## QUERY

UniRef90-F1RTA5 UniRef90-H9JOU5 UniRef90-F1NR47 UniRef90-Q28FN5 UniRef90-EE3TDD1 UniRef90-UP10001CB9BC0 UniRef90-A0A023G5J3 UniRef90-X1Y9H7 UniRef90-M2P8M0 UniRef90-E2C3S6 UniRef90-T1JCV9 UniRef90-UPI0003ACC8FD UniRef90-O5TVJ6 UniRef90-T1YM4
UniRef90- $54 R 8$ 3 UniRef90-G6CL15 UniRef90-M2OZ35 UniRef90-B7Q4H5 UniRef90_Q16T91 UniRef90_U4UM51 UniRef90-UPIOOO4419A35 UniRef90-F7CSC3 UniRef90-R7SIU2 UniRet90-Q5DG97 UniRef90-W5JKA2 UniRef90 W5MC43 UniRef90-P24280
UniRef90 UniRef90-UP10001CBC04F UniRef90-C5DZE7 UniRef90-K5W531 UniRef90-X1YG30 UniRef90-D8QLJ8 UniRef90 UPIO0046C29BB UniRef90-R7S3J9
UniRef90 A
ULZE UniRef90-UPI0001DED1B9 UniRef90-Q16Q21 UniRef90-Q1HRC4 UniRef90-Q6FNM8 UniRef90_UPIO0021A8666 UniRef90-G8BQN5 UniRef90-R4G2V6 UniRef90-G3MSF8 UniRef90-B7POY4 UniRef90-K5X2V1
UniRef90 E4UPM0 UniRef90-J3JWX5 UniRee90_UPIO003FOE441 UniRef90-JoWT94 UniRef90-B7PDU7 UniRef90-B7P3M0
UniRet90 G3PXE4 UniRef90-R7UFB2 UniRef90-UPIO00462DC3E UniRef90-UP100035A17D5 UniRef90-T1PCl7
UniRef90-Q7Q7C3 UniRef90-H3CCI6 UniRet90_-V9L3M3 Uni Ref90-E12X13 UniRef90_Boх3т2 UniRef90-M5G6W0 UniRet90-W5L7G0 UniRef90-D6WWA6 UniRef90_UPIooo22B2C41 UniRef90-F4W5T2 UniRef90-W4KFL8 UniRef90_UP100034FDDD8 UniRef90_G8ZLV2
UniRef90 Q10137 UniRef90-B7PDU8 UniRef90-A7URF7 UniRef90-D6WK79 UniRef90-U9T309 Uniref90-AOAO17SMN7 UniRef90-U5FS51
UniRef90-G4NDN3 UniRef90-Q6BPM1 UniRef90-Q01ET4
UniRet90 G3ANF5 UniRef90-V8NSP9 UniRef90-UPI0003F0935F UniRef90-V7CJ71

QPSLAELRRRARAPGSPLLPGPLSDAFLLRFLRARDFDLD
 GEQELNCR
पEEDRDMTYEKGECI PHRID REMLAKDD QEVQKLREALARR PD $\square^{\mathrm{P}}$ avtinanmiferaeck A TNLRMAERAECKPHRTDDAF


EELKDMIFELGGEC

QHALEKLKKEL Q DGGPNLATSLDDAF GGIDFPERHDDATLLRFLRARKFDVD
 KPYLSRLRQKAREEGDKRYQMDLSDTFMKFLRARDFDVD EKALAELRKLLEDAGFDE RLDDSTLLRFLRARKFDVQ


## K

KEALVQFKKELUREGV K EQLVEQFKKELQDEGGI | IKKK |
| :--- |
| FVP |
| V |

EQALQNMREWTATHPH $R L$ TRKCRTD P KQSLKQMREWIAKNQR IKNCRTDDPF KKALAQLKEQLQKDGY KiAQLRQWITENEDLHAP ESALEQLKETLDAKEYMKGRDDDSTLLRFLRARKFDVN QMVEDLRELYQRGD TTPUKMDDEYLIRFLRARNFKLE KKALETLREELKAAGYEE R RLDDASLLRFLRARKFDVA EQSIKELRTLM SDEESFSCPEDDAFLLKFLRSRKYDVA SRLRNLTQAETG QHALETFKKELADEGKF AAV HQLIRMML EAEGYTE
$\qquad$ C QKVQELRELEKTRAD
QKVLDQRQELQAEGYESLDKLNQLLDEE P
 TPMMDT F V A



## $G K \square P$

P HMNCPT D PNVKCPRD
NRKCRTDA
DAGGSESD
QHWPLGGLED
PNLRTRTD
QEALAELRELLKQEPDLHIPHE QHILSKFRTELEEDSVFVPERHDD
 QKA
 EQALKQFRHWLEKHPA IKKCRTDSLELLRFLRTKKFSLP KKAMLQLIREELTKAG F FVQRDDDSTLGRFLRARKFDVA QATLDSMRLELQKLGYTE $\qquad$ RLDDAT NALEEFNQLL ENALK KFREWI AK RPLLDRKCRTDAPF
E RAAVDQLRSELEQLGYTE Rrbida RRALVEELKQLVQEAGUP KKTLEQLRAELTADGY EQALAQMREWLAKNPH

## 



|  |  |
| :---: | :---: |
| QUERY | LA WRLLK N Y Y K WRAECPETS A D L H P R |
| UniRef90_F1RTA5 | L A WRLL R N Y K W WRAECPEISSADLHPR |
| UniRef90-H9J0U5 | K A HRLLVNYYQFRAENPDLFENIHP |
| UniRef90-K7J584 | RAHRLIVRYYTFKEEHPEIHQDVNP |
| UniRef90-F1NR47 | LA WRLLK K Y Q K Wr le CPEIS A DLQP |
| UniRef90-Q28FN5 |  |
| UniRef90_E3TDD1 | LA L K L L N Y H K WREECPEI S A NLQP |
| UniRef90_C3ZTV8 | RAFKLLENYY QVR A N T P EI F E K F L P |
| UniRef90_UPI0001CB9BC0 | R A F NTLVHYYEVR S Q M M Di F TEFAP |
| UniRef90_A0A023G5J3 | D AFSNVKKYF QVRRDNP GIF G NLGP |
| UniRef90-X1Y9H7 | ES F ARMVKLIF KLLKEANPEWF |
| UniRef90-M2P8M0 | K AKAMJLGYEQWRKDFDD\MQNFD |
| UniRef90-E2C3S6 | A AHRLIVNYYNFKENHPEIHQNM |
| UniRef90-T1JCV | R A F QL L K N Y Y K $\square$ R L Q F A Y L Y VNYR P |
| UniRef90_UPI0003ACC8FD | L S WRLLK N Y Y K WRAECPEIS A D L H P R |
| UniRef90-Q5TVJ6 | HAYNLMVRYYAFRESNPEFYENVNP |
| UniRef90-T1IYM4 | RAFQLLKNYYKTRSQNAQLCMNFSP |
| UniRef90-S4R8A3 | K T LKL I K N Y Y K C H Q T WP DVF Q DFRP |
| UniRef90_G6CL15 | RAHKLLVRYYT F R A E Y P HLY K DVD |
| UniRef90-M2QZ35 | K A K Q M L A CEQWRK DFEDI TKNFD |
| UniRef90-B7Q4H5 | EAFSTI RKYFRVRKDHRDIFEDLRP |
| UniRef90-Q16T91 | NS Y K L M CRYYEFRENNTELY D NVNP |
| UniRef90-U4UM51 | MA HRLLVNYYT F RETNPTYFSNI D |
| UniRef90-UPI0004419A35 | RAYDLIKGYVNFRQQYPELFENLAPE |
| UniRef90-F7CSC3 | RALLQL V N Y H G CRRSWPEVFT DLKP |
| UniRef90-R7SIU2 | KAKVMII S CEQWRKEF |
| UniRef90_Q5DG97 |  |
| UniRef90- W5JKA2 | GACEMLERYLKMRQTYPRWFARLDP |
| UniRef90- W5MC43 | QSLKLLIDNYHKWRNECPE\\|SANLLHP |
| UniRef90-P24280 | LAK K MFENCEKWRKDYDTILDQ |
| UniRef90_UPI0001CBC04F |  |
| UniRef90-C5DZE7 | LA K E M Y V N CENWRKENDTILK DFR |
| UniRef90-B5XE14 | LS LKLLIN Y Q R WRRECPEINANLH P |
| UniRef90-K5W531 | K A KEMLKNAEQWRKEYDDIVENFD |
| UniRef90-X1YG30 | K A CEMLERY L A L R Q S P P W WFQ G LD P |
| UniRef90-D8QLJ8 | K S K EML L N A EQWRK DF D D I I H NFD |
| UniRef90_UPI00046C29BB | QA CEMLER Y LT $\square$ R Q LY P Q WF R N LD |
| UniRef90_R7S3J9 | NAKAMLVNAEKWRREF |
| UniRef90-A3LZE3 | KAK L M FVNCEKWRKDFNT\LEDFH |
| UniRef90-UPI0001DED1B9 | LA WRLLI NYYKWRAECPEISSADLCPR |
| UniRef90-Q16Q21 | EACETL ERYLSMRQVFRDWFENLDPE |
| UniRef90-Q1HRC4 | K A CETLEK Y L 1 M R Q TYPK WCK NLD P |
| UniRef90-Q6FNM8 | MAKEMYVACEKWRK |
| UniRef90_UPI00021A8666 | KTKSKLWNYYKQRANLPEWYSNRDP |
| UniRef90_G8BQN5 | LS LE MYENCEK WRKEYDS L T D F H |
| UniRef90-R4G2V6 | PT YRLMM N Y CRFREENYNFYENVNP |
| UniRef90-G8XZA6 | K AKEMFVQCEKWRKDF |
| UniRef90-G3MSF8 | ATAES K K Y F R\RKEAPE\FDDFDP |
| UniRef90_B7P0Y4 | VAF K TLRNYYRHRRESPEI F T GLR P |
| UniRef90_K5X2V1 | KAKEMLIGNEQWRKDFEDIVKNFFPE |
| UniRef90-E4UPM0 | LS K Q MFID CEKWRKE】K Lid D V P |
| UniRef90-J3JWX5 | S A Y R L FVN Y Y NFKEDNPEFFDGVN |
| UniRef90_UPI0003F0E441 | K A F K M M V H H Y K ARRDYPK $\square$ R N N F K P |
| UniRef90_J0WT94 | A A K T M I I A Y E K WRKEF |
| UniRef90-B7PDU7 | T A Q K K V K Y Y K TRKNFPCVFK NFVP |
| UniRef90-B7P3M0 | R A F Q MVER Y Y R VR L Q D Q T L Y R D L H P |
| UniRef90-G3PXE4 | RA HELMKGYVRFRKEYPELFENLTPE |
| UniRef90-R7UFB2 |  |
| UniRef90-UPI000462DC3E | LA W W L L K N Y H WRAECPEMSA DLR P |
| UniRef90_UPI00035A17D5 | K A REMLV V S LA WRK L H P E I LEK Y Y P |
| UniRef90-UPI0001CBAC72 | RSFKLLENWCRVRVEMKEVFS D Y R P |
| UniRef90-T1PCI7 | S AFKLI K N Y Y S F K L K H A DVYK K DLK P |
| UniRef90-Q7Q7C3 | MACEALER Y L A M R ET F P QWF K N L D |
| UniRef90-H3CCI6 |  |
| UniRef90-V9L3M3 | LALLKLL I N Y H K WRAECPEISSADLIRP |
| UniRef90-E1ZXI3 | K TKTKI R N Y Q M Q R A K M P E WY G NRDP |
| UniRef90_Q4S693 | R A LQLLL ${ }^{\text {L Y H A A HKA WPEVF K D L K P }}$ |
| UniRef90-B0X3T2 | K T Y Q M I Q F A Y R M K $\square$ N G K E Y Y E N |
| UniRef90_M5G6W0 | K AKFMITTSCEEWRKDF |
| UniRef90-W5L7G0 | RAHELMK GYVRFRRDYPELLE ENMTPE |
| UniRef90_D6WWA6 | D TYLLVQNYYYYRKKNHIIFENFTP |
| UniRef90_M7WF78 | K A K I M Wlid T Q W WK Q S F EL Y ETFD |
| UniRef90_UPI00022B2C41 |  |
| UniRef90-F4W5T2 | M A QEMLEQY LT $\square$ R Q L H S NWFQ NLD |
| UniRef90-W4KFL8 | K A K EMILLSAEAWRKDFDDLVENFDPE |
| UniRef90_UPI00034FDDD8 | MA QQ TLL K Y L S L K F Y P EI FKNLD |
| UniRef90_G8ZLV2 | LAAKEMYEACEKWRKEYDTI LED F C H |
| UniRef90-Q10137 | QS LEMFDKCEKWRKEFDDLI K N F H |
| UniRef90-B7PDU8 | A ALLK R L K E Y Y K M R K C C S V F E NFDP |
| UniRef90_A7URF7 | A A TEMLEKY LT $\square$ R Q V Y P H WF F K L D |
| UniRef90-D6WK79 |  |
| UniRef90_U9T309 | K TKKMFTDCEKWRKEF |
| UniRef90-A0A017SMN7 | A AKTMFVDCEKWRKEFPKVFE Y Y P Q |
| UniRef90-U5FS51 | DAFVVM K N T $\square$ Q WR R D F K |
| UniRef90_G4NDN3 | LAALKMFVDCEKWRKEYPEDFK Y Y P P Q |
| UniRef90_Q6BPM1 | KAKQMYVKCETWRKDF |
| UniRef90-Q0IET4 | QS CEMLEK Y L S $\square$ R Q T Y P K WF R N |
| UniRef90-G3ANF5 | K S L E M FVNCEKWREEF |
| UniRef90_V8NSP9 | RAYDLI K G Y VNFRQQYPEDFENLVPE |
| UniRef90-UPI0003F0935F | K A HEMLARSSLSWRKQH |
| UniRef90_V7CJ71 |  |
| UniRef90-B0X432 |  |

UniRef90 L8WIL2 UniRef90-B8MAN3 UniRef90-QOCIE6 UniRef90-B7PJC3
UniRef90-IIVMM2 UniRef90-Q16Q20 UniRef90-V2X892 UniRef90-H2LA95 UniRef90-B4MLQ7 UniRef90-W5NA73
UniRet90 V5HKS UniRef90-UP10002C2EC5E UniRef90 R4WUH9
UniRef90 A0A023G8H UniRef90-B4M8J0 UniRef90-W4WU24 UniRef90-T2M6X8 UniRef90-W4XB48 UniRef90_UPI00026595FB UniRef90-J9KNB7
UniRef9o_J6EQW9 UniRef90-C5MGR0 UniRef90-T1PDE9 UniRef90-A0A023GK84 UniRef90-F41HJO UniRef90-M2MSV1 UniRef90-T116K4 UniRef90-UPIOO03F09289 UniRef90_C0Z3B2 UniRef90-N1PEG2 UniRet90-V5FYQ9 UniRef90-F6T9Q4 UniRef90-UPIo002658B5E UniRef90_BoXFB9 UniRef90 B2W8N2 UniRef90-OOV9NO UniRef90-- 3 UBCC9 UniRef90-A0A026WMI2 UniRef90_12GZ28 UniRet90-W9ST22 UniRef90-S8BWK1 UniRef90-S7ZS45 UniRef90-B3XYW5 UniRef90-V5IJ95 UniRef90-G2QK76 UniRef90-U4LD54 UniRef90-A0A022RK06 UniRef90-A0A016Q7R7 UniRef90 V9LIK0 UniRef90-W9Y8S8 UniRef90-B9GRK7 UniRef90-W6PZU5 UniRef90-C4WWS6
UniRef90 G0S286 UniRef90-J3JV36 UniRef90_Bownmo UniRef90-S8FVW4 UniRef90-H2USW4 UniRef90-I2G5B6 UniRef90-K7V7X1 UniRef90-G2XRL5
UniRef90 B4GW2 UniRef90-F7E969 UniRef90-B8LQR7 UniRef90-S7MZC0 UniRef90-P33324
UniRef90 A9T5M6 UniRef90-W2SJEO UniRef90-UPIO002659493 UniRef90_E9DV73 UniRef90-ROH5X9 UniRef90-UPIO003DOAF9B UniRef90 S8CET6 UniRef90-B8LUQ0

UniRef90-G3PN07 UniRef90-B3S7W2 UniRef90-V4TTP9 | UniRef90-K2S1M0 |
| :--- |
| UniRef90 | UniRef90-R4FP70 UniRef90-W8C7Z2 UniRef90-UPIO001CBAC73 UniRef90-H2YUl1 UniRef90 UP1000388C48E UniRef90-K3ZRN7 UniRef90-K3YZP8 UniRef90-EOCOH2 UniRef90-АОАОЗ4WM90 UniRef90_W8AJK9



KQAVADLSEQLRESLWSMLKADHPDALLLRFLRARKWDVN EKKLEEFKKLCEKEGYDGQRPSHDDATMLRFGRARKFDIN KEAVARLRTLLAEE PDLNCQTDEEFLVKFLRSRKFRVQ ETAVHELRQKLVERG SLPPRHDDHTLLRFLKARDFNIE QALRQMREWIAKNPAKILKCRTDGSFLLRFLRVRKFNHV E EQSLEQLRNWVIK NEDLQNVRCDDTFLLRFLRAKKFSVP
 QAVDAFRQALILE ELLPSKHDDHHMLRFLRARKFDI E QRS EDRELYQRGDE ${ }^{\mathrm{R}} \mathrm{P}$ KKINKLRAKTTER PE ESALQKLRERMDEKKG VIVNTDSRFLIRFLRARKFNVD

 QQTLAEFRKKVSDCLVD NEVHDDYFLLRWLRARKWDVD QRTLEQYRSAISDQ QAVDAFRQSLL MDELL A AVHQLRMMLEQEGY ENALKALKDLIDAEDNADTKTR
 $A A V F Q L R T$
$Q \| V S D F R D$
 C KKNBDV ESADADRKKLCKMKKGD
PALAQLREFIVKHPQDKQC
AAVAQLRMSLEQAGHTK $\qquad$ KD RDM1QEKEDERKDKDDVFL
 ALMKFRRSVQ EEAVNSFREALLTK DLDARFDDYHMLRFLRARKFDID QQALVEMQEEI RTAFWNMVKQDHPDALLLRFLRARKWDVK QRAI MKLREQLVAMG FEFRLDDASLLRFLRARKFDLE
 QA ALARLNQLLDE E CLIN EKAVCEFRKELEADEGFT AKLEQFRMMLESEG QDIQEVRDMI DTRPD QLRAMLEQEGY VDSFKQLLMA DDLLPARDDTLTLLRFLRARKFNVE EEKLEEFKKVCQADGVEAKPASQDDATLLRFLRARKFDVE HSLRAMRNWIRKHPD IVNCRTDAPFLLRFLRTKKFSVP QAQVHQLRMLLEAEGYTK QQALKELRDLLKEEDDLYDPLENDLWLV QAVEAFROALL GDELLPARHDDYHMLRFLKARKWDLP AQVQQLRLKKLEAAGFTELPA
 KQTIEQFRSYIDERNEC LAKFRENLQDLM PSLP KTDDYFLKW RARYWKIE QAAVDNFRQALDAE DLLPPRHDDYHMLRFGKARKFDVE EEABRESLIKKNY KERDDDSTLRFLRARKED QQAVEELRRELNSRN LLPDDHDDYHLLRFIKARKYD:K ESRLCELKYGLQAHHKGKLP NDAHLLRFLRARDFDVA AQVHQLRMMLEAEGYT DRLDTLTLLRFLRARKWDVK NALHELRNLLQDSGVPLLKDNRSDAVLLKFLRARDFKPQ ERAVDAFREALVSDN LLPARFDDYHMLRFFLRARKFDTH EAKIFQLRALLEQEGYTELPARDTLTLLRFLKARKFNVE QEALEQFRGRIQ DVLPQLPAQDDHFLLRWLRARNFNLQ EKAVNEFRNALDAR DMLPSRHDDHTMLRFLKARKFDI D
 KGLQVMREMISKKKMCDT RTDDVFLLRFLRARKHDAA
 SLAQLRQLIEETGEMMKRLKTDDGFLLRFLRTRKFNVE EALAKFRENLQ DVLPSLP NHDDYFLLRWLRARCFDLQ ERAVAAFRDRLAAHG KQVDAFRQTLVLE DELLEARHDDYHMLRFLCRARKFDDD QA A ALRTWIKQQ PHLRARDDDQFLLSFLRGCKFSLE

|  | KSKEMLITACEFWR ${ }^{50}$ |
| :---: | :---: |
| UniR UniR | VMLISTDRWRREEMHVDDDVM |
| UniRef90-Q0C | WGQ |
| UniRef90-B7P, | DTFKIIRNYYQARTDYKEMFEDL |
| UniRef90_11JVM2 |  |
| iRef90-Q16Q20 | ENLGRYLVLRQKFAEWFQKLD |
|  | AKKMLLDAEEWRRDFPEDFENDTPE |
| UniRef90-B4MLQ7 | AEQTLLKYLNDRRTFPHMSTKLD |
| UniRet90-W5NA73 | ELMKGYVRFREQYPEL |
| UniRef90-V5HKQ | AAMQTIRRYFRMRHDNPD:FEGLVP |
| UniRef90-UPIO002C2EC5E | KAKQMWTDMLQWRKEYKEDDENYYPQ |
| UniRef90-R4WUH9 |  |
| UniRef90-A0A023 | DAFQTI K K F R RRRDM |
| UniRet90 B4M8J | NSYKLICNYYKFREENKSYYEKVRP |
| 保 | KAFEDMVRYYETKRSPDWFENFP |
| UniRef90 ${ }^{-}$W4×B48 | Sivky |
| UniRef90-UPIo0026595FB | , |
| UniRef90-J9KNB7 | KAFKLIQNYFEA |
| J6E |  |
| C5 |  |
| UniF | EKMLRNAMKNRI |
| UniRef90-A0AO23GK84 | AENIQKYFKARK |
|  |  |
| UniRet90_M2MSV1 |  |
| UniRet90-T116K4 |  |
| UP10003 | C K |
| UniRet90-C0, | EAFTMLKNTVQ |
|  |  |
| UniRef90 ${ }^{\circ}$ FGT9C | RAYELLKGYVNFRQQYPEDFEDLTPE |
| UniRef90-UPIOOO2658B5E | S |
| UniRet90_BOXFB9 | CDA V RYLTM M T |
| UniRef90 B2W8N2 | EKMFVDCE |
| UniRef90-H3 | RAFELLKGYVRFREQYPEDFENDTPE |
| Re | ALERYLMM |
| UniRef90-A0AO26WM12 | MLRDSLEWRK |
| UniRef90_12GZ28 | LAEKMFVDCENWRKEFNTILEDFH |
| iRet90_W9ST22 |  |
|  |  |
| 872 | KALIMMMSTMRWRLLEEVHVDDDIM |
| UniRef90_C4XY16 UniRef90 -3S7W5 | MFVECEKWR |
|  | EQMLRRNYR |
| UniRef90-G2QK76 | MFIECEKWRQE |
| UniRef90-U4LD54 | MYTDCETW |
| (0A |  |
| UniRef90_A0A016Q7R7 | ASKAMFLDTEKWRKE |
| UniRef90-V9LIK0 | EAFRLLAQYFEYRQQNLDMFKNFK |
|  |  |
|  |  |
|  | GAWAQ |
|  | Q |
|  | R |
| UniRef90-BOWNM0 | Q |
|  | AAPDMMKNYVRFRKEYPELFENLTPE |
| UniRef90-12G5B6 | EAMFTEAEKWRAEFKQLYHSFYPE |
| UniRef90-K7V7X1 | KAKQMWIDMLQWRREY |
| G2XR | LAEKMFVDTEQWRKDF |
| UniRef90 B4G | FREHNKGYYEKVRP |
| UniRef90-F7E9 | KSEAMLRKYMEYRKNMPEVI QKYLP |
| IRefefo- E30877 | KAK MWA M Lin |
| E30827 | MFVDFEEWRKEYPELFKKYPQ |
| IRef90_S7MzC0 | M |
| iRef90-P33324 | EMF |
| UniRef90 A9T5M6 |  |
| UniRef90 W2SJEO | K D |
| UniRef90-UPIO002659493 | FKCYQKYYRVRSSHPAD |
| Re90-_-9D | LSKAMFV |
| UniRef90-ROH5X9 |  |
| 㖪10003 |  |
| IRet90_S8CET6 |  |
| UniRef90 B8LUQ0 | AAKAMFVECEKWRKEF |
| UniRef90 G3F | A MLRKHLEFRKQ\\|KAl LT D Wr P |
| UniRef90-B3S7W2 | P |
| UniRe990-V4T1 | - |
| UniRef90K2S1M0 | SKQMFLDC |
| UniRef90-M8B402 UniRef90 R4FP70 | KLIMWSDMLTWRKEF |
| UniRef90-R4FP70 UniRef90 W8C7Z2 | MLERYEKMKKTYPEL |
| UniRef90-W8C7Z2 | KAFKLLEKWCSMRVDLDAVFENYRP |
|  | GLI KAYNKY |
| UniRef90-UP1000388C48E | KAEAMVRKYVEFRKHMPEVIDKYM |
| K3ZRN |  |
| 3YZP8 | S M |
| OCOH2 | KHMWT EMIHWRK |
| 190 |  |
|  | NQNKSYYEKVR |

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UniRef90 W1P1P6 UniRef90-A0A023F3G8 UniRef90-A0AO24JHF3 UniRef90-F2SE23 UniRef90-UPIO002659120 UniRef90-11HE82 UniRef90-F4RT29 UniRef90-UPIooo3345AB8 UniRef90 M1W5T3 UniRef90-UPIOOO258F505 UniRef90-K5VJH2 UniRef90-W5U9T5 UniRef90-S3CQ59 UniRef90-K1R172 UniRef90-G7LGG8 UniRef90-R1EKV1 UniRef90_V5GKY7 UniRef90-A0A023FP47 UniRef90-F4JLE5 UniRef90-UPIO002B46AC6 UniRef90-Q17FQ9 UniRef90-M1CER3 UniRef90-A0A023GKA6 UniRef90-UP100046DE4CC UniRef90-D7UAN4 UniRef90-Q17LK7 UniRef90-A0A059BSB5 UniRef90-H2XVI2 UniRef90-UPI00046E12D5 UniRef90-M2NKH3 UniRef90-UPIOOO3339CA6 UniRef90--F9XM40 UniRef90-W2RXJO UniRef90-W9SC19 UniRef90-E9DVNO UniRef90-UPIO0042C98D1 UniRef90-B7PRJ1 UniRef90- F2TE92 UniRef90 BOX422
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\end{tabular} KDRDDNLL

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 DVWED QETTARPNNDOD VAHQRRNLQDLGPVLPKPDDYFLLRWLRARNFDLQ QQALKQLUSELLKAEGYPELKERLDTLTLLRFLRARKWDVA EEADAS VQETFDEKPDAVIIRFIRARKYDVN EEALASLSEATRSTVWSMVKHDHPDALVLRFLRARKWDVD ปADVKEQUETRPD KFLRTDDAFVLRFGRAKFDTVV QAALAETTEELRASLWTMVKHDHPDALLLRFLRARKWDVQ REAVIELRDLLKEEKDLHVPDDNDWLVRFLRPCKFYPE E ESLARLRKLLEEDEPELKTRADSVDLLRFLRFRKYDVD ENHLMQLRRRFQVAHVGKMP QAVEELREMGKGQDELVVRDDNDEAMLVRFLRARDVNLD ERCLEELKFLVQEAGVPLLKDDRSDVILLKFLRARDFKVK ERAAR ROM AGDEALDCPTDNKFL KFLRARKYREE ESAMHELKQKLLDK DLLAPRRHDDYHLLRFLKAREFNNGE QAKUNELRRLIGTAALPELSUCSDASLARHLRARNWNVK RDDDLFGLRFLRARKYKHA QAVDSDRQALILE ELLLPSKHDDYHMLRFLKARKFDIE Q A QQALASLSEALRDALWSMSKHDHPDALLLRFLRARKWDVQ
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E $A Q V H$
$Q V L$
$V$

TRLDTNTLLRYLRARKFDVN KDDRTVSLL KKALQELKDKLQAAGIPLLGDDKADAFLLKKGRRPCKYYPD KKETLEQFSVKVSDVLQKEHDDFFLLRWLRARDFNVE
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 EEAVNSFRQALDEKDDLLDVRHDDHMLRFLKARKFDLD
 ESCLDQLRHWLQETHKGKASNDPKDQHIL R


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 A TDEVRDQMETRPDINFQDRQDDVFLKRFLRARKFNTE $A A V Q E L Q E L V Q E A G E E L A Q A V R$

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 EQUVDSFRQLVFLEGQLIDKNNDYHTLLRFLRMRDYDLQ ZVERFRQCLLDDG LLPEHDDHTMLRFLKARKFNDD SDTQMREWI V RNKHMHKSRTDASFLGLRFLRANKFSVP KHALNELKSRLDGVDREEPDDVNDDSYLLKWLRARQFNVE K QEVRDLIVTRPDINFTRTDDDFIRRFLRARKYDIV KAVEEFRQALISE DLLPEKHDDYHMLRFLKARKFEID EEALAKFRENTQ DTLPLLPAQ DDYYILKWLRARCFDLQ NSLKELKSLL SDEESLSCPEEEAFLLKFLRSRKYNVP
 EADLQAFKAWI EQQPA HLNPRMDDQFLVAFLRGCKFSLE
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AA RDRQWLQENHKGKDPKE Q Q A A LELRELVVGENDDTHYFKTDDKDLIMYLRPCKFYAK ERAVYTFRKELIDR E ELL PEKHDDYHLLRFLKARKFDRE
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 EDLRLAFWGMVKHDHPDALLLRFLRARKYDVN KKALQELKRKLIEWGSLVEDDRADVILLKFLRARDFKVN



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 $\square$ Q A L R D M $V \stackrel{R}{V} A \mathrm{~N}^{\mathrm{K}}$ A QKALAE $\square K E D M R T A F W S M V Y K Q$

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A QVVHQQ F R LLMLLES S EG Y T K  E S KLLVQFKK QL S QLQ K S K L P
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| UniRef90－P12271 | RAYELLRGYVNFRLQYPELFDS的P |
| UniRef90－UPI0002 | E |
| UniRef90－F7D6 | RAYELLRGYVNFRLQYPELFDSLSPE |
| UniRef90－L8G818 | KALVMMISTFHWRSVEMQVDEDIL |
| UniRef90＿Q65217 |  |
| UniRef90－Q16U46 | A AEKMLRESMKFRERWPQ LIDDLAP |
| UniRet90 W8BXE6 | QAFTMLKDSLKWRK |
| UniRef90－ 6 HEQ9 | GALDQFRDTEEWRKTNDALYRNFD |
| UniRef90－W5 | Y HA YRQ |
| UniRef90 M1AFJ6 | MWS DMINWRK |
| UniRef90 M3BSL5 | QFKDTE |
| UniRef90－－9G44J0 | KSERMFRNSMEWRRKYK WFKMY |
| UniRef90－UPIOO0198 | K SEEMMRKDLKWREENPEVFKKY |
| UniRef90－UPIO0042B33BA | K A K M |
| UniRef90－B6 | KAFSMMASNI DW |
| UniRef90－UP10004 |  |
| Re90－piocos | QMWA |
| Rer90－W9 | GAFGQFTDTEKWLK |
| UniRet90－UP10003F15F11 | ESEAMLRKHVEFRKQ |
| UniRet90＿B9SAY7 | EAFQMLKKTLQWRKE |
| UniRef90＿D7U3L7 | MWKEMLNW |
| riRef90－UP1000328B2E1 | WRMRKIIKHRWR |
| UniRet90－T1PA | GALKLIKDYFNYRQKFPDLCKDLK |
|  | M |
| UniRei90 Bow | KA M |
| UniRee90－K2RQ6 | QFKDTEDWR |
| UniRef90－UPIOOO4412EA7 | NAATMWKNCLEWRRTVED俭RDDDP |
| UniRef90－［1］J | MLIKCLSP |
| UniRef90－D8PZFs | A AQKQFAATEEWRKENDRLYATFDP |
| UniRef90 U5EFW3 | STKQKLDLI YTVRTALDPE＇FLINRDP |
| UniRef90－S8A826 |  |
| UniRef90－11EGB1 | RA M |
| UniRef90－S2JM28 | A AYNMLTNTLRW |
| UniRef90－Q5B6X1 | MLIS T I RWRLLDAKVDEDIM |
| UniRef90 A0AO23GJQ2 | ASLRNVCNYYRURDTCGPVFRDFLP |
|  | AAKKMERKAEOWRAK |
| UniRef90－J9K7T6 | KARENLSQSLTWRKEFPEATKKYFP |
| UniRef90－T1J2H6 | KAEDMLRRSLTVRK |
| UniRef90－LOPG69 | ct |
| iRef90＿GOS7Y8 | － |
| ， | KMFADAQQWRK |
| UniRef90 $\mathrm{H} 2 \times \mathrm{O} 86$ |  |
| UniRet90－B7PR40 |  |
| UniRef90－UP10002 | KAREMLCESLVWRKKYPKIVKEYLP |
| UniRef90－UPI0002B46CAC | DS L M MLQKCLQ |
| B9 | L |
| UniRef90＿C16ZAO | KAKQKLDLYYTURSA |
| UniRet90－UP10003C482CD |  |
|  | V |
| Ref90－G4NDS9 | KALFAMVLSAMYW |
| UniRef90－M0 ${ }^{\text {P7LO }}$ | QTRGMFVNMLKW |
| UniRef90－F6R864 | RAYDLLKGYVNFRQQYPEDFEDL |
| UniRet90＿G3J6C | ETWRQA |
| UniRef90－M2RN | KAVKQFSDTEAWRRQHAHDDKTM |
| UniRef90－F4HP88 | SWRADAHEDSMM |
| UniRet90－B7QB72 | LWRNECPDVLKRYFP |
| UniRef90－B4LCW3 | A |
| iRef90＿D8U6Q5 | KALS MYRDMRAWRITEN |
| UniRef90－J3JTB6 |  |
| UniRet90－F9XM30 | DAFTQFKDTEDWRQE |
| UniRef90－X1Y9B5 | S A LKLMRNDAEFNKTYKDSLHNDMP |
| Ref90－UP10004 | DAFDMLRNTLQWRKDN |
| 俍e90－MOT1S2 | ，－M MK |
| UniRee90－A0AOLS9LH21 | EAKKMFMR MLKWRQEY |
| UniRef90－W3XD70 | KALIMLVST |
| UniRef90－ 14 DPQ 3 | A AEKMLRDSLVWREKW |
| UniRef90 W9SE01 | EAFQMLRRTLRWRKEYK |
| UniRee90－J3NLS7 | SATMSTVKYYNW |
| UniRef90－UPI000388F11E | KAEAMV |
| UniRef90－F4WG06 | MAQEATER |
| UniRef90－14DLF3 | AQEALERYVLLRQSWG |
| UniRef90－D8RE23 | DAFAMLKNCVLWRKRY |
| UniRef90 ${ }^{\text {C }}$ CYY ${ }^{\text {a }}$ |  |
| UniRef90－H2ZEV6 | K A Y TLMKGYVKYSTK HPDVVGNVR |
| UniRef90＿－ 9 G5 25 | EAEKMLRASLAWRQTNPEVFQKYY |
| iRet90＿S8CJA4 |  |
| Ref90＿Q16Z99 | RAKEKLDMYYTVRTMSPELIRTRDPE |
| Ref90＿Q17LL2 |  |



| UniRef90_A0A059BUB2 | ESFDMITKSTV ${ }^{50}$ RWRREF |
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| UniRef90-F7VUH4 | DAFKQLKETEDWRKAN |
| UniRef90-B4JPT3 | RAKQKFDRFYTLQAT\PEDFNERR |
| UniRef90-B4J2G0 | K AKHK\DRYYTLQVAIPEVFNEHR |
| UniRef90-L5L5D3 | RAYELLRGYVHFRLQYPELFDSL |
| UniRef90-X2B1B4 | RARETLEGYLTMKTQNPA WYDNID |
| UniRef90-M4E832 | K AKDAFLS YMKWRVDSK |
| UniRef90-A1CIW0 | K A F VMMLDAVLWR MKEFHVD |
| UniRef90-E9G4V2 | K A K K L R S i EWRRKFPEVLSKYFP |
| UniRef90-UPI000234E937 | K AKATFLNMLKWRED |
| UniRef90-UPI0003C284ED | K S E GML R K Hi EVVRKKAPEVI EKY L |
| UniRef90-W4YV39 | RTEKMLRMDI K WREE |
| UniRef90-UPI0002B4912C | EAFEMLQKTLS WRKK |
| UniRef90-UPI000258F61C | S A Y L LMK RVAEFKEKNASLFDNLMPE |
| UniRef90-W4ZJQ8 | K A EEKFRRDLD WR ${ }^{\text {L K N P E I F E E H Y P E }}$ |
| UniRef90-K7K2R3 | DALLSMLRNTVRWRKEF |
| UniRef90-N1JBW4 |  |
| UniRef90-C4JLQ6 | GALDQFQT T E EWRKQLDTLYE |
| UniRef90-F2SFC2 | RALVMLVSAFRWRSQTMNID D |
| UniRef90-A0A022QGC | KA T DMLI K Y LK WR |
| UniRef90-UPI000265142C | KAEEKFRRDLDWR】KN |
| UniRef90-V5IEV9 | K S EKLLRDSI ${ }^{\text {L }}$ WRQ |
| UniRef90_V3ZK42 | K AEAAIRNDAAWRNDNDT\LEDYKPE |
| UniRef90-W1NTF7 | K A R D I WL N M L K WRNE |
| UniRef90-F6HMU7 | K A T K MLK T TVKWRMEHK |
| UniRef90-R7TGP6 | RAEAMVRNS $\mathrm{S}_{\text {S WR }}$ |
| UniRef90-14DIV6 | K A KRKLD MYFTMRAAVPEFFDNMRP |
| UniRef90-A0A022RPK9 | D S $\square$ A ML R K C L A WRKE |
| UniRef90-UPI0004622428 | K A MKQFADSETWR |
| UniRef90-I1G9R3 | A S LE M |
| UniRef90-G2QYP9 | DAYAQFKDTEDWRKAN |
| UniRef90-M5WTD0 | K A K A F L S Y L K WREDY |
| UniRef90-UPI00034FA75F | RTKEKLDLYYSVRTTAPELF |
| UniRef90-H0X7W3 | KSENMLRKHVEFRKQ |
| UniRef90-A0A059C1C0 | K A K EVFLNYLKWREDY |
| UniRef90_UPI0003F07382 | K AVTMI R N S M ETRKKM |
| UniRef90_C1EGG3 | K A L K ML R D CLA WREAN |
| UniRef90_W9RMY3 | DSFAMLTKCLVWRKEFK |
| UniRef90-UPI0002064174 | S SFELMKRFYKFKLNNPRYSRDLL |
| UniRef90-I1L0J1 | DAFEMLKKTLKWRKE |
| UniRef90-S4PJS2 | LAHKLMIRYEDFQKKNSHLYD |
| UniRef90-J9JL22 | LA QETLERYL |
| UniRef90-B0XFB8 | AACEALEKNL |
| UniRef90-B4KKB0 | S A L K RLK N F Y N M S K Y G $\square$ A CEN 1 VP |
| UniRef90-S3BZ09 | EAYAQFKDTEDWRAEN |
| UniRef90_UPI0003C39DC8 | K A K EKVDLY F S L K K Y P N M F |
| UniRef90-F4PNR2 | A AFELFQGTLKWRKE |
| UniRef90-W5JJ17 |  |
| UniRef90_V7BJZ2 |  |
| UniRef90-M7XRM3 | GAYEQFTAAEDWRKTFPEMARELYPQ |
| UniRef90-F1QK23 | K A EAMLRKHLEFRRHMKT\IDDDWSP |
| UniRef90_A0A022QMK0 | K A S A ML L K Y K WhK |
| UniRef90_A0A059BQR4 | K T Y EMLVDCLKWR! |
| UniRef90-E9H236 | R A MRLL ${ }^{\text {N N Y I R M T K N Y P ELLT E L R P }}$ |
| UniRef90_V4UIE1 | DALDEMLKNTLQWRK |
| UniRef90-M0U4W5 | DAFEMLRNVLVWRKQ |
| UniRef90-T11055 |  |
| UniRef90_K1QUM4 | KAEQMFRASMAFREKMKT LLEDYKPE |
| UniRef90-A0A022PU96 | D A Y M L EKTLQWRKE |
| UniRef90-U5HCQ2 | GAYNQFVASEKWRKNEKDLYRNFN |
| UniRef90-D3BL18 | K S EMMLRNTLA WRKS |
| UniRef90-UPI0003EE3E22 | KAREIMCQSLT WRKQHPQVLQDYY |
| UniRef90-Q28Y06 | KTKLKLDNFYAMRGVVPELYKN |
| UniRef90_B7QHR3 | EALKNI K Y Y Y K I R K E C S SVFGDFVP |
| UniRef90_L8GJV7 | K AEEMI RATLA WRAEYPELIEDIEPE |
| UniRef90-UPI0003C3A94B | K AKTKLDLYYSLK S KYPEM |
| UniRef90-E0VHP2 | K TKRKLD MYFTMRAA $\square$ P EFFSNRDP |
| UniRef90-J4GMP0 | A ATTMWATSQEWR |
| UniRef90-W8CCZ1 | K A K R K L D Q Y T L R T T L P D L |
| UniRef90-J4C8C0 | KTTTMLTKYFAWRAQ |
| UniRef90_V4LSG7 | K T VT A WE EMLKWRKE |
| UniRef90-D6WZX0 |  |
| UniRef90-C9S5V4 | DALDT QFAETETWRTAN |
| UniRef90-U3J4P4 | K S EAMLRKHVEVRK |
| UniRef90-A0A022R4P0 | DAFEMLRNTLEWRKENK |
| UniRef90_G7E1X7 | RAFMMMAAAVKWR】E |
| UniRef90_A9NKZ9 | K A CEMFAKYRKWRQTC |
| UniRef90-G7E080 | KSKALIFAKAQAWRKD |
| UniRef90-T1PFJ8 | SAFEKMKTTASFRKENAALVHGL |
| UniRef90_C4JSH8 |  |
| UniRef90-C5DFC5 | K ALGMMA H T L E WRLK HPD |
| UniRef90-M0T4Q9 | K A TRMWSEMLQWRKDF |
| UniRef90-UPI0004408F2C | K AQKQFSDRI A WEKKHDNLFANF |
| UniRef90-K7UDL5 |  |
| UniRef90-B9SY98 | K A AKMLKETLK WRLEFK |
| UniRef90-K9LK39 | K T REML ${ }^{\text {L K S M A WRKQFPP }}$ |
| UniRef90-E0VDE5 | S A Y DLVKRYYAFKVKHNNIYD GLIP |
| UniRef90-U4UJG4 | QAKEALERYILLRQCFGVAFNCLD |
| UniRef90-A0A058Z2E7 | A A EMLKNNMAFRKE |
| UniRef90-14YFC1 | A S EKMFRNYLQWRKDF |
| UniRef90-UPI0003AB76B1 | KSEDMDRR |
| UniRef90_UPI0003C37D70 | E A E K K L D Y F H A F R T R Y P E F F E |

 UniRef90_W5JVC8 UniRef90-A0A034VM61 UniRef90_E9IWR0 UniRef90_H9JU04 UniRef90_C9SUF5 UniRef90-E9GC90 UniRef90-F2DMI8
UniRef90-F2CU10 UniRef90_UPIO003C37B0A UniRef90-Q17LLO UniRef90 S8CPY1 UniRef90-A0A022QBC4 UniRef90-D3BQ72 UniRef90-M1AGN5 UniRef90-U5FUW0 UniRef90-D3B8B1 UniRef90-ROGQU2 UniRef90-Q6C4B2 UniRef90-UPI0003C3A101 UniRef90-E2B178 UniRef90-X8JK96 UniRef90_EOW3B9 UniRef90-W5JI15 UniRef90-M2PQH0 UniRef90-K5VTF7 UniRef90-E6NU10 UniRef90-U5EFH4
UniRef90 A9TG24 UniRef90-A9TG24
UniRef90 E6ZKQ7 UniRef90_UPI0004561486 UniRef90-E9CJ62 UniRef90-G7EAY4 UniRef90_UPIO0032A5641 UniRef90-R7UNY1 UniRef90-E9F630 UniRef90_UPI0003C34FD0 UniRef90-B4GGE6 UniRef90-FOX814 UniRef90-Q8SYC4
UniRef90-D3B401 UniRef90_UPI0002C2E191 UniRef90-W4ZC21 UniRef90-Q6CPF2 UniRef90-E9G4U7 UniRef90-Q0IET2 UniRef90_UPI0003C3683E UniRef90-S8A2Y7 UniRef90-B0X3T1 UniRef90_UPI00042B241A UniRef90-B7PYS3 UniRef90_M8CBE9 UniRef90-B4MS63
UniRef90 D6WLC8 UniRef90_B9SWQ7 UniRef90_Q178U5 UniRef90-D2VOFO UniRef90-W1Q171 UniRef90-TMGSWN
UniRef90_MOTWN0 UniRef90-D8SZW3 UniRef90-E1C817 UniRef90_E9G4G1 UniRef90-J9K902 UniRef90_H9JH89 UniRef90_E9G4X1 UniRef90_UPI00046B3430 UniRef90_UPI0002B4DC1D UniRef90_Q81099 UniRef90_B0X3T3 UniRef90_V4S5D2 UniRef90 B6TMQ2 UniRef90-D3TN47 UniRef90-A0A024J9D6 UniRef90_W9S013 UniRef90_UPIO00441080D UniRef90_J9JMG7 UniRef90_UPIO0042B49D3 UniRef90_Q5WMM0 UniRef90-M0YM48 UniRef90-A0A022S2A2 UniRef90_13SQR9 UniRef90-D2A5R3 UniRef90-T1HUQ6
UniRef90- M4DLT7 UniRef90-M4DLT7 UniRef90_UPIO0017921C3 UniRef90_W9C2L8 EEKLAEFKEKLVGDLLI KPEHDDYYCLKWLRARGFDVA QQALLNEVRRLIGPQS GKASDFCSDAS ISRYGRARNWNVK

E

 PYLTARTDDQFLVGFERGCKYNMD

$\qquad$ PH $\square$ PDEWE
 Q Q H P K V E LKA MA E A Q L HA $M P D D A N F L$

$K O N X H M$ | $A$ | $L$ |
| :--- | :--- | :--- |
| $A$ | $M$ |
| $A$ | $L$ |
| $N^{\prime}$ | $L$ | PHVKVDNMTLRRFLRARDHDVC

 Q D R KQFKEKLNEQEDDKEKDWVDDMMDLRYLRAREYDLQQ ENVVYELHQQLLDRN LLDP PI HDDHTLLRFLKARAFNUE QE QLAKI NRKILGPVADKLPVLCSDASI SRYLRARNWNTK EKFLLEIKRKLKENNDSIVKAKLDDSMILRFCRARKWNLN VEAFRNLLLLHG HLPANHGDHYLLRFLKMREFDLE A AFAEVREQLRLAFWDMVHGDSPDNLLLRFLRARKWDVG



 LMRDTVEARDPSSK EVDDLTLRRFLRARDLDDQ
 QAALDELLQALRNTFWKFVKMDNPDTDVLRFGRARKWDVS

 EFKER!GDLLRPYHDDHTLRKWLKARCFDV

LQA EL WQ
 QRAILEEKKFRKQMDDALVGTHDDYFLVRWLRARKWNLE RKA LMEFRREDT पWGVP LLPHQGTDVVGKFKAR YKT


 QESLTELRSLLKEHSDLNIPVD DDAFLKKFLRPTKYYDG
 KKVAELRE FVEAQDPSAKEE VRER
 KALQELRELLK NDDTMYFKDDDETLMIFLRPCKFYAK E EAVNQFRELMDQVEESGQKTYQNTETLVRFLKAREWNVT



| UniRef90_E2B177 | $\text { S AFS } L \text { ! KRFYRFRQNYPH } \square^{50} \square H(L L P$ |
| :---: | :---: |
| UniRef90_UPI0003F0A000 | K A E M I R K H |
| UniRef90_V7B8I0 | K A A K M L K LT L K WRQE Y K |
| UniRef90-A0A022Q5F3 | K A S S M FVRYLEWRRSF |
| UniRef90-W5JVC8 | RAKEK D M F Y S VRTA |
| UniRef90 ${ }^{-}$A0A034VM61 |  |
| UniRef90_E9IWR0 | K T K T RI R N HYKQRS D L P E WY T NFRPE |
| UniRef90-H9JU04 | K CKKKLDMYFTMRAACPEFFAN |
| UniRef90-C9SUF5 | K A MEML MST $\square$ D WRHE |
| UniRef90_E9GC90 | K AKK K L D LTM T LR T A LPEFFDEWD P |
| UniRef90-F2DMI8 | K A $\square$ H M WA E M L Q WRKEFD T ILLEDF D |
| UniRef90-F2CU10 | K A S A M L L K Y VA WR R |
| UniRef90_UPI0003C37B0A | S AKKRID Y F Y T Y K S S A K DLIK |
| UniRef90_Q17LL0 | S A 1 K LMRNVAEFQKTHHDLLHNDMP |
| UniRef90-S8CPY1 | K A V K M L Q S T L K WR SEYK |
| UniRef90-A0A022QBC4 | K A S R M F I K Y T WR R S |
| UniRef90-D3BQ72 | ASFNLLKKTLEWRKQY |
| UniRef90-M1AGN5 |  |
| UniRef90_U5FUW0 | K A AK MLK NTLKWRLEFK |
| UniRef90_D3B8B1 | D A Y M L F N AL LFRA |
| UniRef90_R0GQU2 | K S K D A FL C C 1 K WRVD S K |
| UniRef90-Q6C4B2 | K A L A M M ARTFHWR |
| UniRef90_UPI0003C3A101 | R A KLLK ${ }^{\text {L }}$ DLYY T L K T K F P Q |
| UniRef90-E2B178 | SAYELMKRIA D F R HKNA A L F Y DLLP |
| UniRef90-X8JK96 | HAA QHFRNVERWRVEH |
| UniRef90-E0W3B9 | QAEEVLERYLLLRQTY |
| UniRef90-W5JI15 |  |
| UniRef90-M2PQH0 | A A R K M L S D T LK WREEFK |
| UniRef90-K5VTF7 | K A QRQFADAEAWRTKN |
| UniRef90-E6NU10 | K A SVMF LK Y LKWRNEF |
| UniRef90_U5EFH4 | S A LTTMMRR I A E F K K N Y A P L I S T LMP E |
| UniRef90_A9TG24 | K A EKMLLKD TLLA WRESYK |
| UniRef90-E6ZKQ7 | RAFAMMA G CMKWRLDN |
| UniRef90_UPI0004561486 | R A L A MLA A A CKFRLE |
| UniRef90_E9CJ62 | K A HEMLTRSLUYWRQKQPDVLRDY LP |
| UniRef90_G7EAY4 | A AFQMLCGSMAWR |
| UniRef90_UPI00032A5641 | K A AKMLKK T L K WREEYK |
| UniRef90-R7UNY1 | KAEVVMFRNSMAYRDKMKS L L E D Y K P |
| UniRef90-E9F630 | RALVVMMFSAMNWRHNEAKVDADIM |
| UniRef90_UPI0003C34FD0 | R AKEKLESYY A LKK S K Y P EL L R P |
| UniRef90-B4GGE6 | E A K K RVLF Y Y T Y K S K E K ELF K |
| UniRef90 F0X814 | D GYKQFKETEDWRA |
| UniRef90-Q8SYC4 | A AEKMLRASLKTRAMW |
| UniRef90_D3B401 | A A $\square$ S MFQA CLK W W K E F P E Y Y EK $\square$ |
| UniRef90_UPI0002C2E191 | D A FEMLLKRTLKWRKEF |
| UniRef90-W4ZC21 | K A ESLFRKDIV VWREENPEVLEKYR |
| UniRef90-Q6CPF2 | K T M Y MLA NSL RWRLK |
| UniRef90-E9G4U7 | K S EKMLRNSLDWRRKNKDLL |
| UniRef90-Q0IET2 | NATKLLERYLATKVLHRDWFGRDD |
| UniRef90_UPI0003C3683E | RAKEKLDRYYS L M T K Y P E $\square$ F |
| UniRef90-S8A2Y7 | K A L A M M L ${ }^{\text {L }}$ T F K WR K |
| UniRef90-B0X3T1 | S A L N M V L G WY K F K A N K K F VTT D D M |
| UniRef90_UPI00042B241A | EAFEMLRKTLKWRQEFK |
| UniRef90_B7PYS3 | K A REMLCCQSLVWRKKYP Q V VKE Y F P |
| UniRef90-M8CBE9 | K A S V M L L R Y L A WK R |
| UniRef90-B4MS63 | K TK S K L D HFY T $\square$ K T L IP E LIFA N |
| UniRef90-D6WLC8 | S A Y E LMKRVSDFKLK Y K D NLLENLMPE |
| UniRef90_B9SWQ7 | K A H K MLVD CLLHWRIGN |
| UniRef90_Q178U5 | R VKK Q K L D M Y T M R NAVPEFFT D R R P E |
| UniRef90-D2V0F0 | K A EKLMNSCLEWRRTFK |
| UniRef90-W1Q171 | K S LAAMIA NTMDWRKNQFDV |
| UniRef90-T1GS01 | K AKAKLDS F Y TMRGVIP ELLYNN |
| UniRef90_M0TWN0 | K A $\square$ R M WS EMLLQWRMDF |
| UniRef90_D8SZW3 | K A A M M E F V R WHKE |
| UniRef90-E1C8I7 | K S EAMLRKKNKFR |
| UniRef90-E9G4G1 | QAENMLR Q S $\square E W R$ R A N P EVLQ K Y Y P |
| UniRef90_J9K902 | NALSLI Q N Y Y Q F R R E H DLWFRRRLEP |
| UniRef90_H9JH89 | QSFELL VRYHQYRREHDELW |
| UniRef90-E9G4X1 | RAEKMLRQSLEWRRE |
| UniRef90-UPI00046B3430 | K S EDMLRKHVQFWKQ |
| UniRef90_UPI0002B4DC1D | K A S A M F LK Y L S WR R |
| UniRef90-Q81099 | K VKK K L D M Y Y T M R A DVPEFFS N |
| UniRef90-B0X3T3 |  |
| UniRef90_V4S5D2 | K A SAMLLK Y L S WRRDF |
| UniRef90-A9NQT2 | KASEMFAKYRKWRQSF |
| UniRef90_B6TMQ2 | K A S A MFLKF LK WRRE |
| UniRef90-D3TN47 | K S K Q K I D HFYS MR G A LP E L Y E N |
| UniRef90-A0A024J9D6 | DALHMFGNT L M WR HENK |
| UniRef90-W9S013 | K A SNMF LK Y R S WKK S F |
| UniRef90_UPI000441080D | DAVA QFAD T A A WRA Q N |
| UniRef90_J9JMG7 | VA YK T IVA NCKYRKELP Q VFENYDP |
| UniRef90_UPI00042B49D3 | KASKMLKETLKWRLQYK |
| UniRef90- ${ }^{\text {SWWMM0 }}$ | QATKALKETVKWRRQY |
| UniRef90-M0YM48 | D A HAMLLRCAA WRAEF |
| UniRef90-A0A022S2A2 | EAFTLL R R T L K WRAEFRENLEELRPE |
| UniRef90_I3SQR9 | K A K K M L E ESLLKWRSSYK |
| UniRef90-D2A5R3 |  |
| UniRef90-T1HUQ6 | SALKKVKNYYQFK QKHKALYD GLVP |
| UniRef90-M4DLT7 | K A H T ML VECLLRWRVD N |
| UniRef90-A0A023ENI2 | KAK Q Kivk Y CK $\square$ R STR $\square$ E WF Q NRD P |
| UniRef90-UPI00017921C3 | LAEEML RTSMKWRE EWPQVLVDYMP |
| UniRef90_W9C2L8 |  |

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 REWLEDGG QAAFKDFK LCREKGYPATADEHDDATILLRFLRARRFDI A


 EAAL R E L K E KV A N T E GL V WS LID D D T L F L L S F L R S C K F Y V D $L E M$ M R T WI K Q S G

ESDIN
Q $\quad$ P
 Q Q KV H IMR V HVEREDPSAKEVD DLMIRRFLRAREHDI E

 E E Q L S MFKEWFRKQ PHFPKK E A A L T A F K E LVA QA G $\square P A A D P$

E Q K L K EFK $\square R \mathrm{~V} K$


L VKPELSDASLSRFLRARNWNVQ
 K HI R GRND DQFLVNF L R A C K H S ll Q

$\begin{array}{llllllll}D & K & T & I & Y & S & T & D \\ P & Y & \\ I & K & A & R & T & D\end{array}$
ERT
$\square K A L K T$
 RELKS A $\square$ GPLSGHSLS DASSLRRFLDARNWDV VAKFRLLIKE

F R QK TS D L Q Y P K L E
QAALQAFKSVLEGKGEEGSKASVVDQYVARWLKARSWDVE $K V A Q L R A L V Q E D H R A K \quad$ R $V$ V
 $V$ N E V K R L V G P L P E K L S $\quad$ VY C S D A S I A ALKREFWA MVKGEHPDAVMLRFLRARKWNVD R E E F WN M I R A D F P D S L L L R R

WEFVK HDDPDVL L L H F L R A R K WDVVQ

 E E A $\square$ D E L Q K LI I N QV E GP LK K T R V H Q G Y L R R F L K A R D W N V



H A A RYLRARNWNTK EFREHDS DK STDVVFRHRHPDVLVL R F L R R A R K WDDVE EALHQLTSLLKQDGDPESQPPSYQETLLRFLRARSFNVA K Q QV D QLKEWANRQ PNLPKD IEDA LLLQFLHSCYY D D
 ES S $\square A L M R$ $\begin{array}{llllllllll}\text { Q } & H & H & A & L & T & L & L & R & H \\ l & A & K & H & P & Q \\ l & V & R & C\end{array}$ R A FVVERRDPDAK

## DEFRHEL

WNF $\square$ LAEHP
RAM1LEA
SKHEALVR
 RALHELTAA L RHD GALHEPPSYQDTQQLLRFLRARNFNVA
 WEMIKKMDHPDAVLL R FILRARKWDI S


 EAFKEIMKSNFSDLTDDPTDIAFCTDMCFLRYGRARNYIVS

 EEKDKELRAADGPLSGHSLDDACLRRYLVARNWNDD $\begin{array}{lll}A & A & 1 \\ \text { E } & \text { I }\end{array}$ Y E F


ESHLSV IR $N W L K E$

ENLLPPMHDDNLLLRFLKARKSDRE

 N K $V$ V | $E$ | $R$ | $T$ | $D$ | $T$ | $V$ | $L$ | $L$ | $K$ | $L$ | $R$ | $A$ | $R$ | $E$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $P$ | $F$ | $K$ | $V$ | $K$ |  |  |  |  |  |  |  |  |  |
| $S$ | $E$ | $D$ | $Y$ | $L$ | $L$ | K |  |  |  |  |  |  |  |

|  | 5060 |
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| UniRef90－H2KVM0 | D A Y K Q L S E Al E WRRTY |
| UniRef90＿D6WLC7 | S A F R V L K K F Y K F K LK H P K Y G VDVT P |
| UniRef90－I1KBW7 | K A S A MFLK Y LK WKRS F |
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| UniRef90＿M5VQG9 | K A GKMLKE T $\square$ K WRMEYPERWEN】APE |
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| UniRef90＿V5F002 | A A RTMYLKAEAWKKE |
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| UniRef90＿G3APP3 | K A $\square$ A M L T K T L D WR $\square$ E F P |
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| UniRef90－B4JQP8 | S A L N RLK HFYNMKWKY GLACDD V P |
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LR A WVQE LGQG
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 $V A Q V R S Q V A$ LRTTMWEFTKMDHPDTSVLRFLRARKWDI: D $K L L I K S K S D L V N P C L D D A F I G R F L A A R K N Y D$ NAKEQHRAILKVPRTDLVVLRFVRARKWDTE LAKFRENVQ DVLPALPNPDDDFFLCWLXAQNFDLQ HALQMDREWAEKNPR $\square A K \square R M D S N F F L K F L R A K K F S I P$ CSDASIARHLRAQNWNVK
 LSS S KKAVRDAPW YSEAEEDDWLLLRYY I AARNFDVK IT LTWGVK IDPENASDAVLVKFLRARNLNVA
 $K S D \square Q A \square R S \quad P P \square E G V P D D R T D K L L A C F L N A C K K N V Q$
 E EAVK QLRDSLRESYRKSPFCDVDGGFLLRFKKARDGNVQ KEDA LWWGDPLLPHEGTDSVLMKFLKAKNYNTK
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E A EKMLYSHLKWR
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S A FKRI QAYYKFRLSHKDYCCDLYP
K S EDMLRKHMEFWKQ
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V V QENI ERYVLLKNAFEGAFKNLD
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K A T K ML K VT L K WR A E Y K
EAREMLVNTLRWRESFK
KAEKMFRMHLQWRNEVKQL
K S F CMLEKSVHWRRK
D A QKMLLD TLRWREEFK
KAK L M WTNMI QWRRDF
QAKEMLI K S I K WR DE FKE I L S E T F P
ETRKVI KIDYYQDRREAPELFDNRDP
$K$ VKRKLQHFYTEKTLCPDVF
$K A H K M I V D C L K W R V Q N$
K A HKMLLECLEWRTQN
K A A K ML K G S I K WRLE F K
DALQSLRKTLKWRAEF
GALEKMKTTASFRKEHAALVHGLQAE
K A K K M L E E T L K WR S T F K
TAKRKLDKYYTYR SYSEVFENRDP
SAALALMKRAADFKDKYATMVG GLMP
K S KK MLLEDTHKWRSTYK
NAKKMFGNHLEWRKEF
EA GNLMLKA ERWRAEY
K A S Q ML KLLS LK WR HE Y K
K S I S MLVVKALEWR
S ALLKRIKHFYNMLQKYGEACRDIVP
RA A EMMAK S LQW RSEFP
K A TQMLT DTLDWRKDF
K A S T L F L K Y L T WK R
RAKK KLKTFYQMRAERTEWFDNRDPQ
K T $\square E M W R N W I L W R K K Y$


| UniRef90 J3M5D2 | QATKS LTETVVKWRRQY ${ }^{50}$ |
| :---: | :---: |
| UniRef90-Q0CWF9 |  |
| UniRef90-I0YZB2 | NATYALRRTL Q WRARFK |
| UniRef90_S8E8B7 | DSRKMLS DTLKWREDFKEVLQEEFPE |
| UniRef90_C1EHD9 | K A F K M S NHLLAWRCDYRPW |
| UniRef90-A8J0P8 | K |
| UniRef90_E2A6C4 | E A F NMLWD T C T WRKK F |
| UniRef90_F4RRD9 | A GVA MMA A CMK WR |
| UniRef90_M1V7K6 | R A LD M I R R S I Q WRLE Y |
| UniRef90_UPI0002B428BD | K S RKMLE E T L K WRAA Y K |
| UniRef90_U6IJD5 | RAQNRFDNFCTFRTSCPSWYENFKTR |
| UniRef90_Q06705 | K T $\square$ A M L G H D L Y WR K D |
| UniRef90_E9G523 |  |
| UniRef90_G7L2Q1 | K A ARMLR A S I K WR L E K |
| UniRef90_UPI000443E67E | R A I D L F Q Y K N T R I K |
| UniRef90-UPI0002B4B3A0 | K A A K M F VQ WQK WR |
| UniRef90_X1Y9B9 | S A L K M M R R $\square$ A E F K R S N Q P L L D N LK P E |
| UniRef90_A0A058Z1F8 | KAYESFDQAMAWRRSF |
| UniRef90_V5HKT9 | EAFENIR |
| UniRef90_E2C3S3 | S A LE L M R R VA H F K EK H H A L L Y N LMP |
| UniRef90_UPI0002B49E16 | K A HKML $\mathrm{M}^{\text {L }}$ CLLHWR $\square$ Q N |
| UniRef90_F2U6L4 | R T E K M L R K S |
| UniRef90_K4AS96 | K A A K M F CQWKK WRAEM |
| UniRef90_E1ZPC8 | K A K A M F LA H LKWREENS D L L T F |
| UniRef90_U4LIX9 | T A K K R I EATLLWR K E Y |
| UniRef90_H2VX47 | V I K P K L ${ }^{\text {d }}$ HLL F R K S D WD |
| UniRef90_S4P4C6 | S AVA L M R RVAEF K R D N A S L L G L LP E |
| UniRef90_W5ER27 | K S R K ML K E S L K WRA T |
| UniRef90_V2Z1N6 | A A K D M $\quad$ DATL R WRDEF |
| UniRef90-W719K2 | A AFRQFETTEKWRKN |
| UniRef90_W7XBF0 | IS K K F LEK HLN WRQ T E K |
| UniRef90_G0MPG4 | IA Y A II LE CL K WR R N F |
| UniRef90_G3BAG9 | DSMHMIFKALDWRTS E D Y R P |
| UniRef90_W5FET3 | K A S A M F L K Y L A WKR A A K P W |
| UniRef90_B0X6S6 | K A K E K L A LF Y W $\square R T$ G L T Q VVQ D R D P |
| UniRef90_U6IPZ1 | R A L E L Y K S R H M R |
| UniRef90_UPI0003C18680 | P A L K V T K R |
| UniRef90_FOVQA0 | KAFGLLMETVKFRREC |
| UniRef90_B4Q180 | R T K S L V ELLNYSMRNKNP HLFMDRN |
| UniRef90_Q9VCJ3 | E T K R RII D RYF T HYNLF P E IM N N |
| UniRef90_A0BTP3 | NTKDMLRSHLGWLRE |
| UniRef90_UPI0003C362AA | K AKKKL N NFY |
| UniRef90_S9VAS9 | K A L K MLE K T A Q W $\square$ K D F |
| UniRef90_G7DVN0 | A GVA MLMS T $\square$ L L ( $\square \mathrm{E}$ |
| UniRef90_X1Y9B1 | S T FEM |
| UniRef90_M4ELG7 | K S L K M L K N T L K WR T T M |
| UniRef90-E912H3 | K A K K K M D LT LT LR S A LP EF F S G WD P |
| UniRef90-X1Y8L1 | S ACEL |
| UniRef90_UPI0003C39C65 | E T K K RLD S F Y S LK G VF P E V L M N R R |
| UniRef90_C1FDV7 | D A EKMLR DTIM WRQ |
| UniRef90_J9JUR5 | SAY DLMKRLAT FKDKNQKIVGNPLPR |
| UniRef90_B4M791 |  |
| UniRef90_M1B738 | K A K K M L E ETLLKWR S N Y K |
| UniRef90_E4XZT4 | K A EEKI T A LF QLMLLD WPEVFA DLK |
| UniRef90_D2A6J1 | K A K S KI DNFY TL R M K M P HLLQ DIN P |
| UniRef90_G4T811 | A AK DMLVS T L K WRKDFK |
| UniRef90_UPI0002B44C38 | K A K K M L E E T F K WR S $\square \mathrm{Y}$ K |
| UniRef90_B4JTN8 | E T K R R I D N Y Y S LR NPFPEV |
| UniRef90_S8DQQ0 |  |
| UniRef90_C5GL50 | A A T NRLR GT LT WRREY |
| UniRef90_B0CU58 | E A REMLR NTL R WRELF |
| UniRef90_Q22C83 | K S lik M F D HL H WR K E N K |
| UniRef90_A9RE70 | A AVEK $\mathrm{C}^{\text {T T A L V WR K E F }}$ |
| UniRef90_B6QMW6 | GALK Q YKESTTA HKNNAELYY E $\square \square \mathrm{D}$ |
| UniRef90_V4KTH0 | K A S K M L K E T L K WR $\square$ Q Y K |
| UniRef90_V9IER4 | A A K NTIE NFFT $\square$ R S HVPEFFANRDP |
| UniRef90_A0A059BNP3 | N A K K M L A D T L K WRSAFK |
| UniRef90_Q7QG16 | E T R K V L K $\square Y \mathrm{Y}$ Y A R K N GP E L F N N R D P |
| UniRef90_Q7PYQ6 | K A KRKLM T F L N NREKLTE WFK D R D P |
| UniRef90_E9H0Q3 | K T K V R I E T F Y S F R S K V T E WY S N |
| UniRef90_D8SE09 | K A K A Y A A MLQ WRAE |
| UniRef90_E2J7G0 | S A K R K LD A Y Y Y Y R N CSE $\square$ F D NRDP |
| UniRef90_C1FIT3 | A A AEKLEDFLRWRAD |
| UniRef90_R0GMR1 | K A A K M FV D WKK WRASM |
| UniRef90_M0S178 | NAHKMLLDC L W WR $\square$ Q N |
| UniRef90_UPI0002658795 | R A L K S YVA A FS M H K A P TVVF |
| UniRef90_A0A014MX44 | $R A Y E Q L K E A L A D R Q$ |
| UniRef90_UPI0003C373A8 | SCEEAAREYNK\\|WD S Y K E Y F K E |
| UniRef90_B4JVX3 |  |
| UniRef90_B4JJ83 | K T K A L Q L N Y S L R N K N P N $\square \mathrm{F} \square \mathrm{D}$ D R N |
| UniRef90_E2BJW8 | K CKLI L E R Y Y SVRRTSLLSEFFTVR DP |
| UniRef90_V5HCI7 | R A L R TLKLLYYVNR H Q ELDLFR NLLP |
| UniRef90_T1LBI1 | K A SAMLL K Y L I WK R T |
| UniRef90_D2A331 | K T K R K I D T Y Y TVVR S L IP D F F E Q T N P K |
| UniRef90-F8P456 UniRef90 M0WAH3 |  |




[^0]:    $\square$
    

