## QUERY

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

 IT S K Q R S Y $\quad$ L R S LLA N N L D P I F

## S L

 LT GK Q K R F L R S K A H HL Q P I F QV GK G GVVN N MI K QIM DA $N L T$ T K Q R A Y L K GLA N NI D PI FQQVGKA SLTTPELI NAVGEA




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 LNGKQKRFLRSQAHHLTPVFQIGKGGTNEHLFRHIEDA


 LK G K Q T R Y L R S Q A H HI S PI F QI G K G GI NENMINRQI K A A MT S K Q R A Y L K S L A S S L E P I F Q


TLT S K Q R A Y L K S L A S DL E P V F QI G K S S V S P EVVTEA I T E T | $L$ | $T$ | $G$ | $R$ | $Q$ | $K$ | $R$ | $F$ | $L$ | $R$ | $K$ | $E$ | $A$ | $H$ | $E$ | $L$ | $N$ | $P$ | $I$ | $F$ | $Q$ | $V$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $L$ | $T$ | $G$ | $K$ | $Q$ | $G$ | $G$ | $G$ | $V$ | $N$ | $P$ | $N$ | $M$ | $V$ | $N$ | $Q$ | $A$ | $A$ | $E$ | $A$ |  |  |
| $R$ | $S$ | $L$ | $A$ | $H$ | $H$ | $L$ | $T$ | $P$ | $V$ | $F$ | $Q$ | $V$ | $G$ | $K$ | $G$ | $G$ | $V$ | $N$ | $E$ | $H$ | $L$ | LS GK QKRFL R S MANGLQPI FQVGKGGVNENMVTQIAEA M T S K Q R A Y L K S LA M K I D P V F R V G K D S I S P E LI E G V R E A

T L S N K Q K Q F L K GLA H S L NPVVLLGANGLTEGVMAEI EQN MT S K Q R A Y L K S L A M K I T T P I L

S S G K Q K R Y L R G E A H S L K A F QV G K A GV N A N L I K QV G E A


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

 TLS G K Q N R F L R GL G H HL NPVVLI GK DAVSQGVIDSVEEV A L T G K Q K R F L R S Q A H H V


 MTSKQRAYLKGLAMTIDPI FQI GKSSVTPELTAAVAEA MTSSK QRAY L K S L A MVMD P I F QVVGK S S MT P E LT N A I A E A
 $M T T K Q R A Y L K S L A M T M D P V F Q V G K N S I T P E V T E A V R E A$ MT S K Q R A Y L K GL A M T M D PI I NVGG S SVTP ELITSVDEA


 LS N K Q K Q F L






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75LT S K Q R A Y L K G M A N GL D S I F Q I G K S G I T P E LiR D T V D K ALT G K Q R S Y L K S I A N T L N PL I QVGKGG IG D GVLS Q ID K S

 GKGGVSGPMI DQ GEA MTSKQRAYLRGLANNDDALFQLGKNGINDNLIKGLNAA$\stackrel{N}{N}$
A LGKQRSYLKGLANTEKPITQQGKGLTESFLEQLDDA NLTDAQRRHLRSLAHPRKPVVTLGRHGLSEAVLAELEQA ALTGKHVRHLRSLAHHLNPSIIGGADVNDGVVEQANAA ALTGKQVRQLRALAHHLNPVVNVGRGDINDGVVAQTEEC NLSNKQKKHLKSLAHSLKPVVLLGQNGLTEGVLAEMENA TLSNKQKQFLKGLAHDRKPVVLLGANGLTEGVLAEDDSA LTGKQKRHLRGLGHHLKPIVMVGKDEVNQTVIVATDEA LSGKQKKFLKAKAHNMRPI FQVGKEGVSDKWVEQTKNA MTSKQRAYLKGLAMKDEPILQLGKNGVTPENTASVNEA LTPAQRQFLKGLAHNRQPVVMIGNQGLTAAVLKEIERG LTGKQKRFLRAEAHHTTPIFQVGKGGVNDNMTAQIAEA LTSKQRAYLGGCASTLDP: FQUGKASLTPEVIQALDEAA NLTTKQKQHLKGLAHNLKPVVMLGSNGLTEGVLAEIDSA MTSKQRAQLRSMANTLQPLYQUGKAGVTPAVTEQLDAA
 MNSKQRAYLKGLAMNIDPIMQI GKASLTDENIFAVAEA NLSSKQRAYLSSLASTLNPIVNGGKASLTPEVIEALDAA ALSNAQKRYLRGLAHDLKPVILVGAKGVTDNIVAETGLA TSKQRAYLRSLAQTVDPI FQVGKSAVSPEVITAVSEA
 LKGKERQFFKKEAHSIKPIFQIGKGGLSEEMIQQUQFA TPLTGKQKRYLRALGSTLDPVVQI GKGGI IDTVIESAGQV ALTSKQRAQLRGLAMTEDTVIQQGKGGISENTLTQVNDA
路 MTSKORA
 ITSKQRAFLRSMANPLDTVLM| GKDGMSDDVMRQADDA LTSKQRAYLRGLGNPLDTILMVGKGGMSPELLKQADDA LTSKQRAQLRSLANSIDTVVHVGKDGLGENLVKQADDA MTTKQRAYLKGLAMTIEPIFQCGKSSVTPDFVKAVSEA
LTNTQDRYLRGLAHDLNPVILVGNKGLTPALIKEFDAA KGKERAYLRKLAHGIDPIFQUGNGDEENFLKQVSDA

[^0]





90
MLVI YRQSEEKK\| $|A| I \mid P K$ MIVLYKPAKEEKIVLP








 | $\mathrm{V} I$ | $V L Y K A S S K E K Y Q$ |
| :--- | :--- |
| T | I | RFILFRQSKKK PI RELPK K IVLYKEGKDNKKK


VL VLYRPSSKEKYQ




 VLVLYKKSSKPK
KFILYRRNKKPVIVLPK KFVLYRPSKKDKIVLVK VIVLFKPSSQEKYQLPR
 V ASYFRRNEDPKI ALPR TIILYKQSEKRIYKLP

 KFSLYRESKRDDIE
RFSLYRVSSRKDV

 RFVLYRRKKKPK $V V_{V} P_{R}$ VLVLYRQSSK
KI I LYR
ILVIYRAASKPVIVLP
 KI I LYRKAKRNK I NL P VLVLERQSEEMKI Al I P
KL TULYRRSKEPRI ELL
LLIVYRPSDKPRIALAK
LLVLYRPNPE
K $\operatorname{K}$ K LYK KA DK PK K MI FYRPAKKPKI KLP
 KVVLYYKRMEENPEI I L P P R VAVLYRPSKERQUVLPR TIVLYKQARNPK
NGLLYKKNEEKKLELDP

RFVLYRKNPKPK VL K FVLYRPSKRDKi VLVK K UVGYENKDK
TFLLYKKADKPA $\square E \square P$
KFVLFRKKPKE
NGLLYKQNPDPK LELP
KFVLYRRNKDPK
KFVLYKKSNKNKDEL
MIVLYRVSDKTGIK

IVVLFRRNEEPKLADPR | $K$ | $I$ |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $K$ | $Y$ | $K$ | K K K N | KFVLYKOKKK

VA I LRRAKEPNPKL KFVLYRRNKKPVIEL VAVLYRPAQDKRIVLPR | 1 | $A L L$ | $Y$ | $R$ | $A$ | $A$ |
| :--- | :--- | :--- | :--- | :--- | :--- | RLVLFKRNPKEPV

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 SLSTAEKKRLRQDGHHLNPLVQLGGNGLTDAVLAEDDAR
 SITEKQKRWLKKQSHHLKPVVTLGQHGLTEAVLAEIELA SLTSKQRAQLRGMAANLDTVVHVGKDGIGDNLVKQVNDA SLLQEQKKQFKSUGHHLKPVVTVADNGLTDNVLAELDRA STGGQKKELRGI AQTRKPLFQMGKDAISENLIKTISDS SLSQSQKKAFRSIGGHLDPVVTVSENGLSEGVMNELERA MNSRQRAYLKGLAMVYEAIFNIGKQGITDEVIEAVKEA SLTKTQLKYLKGLGHHLNPVILVGAQG|SDNLLAELDKA ALTAAQNRFLRGQAHGLKAVLQTGDKGLSEAFLAGLEEV TLNSEERRALRARAHSLNPVVATSQNGLSDPVVREIDAS LRGKQKRYLRAQANHFQALFSVGKNGLTPEWLAQLDGA LRGKQKRYLRAQAHHLRPVFSVGKNGLTKSWLAQLGGA MKSDLIKKFLRAKAHSLKPVVITGQAGITPAVLNEISLA SLTETQRRYLRRMGHDLKPVVRTGSAGLTEGVLTELERA

TLSNEDIDRFKQQAHQLRAYVQI
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A SSEQKKAYKRIDGHHLKPVVIVSEQGASEGVLAELDRA


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| UniRef90-W6MAW2 | $\square \mathrm{A}$ TL F R R N L D P R I EL |
| UniRef90_R8VYY3 | KFVLY R Q S ${ }^{\text {S P K I V L E K }}$ |
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| UniRef90-F0GUA6 | I I TITYRKNK D N K Y EL |
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| UniRef90-F9UHC9 | VAS FYRANPEKRILL |
| UniRef90_R6HJN6 | KF V L F R Y K K R K IVEL |
| UniRef90_UPI0003B4D6FC | $\mathrm{V} A \mathrm{~L} V \mathrm{Y}$ RKNA QPNKNL |
| UniRef90_UPI0003A864AF | M ALFYRRNPKANPKL |
| UniRef90_G1VN68 | T F TLY R R SKKNK L G L |
| UniRef90-UPI00036948ED | MLV L F R P LP P K E P E |
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| UniRef90-C0EK73 | L L V L WRKKPDDE |
| UniRef90-UPI000478D020 | RFVLFRRSKRDS |
| UniRef90-N1ZSL0 | VLVLFKQADKR |
| UniRef90-D3RTS1 | V A AL Y R H N P K K R 1 V LP K |
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| UniRef90-R7F7B2 | KI T L Y K R N K E K K I I L P K |
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| UniRef90_UPI00036CB34F | IL I L Y K E S S K K Q |
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| UniRef90_A0A031M6L7 | MVILLRR N K K A N P NL |
| UniRef90_K9DPG1 | LLV L YR S K K E |
| UniRef90_Q67SC5 | NFLL Y R R N P E P K $\square$ T L P |

UniRef90_G8QHK2 UniRef90-UPIOOO418F019 UniRef90-UPIOOO36E71D1 1
UniRef90 UPIOOO3FA56B UniRef90 F3LIG4 UniRef90-G8PDO5 UniRef90-D4JS01 UniRef90_F5TBU9 UniRef90-14M404 UniRef90_UPI0003790AC3 UniRef90-K2BVP4 UniRef90_UPIO0034B7603 UniRef90-UPIo003FC914A UniRef90-R6LWIO UniRef90_UPIOOO382B1FF UniRef90- U7FXQ7 UniRef90_UPIO0047BEF70 UniRef90-R7BSY7 UniRef90-W9VF21 UniRef90-R6HHF1 UniRef90-J3COY4 UniRef90 A0P612 UniRef90-UP10003FB5C9E UniRef90-O5X199 UniRef90-R6X642 UniRef90_R5N231 UniRef90-G9ZK21
UniRef90- A7H705 UniRef90-I3DAFO UniRef90_UPIO0037EE70E UniRef90-UPIO0021938CF UniRef90-G9RQAO UniRef90-Q21H47 UniRef90-13BRR77 UniRef90-E3EMS7 UniRef90-A2SF89 UniRef90-G2DDC0 UniRef90_S9PE12 UniRef90-UPIO003FFFD95 UniRef90-X0PE95 UniRef90-UPIO0045E5A9B UniRet90_R7C1G7 UniRef90-FOQ1H5 UniRef90-G4CFN8 UniRef90-R7KCZ3 UniRef90-D6GSC5
UniRef90_S3NIX8 UniRef90-UPIO003667153 UniRef90-UPIO00376EFF7 UniRef90-Q1YU02 Uniinefo_-U4TPY 2 UniRef90 C5F406 UniRef90_UPIO003B344BE UniRef90-G9WM38 UniRef90-R5JKA2 UniRef90-B2UGQ1 Uni RefororㄱKLR6 UniRef90-H9UIAO
UniRef90-M5DV54 UniRei90-UPI000255BB42 UniRef90-D713Y3 UniRef90-R6H8J3 UniRef90-D6CU32 UniRef90-FORWG7 UniRef90-FOKLL6 UniRef90 ${ }^{-H 5 W} 174$ UniRef90-F2K4E7 UniRef90_H3NS25 UniRef90-UPIo003B56220 UniRef90-JKKE52
UniRef90-K4TT07 UniRef90-K4TTTO UniRef90-U7UG64 UniRef90_UPIO00369E3FE UniRef90-W7UGN7 UniRef90-R6TURO UniRef90-EONX57 UniRef90-HOJIX3
UniRef90
B5ENR UniRef90-G8M5N2 UniRef90-H1S2RO UniRef90-A0A011 QAL3 UniRef90_UPIO003B3A405 UniRet90_U1SGV2 UniRef90-S6GLY5 UniRet90_B8G7G1 UniRef90-UPIOOO288A974
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TLNKQQLIELRAQAHGLHPVVMVGQKGLTDAVIRETDTA A NNAEMKFLKGIGHRLNPVVMVGGHGVTDNVIEETNRA LSSEQRRQLRAQAHGLNPVVAIAQQGLTESVLKEIDAC SLNNEQKKRYRSTGHDLSPVVTIGGNGVTENVIKEINRA NLRGKQKRFRRAQAHNFHPMFSVGKNGLTTNWLKQLSGA
 ALTKKQ TK QL RALANTLSPLLYVGKNDISDAAVKQADET LTPNERRELRAQAHHLHPVVS:AGNGLSASVLKEIVDAA TLTSKQRAYLNGLAQTMKPIGQGKNGLNDQIKTSVRQA LTAAQNRFLRGQABDLKAMLQVGGKGVTDAVVAEVAAA MTSKERAELRAQANTLDTILMVGKGGVSETLIAEAEKV LRGKQKRYLRAHAHAMHPLFSVGKNGLTSAWLEQLTGA LSSQDTKRLRRTGHHLKAILIIGDKGLTESVQEELNSR
 SLTPEQKKHFRTDGHQLNPIVMVAGNGLSENDQLEVDRA MTSKQRAKLRAYASDIEPIFQI GKGNLSDNQLDGIAAA LTPAERSELRAQAHALNPVVIVGESGLSESVLKE:DNS LNSKQTAYLKALSHPINPVVQI GLKGLTDSVIKEIDVN ALTKKQTKQLRAMANQLKPLVYVGKNDLTDSAIRQADET ISTKNRAYLRSLSNTLEALYQIGKGGVTPAVAQTLDDA MTSKERAEKRAQANNMEPLFQLGKGGMSDALTKQVDDA LTGKQKRF RASANRMRPIFETGKNGLSKVWLDEISKA DTSKQRAFLRAAGHHLSPVVVQGKEGVTEAVLRQLDEA ALS DEQHKKYKADAHHLKPVVIIAGNGVTEGVI GELERA TLTGKQKRFLRARANRLRPEFHVGKNGINTAFLTQUDDS TSKQRALLRAQANGLDVVFQVGKGEIDDALVKSTADC LSTDRKKQFRSIUHALNPLVTIAGNGLNDGVRAELERA
 ALSKKQVKQLRAMANQLNPLLYIGKNDLTDAAVKQASET ALTPAERKAHRADAHHLDPVVMIGGGEGLTPADVKKADAAA"

## 

 LTP A ERRREMRANA H HLLD P V V M I G G D GL TA A V Q K E V D A A
 DT TK QR GF L R G LA N K L E P V V L G G K G Q V AALSTHERKRLRQUGHALNPVVMGGQGLTEAVIEETNRA LTVKQKLYLKSKAHNLKPVVMVGQKGITENLI KEADCA LDSQKKQALKAKAHKLNPVVMIGDKGLTENVLKEVDAA SNADKKHLRRLGHNLKPVVTVAGNGLTENVTNEIERA A STGKQKSYLRSQGQTMKPLFRVGKNAVTPEFITQVDDA LTGKQKRYLRSLAMTTKPLINVGKNGLGDTFVAGVKDA KRNLRSRAHHLKPVVMTGQHG1SEAVLAEIGLA
 LTPAQRSELRSEAHALNPVVLIGAEGLTKAVLAE:DRS LNSSQRRYLSRQAHDLDPIVMVGKRGFTDQIVEAVQQA AISNEQRKAYRADGHQLNPIVTIASNGLTEGVIEELNRA LTADRKKALRARGHSLKPIVTVADKGLTEGVLEELNRA LTPEQKKQYKSTGHHLKPVLTVADNGLTEGVLAELERA A A Lick AA STHERKRLRQTGHVLNPVVMIGGQGLTDAVI EETLRA TLTPAQRKQHRGDAHHLDPVVMIGADGLTAGVLKEVEGA SLTNTQKKQYRLIGHSLNPVVTVAGNGLTEPVLTEMDRA
 STPAQRKDHRADAHHLNAVVMI GSDGLTPAVKKETDAA NLSVSQRRDLKARAHALHPVVII MTGKDKQALKALASQLPSVVQI GNAGLTPAVLGEIERS TLTAAQRKEKRAEAHHLDPVVLI GAEGLTDAVLKETDAA
 ALNNE LKKRFKAIGHQLKPVVTISENGLS LDAKHRQALRGQAHALKPVVIIGAHGLT LSPAERADLRSQAHALKPVVLVGAEGLTDAVEKEIVV NLSSNERRALRARAHSLHPVVSI


|  | L 90 |
| :---: | :---: |
| UniRef90_G8QHK2 | L V L W |
| UniRef90-UPI000418F019 | L L V L Y R K P D |
| UniRef90_UPI00036E71D1 | 1 V L L L R H N P D A P K L |
| UniRef90_UPI0003FA56B6 | $L$ LVVWRPRPEEQEQAPR |
| UniRef90_F3LIG4 | V AL L L R E A R P N $\square$ K L |
| UniRef90-G8PDQ5 | V L V L F K V |
| UniRef90-D4JS01 | KIV L Y R Q N K K K I E L |
| UniRef90_F5TBU9 | K F V I Y R R K D E N RIIELP |
| UniRef90-14M404 | RFVVLFRVSNRED |
| UniRef90_UPI0003790AC3 | L L V V Y R P N P E L HVE |
| UniRef90_K2BVP4 | V I V L Y R P F S E P K I E LP K |
| UniRef90_UPI00034B7603 | VLI L F K Q S S K |
| UniRef90_UPI0003FC914A | $V A$ L Y R P S E ER R $\\|$ VLP R |
| UniRef90_R6LWIO | RFVVI Y R K S EK |
| UniRef90-UPI000382B1FF | V LVLYRPATNEENQ |
| UniRef90_U7FXQ7 | I ALLYRAAEKPNPK L |
| UniRef90_UPI00047BEF70 | $1 \mathrm{~F} V \mathrm{I}$ Y R E S L K |
| UniRef90_R7BSY7 | KIVI Y K R S TRDD |
| UniRef90_W9VF21 | L A L L Y R K S S A P N P K L |
| UniRef90_R6HHF1 | KI I L Y R R S S D E |
| UniRef90-J3C0Y4 | LL V I Y R P K K D E K K |
| UniRef90_C3W9Y6 | TI I L F K E N K D P V V |
| UniRef90_A0P612 | LLVIFRPNPKKKI T L P |
| UniRef90-UPI0003FB5C9E | RFVVLFRVSKRDDVE |
| UniRef90-Q5X199 | T L V L Y R K N D |
| UniRef90_R6X642 | KLVIFRRSSSKEK V V F P R |
| UniRef90-R5N231 | S MI FY R Y S |
| UniRef90_G9ZK21 | T V V L F < S S N E |
| UniRef90-A7H705 | T I L V Y R R H P EPRYEAP |
| UniRef90-I3DAF0 | TIII FKENKEKPV |
| UniRef90_UPI00037EE70E | TAVLLRRNPNPNPKL |
| UniRef90_UPI00021938CF | VVLLYRPALLKEKYR |
| UniRef90 G9RQA0 | K F V L Y K K Q K E |
| UniRef90-Q21H47 | VAVI Y R E S K Q |
| UniRef90-I3BRR7 | V A V L Y R R N P R P D $\square$ L |
| UniRef90_A4SXL7 | L L V L WK P K D |
| UniRef90-E3EMS7 |  |
| UniRef90_A2SF89 | LLVLWRP VEPKEKTP |
| UniRef90-G2DDC0 | V AI FYRANPEKK |
| UniRef90_S9PE12 | TVLLF K K R D |
| UniRef90_UPI0003FFFD95 | T M L FFRPSRETR Y P L P |
| UniRef90-X0PE95 | SLLV Y R P A SKEKYQ |
| UniRef90-UPI00045E5A9B | $\square \mathrm{A} V \mathrm{~L}$ Y R S N P E K R $\square \mathrm{K}$ |
| UniRef90_R7C1G7 | KAI FYRRSSR |
| UniRef90-F0Q1H5 | LIV L W P P P A K K |
| UniRef90-G4CFN8 | QL V L WRPKPEE |
| UniRef90_R7KCZ3 | K IVLYRRRSKRED $\square \mathrm{K}$ |
| UniRef90-D6GSC5 | K F V L Y R K S K |
| UniRef90_S3NIX8 | A L L Y K K A K S Q N A K L |
| UniRef90-UPI0003667153 | NATLFRKRKEK Q F Q L P K |
| UniRef90-UPI000376EFF7 | IS I L Y R Q K K K K |
| UniRef90-Q1YU02 | MLL I YRKAK T P D PR L |
| UniRef90_U4TPY2 | T ALLY R P A EKEKNQ |
| UniRef90_F2BV47 | NCILFNQKKEKHYELP |
| UniRef90_C5F406 | T VVVYK Q A EKK K $\square$ S L |
| UniRef90_UPI0003B344BE | V A T F Y R E P P K |
| UniRef90_G9WM38 | K I VLY K P A K E EK |
| UniRef90_R5JKA2 | KFTI Y K R N EKPVI V/FP |
| UniRef90-B2UGQ1 | L L V I WRE GP |
| UniRef90-R7KLR6 | L L V L WR P NPEKQKE |
| UniRef90-H9UIA0 | $V A I L F R E Q P D P K Y R L P$ |
| UniRef90-M5DV54 | TALL $\square$ R R NPKAKPNL |
| UniRef90_UPI000255BB42 | $\square A L I F R K A E K P N A R L$ |
| UniRef90-D713Y3 | MALI YRKNPKVNKQL |
| UniRef90-R6H8J3 | K F V L Y R E S K |
| UniRef90-D6CU32 | LLVLY R P R P K E TRQAP |
| UniRef90_F0RWG7 | I A TFYRESEEHLIDHDPK |
| UniRef90_F0KLV6 | 1 I LLYYKKAAKQNQHL |
| UniRef90-K2GMR5 | I AL I YRGAKKPNPKL |
| UniRef90-H5WI74 | L LVLWRPADKEKAE |
| UniRef90-F2K4E7 | $V$ ALF YRAS LE Q P K L |
| UniRef90-H3NS25 | TATLLLR HAPNADPR |
| UniRef90-UPI0003B56220 | \S IV FRVASEPKYR |
| UniRef90- J2KE52 | L L V L WR P M P P K E K K |
| UniRef90-K4TT07 | TL I L F R P |
| UniRef90-D5CQR1 |  |
| UniRef90-U7UG64 | Y GV L F K K K E E K |
| UniRef90-UPI000369E3FE |  |
| UniRef90-W7UGN7 | K FVLFKRNEKEPVIIP K |
| UniRef90_R6TUR0 | K FVLYRESKEKRI QL |
| UniRef90-E0NX57 | NGLLFKRNDKPRIEL |
| UniRef90-H0JIX3 | MALI YRKAREQNRNL |
| UniRef90-B5ENR6 | VLI L Y R P R |
| UniRef90-G8M5N2 | L L V I WR P |
| UniRef90_H1S2R0 | L L V V WR P G P |
| UniRef90-A0A011QAL3 | LLVI WRPPADKPAQAAR |
| UniRef90_UPI0003B3A405 | RFVLI R R S L R K DVE |
| UniRef90-U1SGV2 | RFVVY R T S R R K D Y K N P |
| UniRef90_S6GLY5 | $\square \mathrm{V}$ L M Y R A S L E A N P K L |
| UniRef90_B8G7G1 | TAI L Y RQHSDPK V V L |
| UniRef90_UPI000288A974 UniRef90_B4D0Q3 |  |




| UniRef90_C0PR74 | TF\\| LYRPSPRKVP |
| :---: | :---: |
| UniRef90-F3KDY1 | VALI YRQAKEQNQK L |
| UniRef90-H3KCZ1 | L LVLWRPAD |
| UniRef90-A5EXB7 | 1 AI I Y R H N P Q P K $\square$ T L P R |
| UniRef90-K4KXP2 | I ALVFKPAREPNPRL |
| UniRef90-U4TE21 | LAVLYRQAPTKP |
| UniRef90-V8QN12 | T L I L Y R H G S Q N R |
| UniRef90_K2DTP1 | $\checkmark \mathrm{AV}$ YRKNPQN |
| UniRef90_B8FDK0 | MAI FFYRQQE D P E $\square$ T LP K |
| UniRef90-Q38VT8 | T L V 1 Y K A S R E K Y Q |
| UniRef90_UPI0002555F2F | N ITLIF K K A K K N K F S L P K |
| UniRef90_V5AFX2 | LL V L WR P M P E K |
| UniRef90_R7GDM5 | QLVCY K Q S N A K |
| UniRef90_I2JIW0 | Q A L Y R P A K T P N P K L |
| UniRef90_UPI0002377E2C | L L V L WR P Q P |
| UniRef90-E6PQX1 | 1 L V L F R P |
| UniRef90_E6UF30 | NLVLYKRNEEPV1KL |
| UniRef90-A0A022RC68 | TV 1 |
| UniRef90_V8G7A2 | LTL F R N T P E |
| UniRef90_UPI00035FE804 | 1 AL I Y R A A Q K P DVK |
| UniRef90-A0YEY2 | V AL I YRKAKK P N A K L |
| UniRef90_G9WG43 | TLLL Y Y LPA T N P D Y Q |
| UniRef90-UPI00047C0B6B | T F Th Y R E N P E K K G D L P |
| UniRef90-H3NDV2 | VLVLYKSSSNEN |
| UniRef90-UPI00037E1155 | V T V I Y R L N P K K |
| UniRef90-R5EJ72 | KFVI WRFSEK |
| UniRef90_U7DAY2 | T VIL Y R Y N K D |
| UniRef90_E6MF16 | T FVVLF K R N P Q N K $\square \mathrm{N} \square \mathrm{P}$ |
| UniRef90_Q2IMK4 | TVLAYRRHPERP |
| UniRef90_E1VHZ7 |  |
| UniRef90-UPI0003B6576F | TVVIL FREAEEEK】KL |
| UniRef90_R7TY30 | 1 AL I F K A A D K P N P A L |
| UniRef90-UPI000370CBCE | V A V Y Y R E K P D P |
| UniRef90-UPI0003749E89 | I AII I P R Q N E E |
| UniRef90-L8Y137 | VITLIF K R N E E P K $\square$ |
| UniRef90-A9S9R6 | TLLL Y R P S M R K |
| UniRef90_B7S0C4 | VILLLRRRATKPDPRL |
| UniRef90-A6GAH3 | $V A V I T Y$ P R D K P R I Q L P |
| UniRef90-D0GPC2 | 1 MI FFKPNKNGKI |
| UniRef90_C3WXP9 | TII IFKENKENP |
| UniRef90_C5BQ04 | VALL F R E A A K P D P R |
| UniRef90_UPI00032AB092 | TMLLYRPSEEKKK Q VR K |
| UniRef90_A9WDQ0 | TAIL F RQHADP |
| UniRef90_D8FEK4 | TAI FFRRRHPEEK $\square \mathrm{M}$ VP |
| UniRef90_UPI0002B48671 | T V I I Y R P S |
| UniRef90-UPI00040F281D | TI I L F K R N D P K I |
| UniRef90- D5VSM8 | V I TTL F R P R E |
| UniRef90-V5BVC7 | I AV I Y R L N P K |
| UniRef90_U5N5T6 | L L M L WRA $\square$ P ER |
| UniRef90_Q4JMW4 | 1 TV L Y R P A P D |
| UniRef90-B8KS09 | TATILRRNPKA D P R |
| UniRef90-X0QM56 | MALLL R K N N A NPKL |
| UniRef90-S6ET56 | ILVVLYRPSEEHK V VLPK |
| UniRef90-I3I7L9 | VVLLYR H NKKANPKL |
| UniRef90_V7ZES3 | $V A\\|L Y R P S K E K R\\| V L P R$ |
| UniRef90-G8QR54 | I ATFYRDSENHLMHFPK |
| UniRef90_UPI00047801B7 | V F VLY R H GED |
| UniRef90-E0RP25 | $V$ AVFYREAS DPE |
| UniRef90 J3N422 | S VI LYYRPSTSK |
| UniRef90-C0QM00 | VAI Y Y R E H K N P E $\square$ R $\square \mathrm{P}$ |
| UniRef90-B6BWT9 | QAVIFKQKNEE |
| UniRef90-E0XRV1 | NAILYKKKNPNAK |
| UniRef90_D9SIU6 | IL V I Y L P K P D E K $\square$ E $\square$ |
| UniRef90_F9ZSU1 | I L I L Y R P R P |
| UniRef90_UPI0003696BDB | V AVLYRRNKERPD L |
| UniRef90_Q0AHC7 | I LI I Y R $~$ ¢ NP D K K |
| UniRef90_D5EJG6 | V GI FFRDMPEE |
| UniRef90-A0A024IDB7 | L L V L Wr P L P E K |
| UniRef90_E4RMP1 | I AVLFRQRDEDEYKLKK |
| UniRef90-UPI0002C2E4B2 | TVIL Y R P S |
| UniRef90-D1AXZ7 | V M I FF K E K R D K N |
| UniRef90_F9MW52 | KLVIY R P S SEPTIILP |
| UniRef90_R7DL45 | M IVLYRKNRKPK I HL G K |
| UniRef90_B8KN16 | TALL L R H S A Q P P K |
| UniRef90-A0A059AQK0 | K V I L Y R |
| UniRef90_A0A059AQK0 | K V I L Y R |
| UniRef90-W0BI50 | TAI I Y REN |
| UniRef90_M0REM5 | K V I L Y R |
| UniRef90-M0REM5 | K V I L Y R |
| UniRef90_UPI0002C33190 | K V I L Y R |
| UniRef90_UPI0002C33190 | K V I L Y R |
| UniRef90_V7AET8 | T V I L Y R P S |
| UniRef90_UPI000364CFD1 | V AI L Y R P A R D P K LH LP Q |
| UniRef90_UPI0002B499BC | KVILLYRGWEEE |
| UniRef90-F6BCD5 | V I T T L F R P R E |
| UniRef90-M1M357 | I V VI Y K H N E |
| UniRef90-K2DYF7 | II AI Y A P S EK |
| UniRef90-A3BQ50 | QLIL Y R Y N P K K R P V IP |
| UniRef90_R617W8 | SLI FFKENPE |
| UniRef90-K4BBN2 | AIIVYRRGKNYERP |
| UniRef90_I1HGR3 | VMV V Y R G N |
| UniRef90-S3JJC7 | K A I L Y R P A E K |

UniRef90_b9RUG2 UniRef90_UPIOO0045D46E UniRet90-G9YHR4 UniRef90-W5IJO4
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UniRef90 R1BJ72 UniRef90-UPIO0042B1A1C UniRef90-UPI00032A69E9 UniRef90-U5D429 UniRef90-V4LQ18 UniRef90-A0A059C3W7 UniRef90-A6UVQ2 UniRef90-D7E868 UniRef90-J5NEP3 UniRef90-H6LK24 UniRet90-L9WVS9 UniRef90_UPIOOO350C319 UniRef90-K3Y4V8
UniRef90 K K Y $4 V 8$ UniRef90-K7U423 UniRef90-MOSG66 UniRef90-X0TCY9 UniRef90-M5Y6U6 UniRef90-F7XQR4 UniRef90-H7EI18 UniRef90 A0A022Q1B0 UniRef90-11N588 UniRef9-11 N5 58 UniRef90-F215U6 UniRef90-H819U9 UniRef90-V7CQC0 UniRef90-W1P371 UniRef90-W5FBO4 UniRef90 ${ }^{-}$W5FB04
UniRef90 UniRef90-B9LN44 UniRef90-Q12W46 UniRef90-O31NH3 UniRef90-U1PQS4 UniRef90-L9VYH2
UniRef90 D5E7T6 UniRef90-D7T793 UniRef90-M4F923 UniRef90-M4YU63
UniRef90 E4NP99 UniRef90-V4GVJ7 UniRef90-Q2R1U8 UniRef90-111KQ9 UniRef90-J2ZLIO UniRef90_W9DQN9 UniRef90-S8ENM8 UniRef90-V4LUF0 UniRef90_R01111 UniRef90-Q6K4E4 UniRef90-A2XVM7 UniRef90-Q5VMQ5 UniRef90_V7APL8 UniRef90-B1XXG4 UniRef90-K7L4X1 UniRee90 UPI0002B4D154 UniRef90-A9SZH0 UniRet90-A9SZHO UniRef90-F8AEQ3 UniRef90_C7NNY8 UniRef90-A0A059CMV1 UniRef90-M1LZV0 UniRef90_M4D637 UniRef90-F6HGV6 UniRef90-K7MVYo
UniRef90 K7MYY UniRef90-K4A6P5 UniRef90-R6XTV6 UniRef90-D8R2N4 UniRef90-MONCC8 UniRef90- E1ZC42
UniRef90 U7DZE9 UniRef90-U5DGS9 UniRef90-S8CGM5 UniRet90-V4ZVC1 UniRef90-A9S7Z4 UniRef90-A3CX00 UniRef90-Q46CR9
 LT K S Q $\square$ K S L R T LA QPLK PLVII GKNNVTDAVANQVDQT $S L T G E E R F Y L K K M A Q K R S N Y L Q I G R R G L F G G V V L N M H M H$

 LTGA E R K F L V V L L C Q R N K T K R Q V V G R D G L T H N M L N D V Y N H

 LSVK E K K K LIA S Y A H S L G D KL LV G K S GVV D SVVVFSFLE T
 MD K K QLY K L K S EA S QL K P VI HI G K S G L T E P V I E ELK K Q
 K R R A HD L DVTVVWVGK S GLLEAVVDE LD D Q


$$
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## 1



D K Q DLR
HHEKAILQ

 SKP YL GR R GVF GIV NMHLH
 $L$ D GE E R F Y L K K V S QK K S N Y V P I GRR GVVF G G V I L N M H L H


DK Q T L K Q E A H DL D V T V W
MDKD T LDP E S


MT DRE E D S
 $T \quad$ T L P E A E E L R R L R H A T M R I K S R


T $\quad 1$
 L T E E E R L L
 L T P D E A E D M R K R G R QL L P P I C K L

T L VEE E L R R LRRTLGMS L K E K ITII P K A GL T R A V L D R I H R H


 NQK
 $\square$ D G E E R F Y L I $\quad$ S K K E E K K Y M



 GK G GVTHNMLDDIHNH A $\square$ T DEERFMFRK LGGLRMKAFLLLGRRGVFDGTVENMHLH

LT P E Q $\square$ Y A


UniRef90 B9RUG2
 UniRef90-G9YHR4
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DARELIKGKVQNNSDEDVKDVAQALAAATKSDIVCTDGN LSNADLVKVKFLRAARDSTEEQAAELADRVDAELVDARGH FKKHPLAIVNINRADGTP円QQLISELEEATGSVLVSRETN WKYRELVKI CKEHSLKDVEYAARTLEAESGGALVAVEGH WKYRELVKIICKEHSLKDVEYAARTLEAESGGLLVAVEGH WKYRELVKI ICKEHRLEDVEYAARTLEAESGGILVAVEGH WKNAEAVRIKCLGVPTVDMENVCTQLEEKTGGSIIHRHGG LDQHELVKVKLAGDDREARKE LKDNKLVKVKVLKSAFEEKEEDAKLLAEKTGSELIEVKGN WKKHETVKV CKPCKPGQVHEYAQEIARLSGGDPIQUVGD TKRNRLVKVKVLKTADENIDDDASRLAAETKSELVEIRGR LDEHELVKVRYNENATDLKRELDKLIEQYTNSTHVRTIGN WRRSELVRLKFHEDLAHDMRTAHELVERRTGGLITWRSGS WKYRELVKI CNOMSLEDVQQDAQTLEAESGGALIAVESY WKYRELVKIICNQMSLEDVQQIAQTLEAESGGLLIAVESY LANQNLVKAKFLRASGTTVDEAAADLAERVNAELI ETRGK LKDNKLVKVKLLKSAVEERKEIAEKLAKETGAELIEIKGN
 WEKSSIVKI AIKGGVPNTCNDMAEETKKLTGGVLVSRNKE WEKSSIVKIAIKRGVPNTCNDMAEEIKKLTGGVLVSRNKE WKKHETVKVICKPCKPGQ\QEYANEI ARLSGGVPI NVIGN LADAKLVKVKFLRAARTTTDEAAELADAVNADLI ETRGN LKERHLVKVKVLKSAEDGDDAEAENLAEATRTTVIVDVGS LADRDLVKVKFLRAARTTTEELAADLADRVNADLVETRGH LSNENLVKIKFLRAARASTEEKAAELADRVNAELIDTRGH IKANHLVKVKVLKSFPESMDSVAEELASLTSTGLI DVRGR WRKEELVRLKFHEVLARDMKTAHEIVERRTGGMVI WRAGS LKKRRLIKVKVLRNADSETSDVAEQI AEATGSVVVDVRGG
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 LRDRDLVKVKFLRAARTTTDELADRLAAQAGADVIETRGN $L T A N G L V K V K V G S C D D S P D E V A E V L A A A G D C V L V Q K D G F$
$F E E C E L V R I N C Q G M N G S D F R K G A K L R D L V P C V L I S F E C E ~$ FEECELVRINCQGMNGSDFRKIGAKLRDLVPCVLISFECE WKYRELVKVVVKAPKIEEAKTHALALEAESGGVLVDKGGF WKKHETVRIDCDNFPKEKDKEMGETLERLSGGIVIDDHGT LKDRKVVKVRWLRNTEVDPMEEEAASAGAVLVEVRGR


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SVTLYYR
VAVFYRAAKEPE
VMVVYR
AII V Y R
$A \| I V Y R$
TAVFHR
TIVLY
$T V V L F R R$
A 1 L Y R
YI I FYRGND
Y I I FYRGND
TIVFYRGKD
T AVL H
SVVLYR
TAVFHR
T G V L Y R R
TAVVHR
A $1 \mathrm{~V} \mathrm{~L} Y \mathrm{Y}$
SV S L Y R
V M V V Y R
V L L
TGVVHR
T AVVH
AIVVFRGKDYARP
S V SL Y R
TAVLHKR
VI I YYRGKNYKRP
TVV $\operatorname{L} Y$ R
ALI YYR
AI I LYRG K N Y Q MP
VLFL F R
SVVLYR
AI I LYRGKKTPQ LKKPR
HI LMWRGN DWKSSLP
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YMWV Y R
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SVVLYR
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AI IVYR
VI FL F R
EIVVYRRSSSNNDE
S I YL F R Y N P R Y R PE $\quad \square P$
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TLTFYR
HI LMWR
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T I I MWRGRKRPK VD $\square$ P
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$T \vee V L Y R$

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RGRПHEDDVTLWVGKHGTESVVEELDDQ S $\square$ TEEEQHY的KTGEKRNFVLVGRRGVFGGVVLNLHD MRNSDNAII NI GKNGI NDNVIEE:KRQ
 TLTNEERFLFRK GMSMKPYLLLGRRDVYSGTVENMHDH LTLAEVRDLVRISHNRQERMGRDGLTHNMLEMMHCH LTLEEASEMRRKGRKLDPDCKLAKNGVYCNLVKEVREA MSDKDRRQRRGHEDATLRVGKQGI DPVADELSNQ
 APLTTAEVEELVMQCQKEDRQLNLGRDGFTHNMLASVHDY rthrerahg Dit inv k gal es adeld io HDLDVTVWVGKSGI DPVVDELADQ TTEEERECFRKTGQKMDSSLLLGRRGVFDGVIGEGHQH TIIPEHELLRRLRKIALRMMERFDVGVKGITQELVASVHQK ESQRLRNVALRMVERTKVGVAG TQALVEYU HER

 TLPEGELRRLRHLATRTKSKTKTGGAGVTKETVDLISH
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TKKQRDRDRRKFAKEKPTILIGKNGATKEVVVEVTKQ LTPEEHFYFLKMGQKCKNYVPVGRRGIYQGVILNMHDH MTNKQKTYLKNLVKNSNQ FLI GKDGFQERQRTDFNNY LSNEELRSGRNGMRNDNTLLLGRRGVYDGVIEGMHQH LIKNWEDRMLRKKGKSMLPICKGAKNGVYTSLVKDVRDA VNLGRDGLTHNMLEELIHSH PDINGGKKGLNEGMVNEIUSH
KKELVKKGSETKPTIHVGKEGLTEGTVEEVRTQ STDEERECFRKDGLKMQSSLLLGRRGIFDGVLEGLHQH RLQVGKSGVTRALMARAGHL TVTDEERFLFRRTGLKMKAFLMLGRREVFDGTVQNMHFH

KRLKEIVQQGPADVIIGKNGLSEGVIREDDRR LTKTEADEMRKKGENLMPDCKLAKNGIYDNLVKDVRDA LTEEEKDMFRRDGRKMDGLVLLGRRGIFDGVIEEI HQH LSEEEDAELVEKYRHSNCSRQ GKGGVTHNTLEDIHNH VNGRDGLTHNMLEDI HSH LT S DEATRMRKRGRQLTPDCKGKNGVYDNLVKEVREA N【TDAGLQHLRKLAHSLPTHFVLGRNRKLQGLAASILKL NLTDAGLQHLRKLAHSLPTHFVLGRNRKLQGLAASILKL VQRGKNGVTQGFVEEVRLR LSNRERLLLRKQALQMKPVLAAGKSNTVSGGAKAIKTH TITDKERVMFRAVGLKMKAYLQLGTHGDFDGIIENMHDH MLNDHNH VQLGKKGLTQGFi NEVKAR TTTDEERVMFRSVGLRMKAYLPLGDRGVFDGVi ENMHAH LTPEEHFFFDKMGLKSKNYVPVGRRGUYQGVILNMHLH MLK E 1 D D A RLRGEARRMTRWVKAKKAGVTQGVMEEIRRG TEEEMYTLRKDGLRMKPYLLLGRREVFSGVMENMHLH LT KDEVRELVGRACAERRRDDGKDGLTHMLELLHRH MDIKATVQGKGGITDGVKREIKEQ GEAAKMRKWVKVKKAGVTQAVVDDIKFD LTPEEHFFFLKMGLKCKNYVPVGRRGIYQGVI LNMHLH LGRDGLTHNMLDNDHAH
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 WK Y R E L V K L I LIK GRNPA QVKHI A DS L EAES GGVLVVVRGH WRRQEI CKVRCRGVPTVDMKNLCYHLEEKSGGKVIHRVGG WKVDEIVKLRRFEGPPSHNMKRTHD LLEHRTGGLVI WRSGS FEECELVRIDDCQGVNGSDYRKVGAKLKELVPCLLI LDDRDLVKVKFLRSAGTTTEDEADELADLAGGTVVQTRGH FKVD DLVKKVDCKNMNPSDYKKDGAKLKDLVPCVL
WKVDEVVVKLKF E GP LTVVNMKRAHEKL ENRTGGLVIWRS GS WK HREVVKKLVSMQKTLDE EVTRRTARMLETES GGILIADVVGH WK Y R E L V K K I V K G K S FA QVK Q WK R R QVVVRI K CK G V P T V D M D N V C TVVL E D K T G G K I I S R A GG WKRAEAVRI KCLGVPTLDMDNI CFHLEDKTGGKVVSRS IN LDDRELVKVKFLRAARTTTDELASSLGERVGAELVETRGN L D D G P $\quad$ WV K A K F L R A A R T T T E A L A E T L A D R T G A D L L WK H R E V V K V I T M Q R S F S QV L Y T A K L L E S E S G GVLV S I E G H
 WK R R P V C K V K C K G V P T V DM D NVCR Hi E E R T K G KI I WRTEEVVRI KVT GTPALNMRLFHE ILERKTGGLVI WRS GT WK HREVIKVITMQKDFSQVIHT A KLLETESGGILIDSVEGH FE A CP L V KI DCRGMHASD YK K L G A KL K E LVV CVL WR R N P V CKV R C L G V P T V D M N NL C Q C L E EKTGGGKI I H R VG G WKRKRVCKI K CKGVCTVDMDNVCQQLEEKVGGKVIHRQGG WK TEEVVRLKCEGPPALNMKRMHEVLE
WK S A E I V R L K I E G A S AL NMR KMHE I L E K K T G GLLVI WR S G T LIE S R G L V K V K L L K N F R E T P E E V A V I I S QR L G A EI L G VR GF
 L K S S K V V K I K IL K T A L ETMMK EI T K E L V D N T K S E L I EARGM WR R A E A V R I K C L G V A T L D M D N I C F F H L E D K T G G R I I Y R S DN

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 1 K R H K MVVKVRVLPAADMDKDEVAAALAEKAGARCVETRGF WK HREVVVKVITMMQKLFS QVINTAKVL ETES GGILVVSVGH WK R HE TVV K V I F TP C RP GQVVMVYA E ELA R L S K GIVI D I K P N
 LLK E K G V I K V K A L R S A G L D R K T L A R R V A E L V N A R L L D V R G R


 WRRSPV CKVRCK GI P TVVMNNI CRHLEERTGGKI I YRIGGG F E A C DLV V R V D C S S L N K S D C R K I G A K L K D L V P C I L
 WEK S MI AKI ALKGVPNTDNEQMALELKNLTGGTLLLRNKF L R K H GVVVKI RVLLKSE GF D DH RLA E E I A GLT G GK I Y E V R G F LK E H K V V K V K I VG $\quad$ K V D D R R E FA R R V A E L V G A K L I E V R G K WGKHSLAIVNVK GAKGASVQEVVFKLEQATGAVLVSQEPS
 LEK H GVVKI RMLK S T NTDRRETAKVI A KVLLGAKLI EVRGY WRHRELVVKLITKQKTLAFVEDTARLLEYESGGILVAIIKGF WK K H Q TL Q V V V K T F S A E EVVK E I A T EL A R L T G G I V L GI HED
 LS SHGLI KVRAGGDDREARDAMLSTMCDTLSCAPVMHLGK WK ENELVVMVRILRRNMDRAREIVE TGGLVVWCKR D WK WR QL V KI IV K K S ERD D DE NI ARMDE DE S G GVLVGGIVGE LED HELLIKI RIA ADKAERHKI TEELCQASHAELVQII GR WKRRRVCRI KCYGVPTVDMDNLCRVI E EKSGGKII RRSQG
 WK T NEL AMVK FVVPLCR NMHRAQE IVETKTGGMVVWRKK D WK K H Q TLQQV IVRTVSPEEVKDIASELARLTGGDVLGDHEY WK QRRVCKI KCKGVCTVDMD DVKQQL LEK H GVVKI RVLK SFR GDLE ELAERI AGLS GGRVVEVRGF WEENEL AMVRFVPLCR NMERAQEIL ELKTGGLVVLSKKE WRMNELAMVKFDIPLCQNMGRAREIVETKTGGLVI WCKKD


|  | $s / \bar{V}$ |
| :---: | :---: |
| UniRef90_S8E355 | S V V I Y R |
| UniRef90_D8SLT0 | A I I V Y R |
| UniRef90_UPI00032ACBAB | SIV L Y R G M T Y K L P |
| UniRef90_U5GVW0 | AI I L Y R |
| UniRef90-A6DTJ2 | ALLLYKSSE |
| UniRef90_W1P0F5 | AI I V Y R G K G Y K R PRLLR |
| UniRef90-A5UL37 | V AVI Y K K K P |
| UniRef90_UPI0002B4682E | SLS S Y R GVS Y E LP E A P Q |
| UniRef90-V7BYT6 | NI I L Y R G WP T D K P |
| UniRef90-M0TZS9 | T I I F F R |
| UniRef90_V7CN12 | TVY Y F R Y N Y E T R P R F P |
| UniRef90_UPI00032AB6A4 | V M M V Y R |
| UniRef90_Q9FFU1 | I L V L Y R R N Y D P |
| UniRef90_UPI00037D0A99 | L L V I Y R P H P E P R $\square$ S LT K |
| UniRef90_U1NWK0 | T AV I |
| UniRef90_Q67YJ7 | T I V L Y R |
| UniRef90_Q2NGR2 | V AV L Y K R K |
| UniRef90_D8RA24 | AL V I Y R G K D |
| UniRef90_V7C947 | 11 1 V Y R |
| UniRef90-J3KZC2 | V V F L Y R P R T R P R Y P L |
| UniRef90-M1BZS7 | S I V L Y R |
| UniRef90 B9TA40 |  |
| UniRef90_C7NVY3 | T A VF ER |
| UniRef90_UPI0001623CC4 |  |
| UniRef90_UPI0002B4D441 | L I V L Y R |
| UniRef90-W1P8N4 | AI I L Y R K N Y R R P P K L |
| UniRef90_V4TVZ3 | AI IVVYR |
| UniRef90-A9T8N2 | V V Y L F R Y N T R P K $\square$ P L |
| UniRef90_B6SWV8 | 1 I I L Y R R N Y D P Q |
| UniRef90-MOMUS9 | T A T |
| UniRef90_M1XL45 | T A VFD R |
| UniRef90_UPI0001984C44 | A I I TYRKNYRRP $\square$ K L P K |
| UniRef90-I1MSG5 | S I V L Y R |
| UniRef90_UPI00042B4E5A | S L V L Y R |
| UniRef90_M5XT06 | V V Y L F R Y S Y K D R P Q Y P |
| UniRef90_UPI0003EAAFAB | SV S L Y R |
| UniRef90-K4BBC8 | A I I I Y R G K N Y R R P E L |
| UniRef90 M0ZHV6 |  |
| UniRef90-M0ZHV4 | V V Y L F R Q R R P K Y P L |
| UniRef90_UPI000350A004 | V I F L F R |
| UniRef90- M0SIU9 |  |
| UniRef90_F4J2U9 | S I S L Y R |
| UniRef90-A1RYP6 | V I A F R K R |
| UniRef90_UPI00032A6114 | 1 L L L Y R Y D P K K R P $\square$ D |
| UniRef90_X0V8U9 | M L T L Y K |
| UniRef90-M0W3B5 | IL I L Y R Y D P K Q R P V IP |
| UniRef90_B4FF75 | TI I MYR G K P P P E I M S P K |
| UniRef90_UPI0004288ACC | TLVVYKENPENKIIL |
| UniRef90_S8DFR0 | A 1 LVYRG K Y Y SRPK |
| UniRef90- UPI00032A9BA8 |  |
| UniRef90-E5GBI3 | V L Y L F R |
| UniRef90-W7L764 | T F I L K |
| UniRef90_A0A022Q5M3 | V L Y L F C G R N R K R P Q LP |
| UniRef90-M1ILZ9 | TFILAKEDKD D V |
| UniRef90-UPI000371B588 | T V L L |
| UniRef90_K7MVH3 | A I I Y R G K K R P S $\quad$ K L K |
| UniRef90_U5D996 | T I I FFR G K N YVRPK |
| UniRef90_D8U0Z3 | T A TLLF S S S D |
| UniRef90_M8B7L5 | S 1 T F Y R G K N Y K R P Q |
| UniRef90 G0EE46 | T F V L F R |
| UniRef90-M0S4E3 | K I L M W G K D K S R Y QVP |
| UniRef90-Q9FYT6 | AI I L Y R |
| UniRef90_A0A022PTX0 | IV L Y Y R Y D P K K R E Q $\square$ P |
| UniRef90-V4SUL4 | $\mathrm{L} V \mathrm{Y} \mathrm{L}$ F R |
| UniRef90-B9SHC6 | V V Y L F |
| UniRef90-M0UNS2 |  |
| UniRef90-F2KQV0 | VLT FER |
| UniRef90_UPI0002B4B557 | V I I L Y R G N D |
| UniRef90_UPI0002B4B557 | V I ILYRGND |
| UniRef90_I3XT26 | T I T L $\square$ R |
| UniRef90_UPI0003602139 | T F I L |
| UniRef90-I3SXV0 | K V I L Y R |
| UniRef90_UPI00032AB249 | SLI Y Y R K N Y R R P $\square$ S L P R |
| UniRef90-M0Z9B9 | QLIL Y R Y H P K K R PVIP |
| UniRef90-A3DNH0 | T FI I A R N K D K |
| UniRef90_V7CTZ5 | S LI Y Y R G K N Y R R P V |
| UniRef90-G7I7C1 | TI I MYR G K N S P R VTL P R |
| UniRef90_UPI000360D058 | LL V L WR P Q A E K Q |
| UniRef90-H0F0G8 | T L I L F R P |
| UniRef90-M0U1M6 | F L V V Y R |
| UniRef90_A9S0V6 | AII V Y R |
| UniRef90_A7C1L1 | V SI L Y R |
| UniRef90-A9S0V5 | M L Y V F R |
| UniRef90-B5IFI5 | T AVLK K R |
| UniRef90_UPI00046DE2F8 | T L V I Y R |
| UniRef90-UPI0002C372F9 | T I I M Y R |
| UniRef90-A0A059C1S3 | V I Y L F R Y N Y K T R P R F P |
| UniRef90-E8RAB7 | TI T L |
| UniRef90_M4E452 | F L V V Y R |
| UniRef90_UPI00032A5A64 | T L V V Y R |
| UniRef90_A0A059BSM5 | GI I I Y R G K N Y K R P V |
| UniRef90_A9RCK3 | K L |

UniRef90_A8IUV5 UniRef90_UPI00042B69A0 UniRef90 MOTMW0 UniRef90-V4SY32 UniRef90-A0A058ZS88<br>UniRef90 C3MJB7 UniRef90 M0YX55 UniRef90-S8C6G9 UniRef90_R0GT52 UniRef90 T1M678

TVSDEERALDRRKAMRMRKWIKVMKLGVTKAVVDEIKLA VSDEEALFRNDGLKMRGALLLGRRGVFDGTVENMHLN T TEERQCLHKI GMK $\square$ NSNLLLGRRGVFDGVIEGLHQH TISDEERSLLRKIGLSMKPFLLIRRRGIFYGTVENMHDH
 LDVKERKELASYAHGDGKKLQVGKGGVTPNLVTAFTDN LTKEEDLQLIQTCQKSRRQLNI GRDGLTHNMLDNDHAL LTKEERECLRRVGLKMNSSLVLGRRGVFYGVMEGLHQH LT R DEVVAVLVKGNLKAKRQLNMGRDGLTHNMLENIHAH VNIGKNGLHENVVNEIKRR LT LEEVTEMRRKGRTLAPDCRLGKNGVYCDLVRNVREA

GRRGVFDGTDENMHLH
TFISGRSNIVTGVAKNDKEH MNLGRGGVTHNMLEDIHGH



[^1] UniRef90 MOTMW0 UniRef90-V4SY32 UniRef90_A0A058ZS88
UniRef90_C3MJB7 UniRef90_M0YX55 UniRef90-S8C6G9 UniRef90-ROGT52 UniRef90 T1M678 UniRef90-EOSQF4 UniRef90-A0A059BLI1 UniRef90 ${ }^{-K} 7$ LSW8 UniRef90 Q0IRW0 UniRef90-MOZLU4 UniRef90-M1C168 UniRef90-A8IV56

90
S|IWL|FRASPSGRPGLP

A 1
A 1 Y R

| $A$ | $V Y R$ |
| :--- | :--- | :--- |
| $F$ |  |

T Fl LIAK

A $\square$ L I Y R GKNYKRP
T Y VL
TLI I YRPSEEKKKQ
AIVVFRGKDYARP
KVI LYR

| $\mathrm{I} A \mathrm{~A}$ |  |
| :--- | :--- |
| T | L |

```
lupas_21
lupas_14
lupas_28
jnet
conf
sol25
sol5
sol0
S 5 8 9 9 9 9 7 1 1 5 7 7 7 7 7 6 % 7 7 7 7 7 8 8 8 9
    B B B B B B B B B B
    B B B B
jpssm
```


[^0]:    

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

