMAE |
| UniRef90-UPI00037AC966 | T Y K G H G D L A L L G GLLDYNTDDA |
| UniRef90-UPI00037F47F8 |  |
| UniRef90-R6UPK6 | T GRGHGTD T A MVVKAFLPCR |
| UniRef90-E3CZ26 | T F WGHGTDRALLAGLLGLRPDDES $\quad$ LRE |
| UniRef90-F8N6D4 | GK GHMTDVA |
| UniRef90-R7GEK3 | GKGHLT D Y I DKTLL GND |
| UniRef90-R6WIH1 | T GNGHGTDRIVIS TL |
| UniRef90-G7V7P8 | CYHDQGSDLALVSGILGKDLT NPD F F F N |
| UniRef90_B6GC66 | TYRGHGTDRALVAGTLGLDTDDER】PDAFALADAAG L A Y |
| UniRef90-R5QEN5 | TYKGHGTDRALLGG\\|MGFSTDDR |
| UniRef90-A0A038APN3 |  |
| UniRef90_K8P | MLGLS GFSPETVDPR $\square$ AVVA A T A K L VLR D |
| UniRef90-R5EMH1 |  |
| UniRef90_E5Y2Z7 | T YKGHASDSAVVA GLI GEREDSPNVRHA LDRLAA |
| UniRef90-R2QS25 | S Y IT QCS DVGLVGGLLGMEPTHED |
| UniRef90-L7WTM6 |  |
| UniRef90-UPI0004769B76 | T Y H S G T DI GLAA GLLGLTPDDQ |
| UniRef90-W4KVX3 |  |
| UniRef90-UPI0003B77D72 |  |
| UniRef90-UPI00047A176A | T YQGHGTDLALLGGVLGLT TMDEG】 P N |
| UniRef90_W6EDV8 | T GK GHLT D D AL H Q ALA S M |
| UniRef90-R7ZU35 | THKDQGSDMGLFGGFLGWE A Y DERLLHSE |
| UniRef90-T4WCT4 | T GK GHLLT P Y I E E T I APK KV |
| UniRef90-I0UAX3 | THKGHGTDYAl 1 S GVLGFA ADDP RVPK |
| UniRef90-W0J372 | T GRGHATDRALLAGLLGLAPDDA |
| UniRef90-W5WR18 | T GS GHGTLGACLLGLLDGCDPATVDPRLK Q $\square$ R D T R R I D L A G |
| UniRef90-UPI0003799B31 | TYRGHGTDKA VGGLLGMGTDD |
| UniRef90-U2KHS3 | T GFGHGTDKALVAGVLGFYEDDE RIAD |
| UniRef90-UPI000379FDE6 |  |
| UniRef90-E7MPU5 | T GKGHHTDAVI EQTLL GEVK |
| UniRef90_UPI00047C982A | THQSQGSDMGLFGGLLGW DAADARLAMSPQALREA |
| UniRef90-UPI0003B4F | VYRQQGVDLAFAAGI MGW KLTDERFFSALEEA |
| UniRef90-M2AJ22 | THTSQGSDMGLFGGLLGW EAHDERLPNSR QHLI |
| UniRef90-UPI00047CCFC8 |  |
| UniRef90-F4L563 | THKSQGSDMGLFGGFLGWEADERLPESEKHLQTAGD |
| UniRef90_G4B0W5 |  |
| UniRef90-FOYX75 | $L$ Q WS D R G T A GLIGGR\\|DSDDMTD |
| UniRef90-G5NNZ5 | GF $\square$ R DVETR G R L L L A Q |
| UniRef90-W1X6J1 |  |
| UniRef90-E3CYL2 | CYHHQASDRAFLAGLLGW DLLDRRFAEA $\square$ D RAPGELDA |
| UniRef90-G4KXB0 |  |
| UniRef90-E3G156 | TYKGQKSD\AFAAGLLGNHPD |
| UniRef90_G9PY41 | CYRDQGSDLALVMGILGLPLTDGRFREALS |
| UniRef90_UPI0003B7177B | CYHDQGSDLALLAGLLDPLPDERFPHLLRLAPEMGL EA |
| UniRef90-D5EER1 | VFRQQGSDLAFAAGALGW D $\mathrm{V}^{\text {D }}$ T DSRFEDVL |
| UniRef90-X1QXI2 | TYHSQGTDI GLIA AGLLGLLKPDD |
| UniRef90-UPI000471A1E2 | $V Y A Q Q G S D L A F A C G V L G W P D D D G * ~ R F F E$ |
| UniRef90-UPI00047980C1 | LGN FMTDRGFLGGGVQGFLPDDK |
| UniRef90-D9PM83 |  |
| UniRef90-X1KP83 | VYRQQGADFAFAAGLMEWQ ITDDRFHQALELAS |
| UniRef90-UPI0003606968 | VYAQQGSDEGFAAGFLGVGDHDPDYRAADGNCGPGSTIEV |
| UniRef90-UPI000406DA62 | S D $\square$ GFMTDRGYLGGTLGFATDDP |
| UniRef90_R5D749 | TFYSMHSHEAILAALLGQ ELLRCDLS TMCRQADEA |
| UniRef90-H2FZE1 | THESQGADMGLYGGILGWQA NDERMPEYRKS |
| UniRef90_16ZMM1 | MYRGQRSNYGFTSGLLGYRPESYS |
| UniRef90_K2L918 | VYAAQSSDENFAAGLAGAKLTDADYRD\\|LGRVERGEGFQ |

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 VFETPEAKELNYSFEFLDDFNRHPNAVDFDF G EGGLNM
 K TEFVWLPNKKLPVHPKALTVQAYKSAEDVMY FRS $\square$ GNASTFHPNSURFKL KKGNRNI
PTEXKWMPDFVHELHSNGMKF DALNEKKENDG A $\square E \square A K E D G M E \| L F R V V P Y E N N H P N T Y K M T D K T D D N E R D D$

 AAQAGMAYEFVTSSLPAPHPNTVRIDAWQAGRKS SFRLASERGLRFRLHAERADGAHPNSVRFVFRGEDGRTLG A GHVE $\square E W R P E E F L P F H P N G L Q D N D$
KHE\|VF
LMPHPNTMUFEGY $\square$ NHNLIA KKPTEVVFNTEEKDDPHENTMDLIAL SHGNVIDD


## 




EVE IVTFSDE
S G A E R RTHPDS G
SILAEADGMT NFR VPYKGRNPNTVSMELV RGGRTY

 EKG $\square$ KVYWK FHLK $\square \mathrm{L} H$ DKGLRYDFRFCPGTPGGCHPNTVDLQASSGAESVHA AKS $\square A E E N G L Q Y E F T K R V M G S Y H P N T V L V E L S G A \quad T R T V$


 SFSYA LK LG GEYEFYKTELDGMHENSAKLTFDHKDGSSVD $K Q K \square K \square G F K V A D V E I$
 GMQYQFDFAENCEYYDHPN $\square$ A $\square V T A R C G D$


[^6]$\square$

| UniRef90_K0J1S4 | $\square \mathrm{A} S \mathrm{~S} \square \mathrm{GGGK} \mathrm{~K}^{130} \mathrm{VEVQE}$ |
| :---: | :---: |
| UniRef90-R5AIC8 |  |
| UniRef90-R7HWL2 | T V S G D S $\square$ G A GE $\square$ L |
| UniRef90-G5PQ68 | EETWFSTGAG |
| UniRef90-R5HIW4 |  |
| UniRef90_C6LTB3 | E ETYYSVGG |
| UniRef90-14AKL8 | EMLGISSRGGGLIE DEE |
| UniRef90-UPI0003A2380E | E Y I F S VGG G T K DLD E L |
| UniRef90-R5IYZ3 | SMRVESIGGGGDIVIEG |
| UniRef90-R2R2D4 | VVALLSVGGGMI EIT T |
| UniRef90-15C3M4 | EVI GESLGGGLIN |
| UniRef90-R5MH03 | S MLA CSIGGGGEVTIK G |
| UniRef90-B8FS64 |  |
| UniRef90-UPI00037AC966 | VG S STG G G N 1 QVQ Q |
| UniRef90-UPIO0037F47F8 | EINGISIGGGAIK |
| UniRef90-R6UPK6 | $R L R A V S V G G G A V$ |
| UniRef90-E3CZ26 | EV 1 GASMGGGAV |
| UniRef90-F8N6D4 | WIVYSVGGGALSEGDH |
| UniRef90-R7GEK3 | K ETII SVGGGSIKVLGE |
| UniRef90-R6WIH1 | RWRVLSVGGGGAIEIVGG |
| UniRef90-G7V7P8 | RMHAKSI GGGS |
| UniRef90-B6GC66 | DVRGESLGGGRMR |
| UniRef90-R5QEN5 | $V R \mathrm{GESV}$ V G G K $\quad$ R |
| UniRef90-A0A038APN3 | T G 1 SVGG G T |
| UniRef90-K8PGC1 | A ETWYSLGGGFVQREGE |
| UniRef90-R5EMH1 | RLRVESI G G G Di R $\mathrm{R}^{\text {P }}$ G Q T D |
| UniRef90-E5Y2Z7 | A VA GVSVGGGEIIEM |
| UniRef90-R2QS25 | K A T ALS SVGGGM\\|AFTE |
| UniRef90_L7WTM6 |  |
| UniRef90-UPI0004769B76 | $\square \mathrm{R} \quad \mathrm{A} \square \mathrm{S} \mathrm{V}$ G G G L I $\mathrm{E} \square \mathrm{K}$ E E F |
| UniRef90-W4KVX3 |  |
| UniRef90-UPI0003B77D72 | S GASIG G G |
| UniRef90-UPI00047A176A | KVLASSLGGGKVEVQE |
| UniRef90_W6EDV8 | S WEVYSVGGSALKEAGE |
| UniRef90-R7ZU35 |  |
| UniRef90-T4WCT4 |  |
| UniRef90-I0UAX3 |  |
| UniRef90-W0J372 | T M T GA S L G G G $\\|$ I E V S |
| UniRef90-W5WR18 | K Q T Y Y S IGGGGFIRTDEE |
| UniRef90_UPI0003799B31 |  |
| UniRef90-U2KHS3 | $\square$ T G S S $\square$ G G G R $\square$ L |
| UniRef90_UPIO00379FDE6 |  |
| UniRef90_E7MPU5 | R WTVFS $\downarrow$ G G G S I R\\|IEKDLD |
| UniRef90-UPI00047C982A |  |
| UniRef90-UPI0003B4F0F8 | ElYAKSTGGGGI LI D |
| UniRef90-M2AJ22 | TL $\quad$ A $\square$ S T G G G M I EVT D D F D |
| UniRef90_UP100047CCFC8 |  |
| UniRef90-F4L563 |  |
| UniRef90-G4B0W5 | KQTYYS ${ }^{\text {Q }}$ GGGFIVDEAHFNQ |
| UniRef90-FOYX75 | LGT T SVGGGAI EI |
| UniRef90-G5NNZ5 | SKTYYSIGGGFIVDEAHFGQ |
| UniRef90-W1X6J1 |  |
| UniRef90-E3CYL2 | RAR $\quad \mathrm{SVGGGMVR} \mathrm{V}$ T E |
| UniRef90-G4KXB0 | $S \vee \square G T S V G G G S \\| I I$ |
| UniRef90-E3G156 | VTSLSIGGGMFClT A |
| UniRef90-G9PY41 | TAVADSTGGGA |
| UniRef90_UPI0003B7177B | SLHARSVGGGSTETA |
| UniRef90-D5EER1 | ELLARSVGGGA\\|VIT K |
| UniRef90-X1QXI2 |  |
| UniRef90-UPI000471A1E2 | CR A R SVGGGAVLLT E |
| UniRef90-UPI00047980C1 | QLI IGA SVGGGMVR |
| UniRef90-D9PM83 | E SEYYSPGGGFFLWK GQPE |
| UniRef90-X1KP83 | T V |
| UniRef90-UPIO003606968 | RFRAVSTGGGMFVVD |
| UniRef90_UPI000406DA62 | ELI IGA SVGGG G M I R I Y E |
| UniRef90-R5D749 | RLTGVSLGGGEI E |
| UniRef90-H2FZE1 | TMMAISTGGGMIEVQE |
| UniRef90-16ZMM1 | VTVYSTGGGTV |
| UniRef90_K2L918 | LY T GA SVGGGMYY $\square$ D |

[^7]```
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$\longrightarrow \longrightarrow$


[^2]:    5

[^3]:    40

[^4]:    lupas 21
    lupas_14
    lupas_28
    jnet
    conf
    sol25
    sol5
    sol5
    jhmm
    jpssm

[^5]:    lupas_21
    lupas_14
    lupas_28
    jnet
    conf
    sol25
    sol5
    sol5
    jhmm
    jpssm

[^6]:    lupas 21
    lupas_14
    lupas_28
    jnet
    conf
    sol25
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    jhmm

[^7]:    lupas_21
    lupas_14
    lupas_28
    jnet
    conf
    sol25
    sol5
    sol0
    jhmm
    jpssm

