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AERRATHNAI ERARRESLNGRFLELARALPTMQSVKR
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GRK $\square$ ARKTAHSLI ERRRRSKMNEEFAVL K GMI PAC T G
HP PVKKTAHNMIEKRYRTNLNDKDAALRDSVPSURPA HK NANRRVAHLLSEQKRRESINTGFEDLRQAIPACRDGQD E D S E R R R N H N L L E R Q R R N DL R S S F L

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 GS D E E L R F A H N V L E R Q R R E G L R S S F H T SKPKRRMSHND DEKKYRTNINDKDLQQREDVPGLEPARK VKRE $\square$ A N SNE R R RMQSI NAGFKSLK T I L P H T D G D K KAERRAEHNADERARRESLNDKFQQLAFTLPNLQNDTR RKL L H N A S ERDRRKKI NSMFSSLLRSRLPPSNQSKK GSTSRKREMHNLLAERRRREKI NEKMKTIQELI PRCNKS

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 P D D R A S H R V I E K Q R R E A L N ER F I Q L A R L L P GLA S H H R EVVNLLSERRRRDRI NEKMRALQELI PNCNKVD AEKRALHNEIERRRRCNLNESVLTLGRLIPSLQSIHR A H N N S E R K R R D KI N Q R MK T L Q K L V P N S S K T D SSKRSRAAHNLSEKRRRSKI NEK LKAALQNLI PNSNKTD

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MHK L S I L Q A S ILE Y I R Y L E D C V S K L K A Q Q E E
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A S

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HQ $\square R K N N H K E V R R R E E A I N E G D N Q L A R L V P N C D K$
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 QRKRKDNHEVERRRRSNINEGINELARIVPNVGAEKA KTSHTTIERRYRTNLNARILALRNAIPGVKAARK KTSHTTIERRYRTNLNTRTAALRHAVPALRPARK EENDKRRTHNVLERQRRNELKLSFFALRDQIPELVNNEK GRGGNKGTKHFATERQRRVQLNDKFSALRELVP NPTK RSKHSVTEQRRRSKINERFQLLRDLIP NSDQK RSTHNELEKNRRAHLRHCLDKLKEMVPLGPDASR PELRTSHKLAERKRRTEMKELLEEQRDLMPQERGSK GSARRNRAAHNLSERRRRDRINEKMKALQQLIPHSSKTD EAETQRMTHDAVERNRRKQMNEHLADLRSLMPESYAQRG DRQKKDNHNMIERRRRFNINDRTKELGTLLPEVVRDIR RNAAKRAAHNVIEKRYRTNMNAKFVSLEKAMNGGNGVQK GRMGRRRVSAPKKERRRTESTNSAFAELRECTPNVPADTK SAERRATHNATERARRESLNGRFLQLAASLPAISDVRR KADRKTAHSLIERRRRSKMNDAFATLKDMIPACRNGKE SAAQRRAANVRERRRMFHLNEAFDELRKRLPAFNYEKR RRSSANARERRRMQSMNAAFDRLRDVIPSFGGNRK ADEKQRRGELKEDFMELARLLPNLTNTR GEQQVKREAHSQTEKRRRDKMNNLEKLSAMI PQCNPMRK RNPLQAQEHITAERKRRENDSKFIALSADLPGLGKK SQPTRRAAH TRAERKRREKTNQRFIEELSAVIPGLHQGK SSKRSRTAHNLSERRRRDRTNEKMRALQELI PNCNKDD

RATHNVLERQRREDLKCRFQLLRDSIPELEDNER EPETRRTSHKAAEQKRRDSLKAGFDELRSVVPDDNPNRG KRQVANAKERQRDRNLNSMFSTLKTIVPLVPRDRK RDRRKKDIHNMIERRRRYNI NDRIKELGLLMLPSSAEDMK
SEEQKRENHIRSEQKRRTLI KEGFDDLCEIVPGLRGGGG NANRSRHSETEQRRRSKINERFQALRNLVPGQNDQK HNLSEKRRRSKI NEKMKALQKLIPNSNKTD NQSRRVNHDSAEQKRRSSINVGFKTLCGLVPTLKSQSN KPEQRNAANARERSRMRTMSKAFVTLKTTLPWVPPDTK ERRRVANAKERERTKNLNRGFAKLKALVPFLPQSRK ERRRVANAKERERIKNLNHGLAKLKALVPFLPQNRK HVEAERKRREKLNHRFYALRSVVPYVSKMD GKNSDKRSKHSVTEQRRRSKINERFQULREIIPHSDQKR REKSRRQANNARERVRVRDINDAFSELRMCMDHDKNDRP QRMTHDAVERNRRRQMNEYLAVLRSLMPPSYAQRG SGADRRRAATMRERRRLSKVNDAFETLKRCTSTNPNQR DITRRRVSHNEVERRRRDRINTWISELYKLLPEQTKSQY KRQNHNLIEKRRNNLNSKNTLRNN PCLSSTKK RDDKRRATHNEVERRRRDKINCWIFKLKEMLPAEGSPPN RRSTANKKERRRTQSINTAFAQLRGCI PNVPSDTK RIPHNMVERKYRDGLNAQLERLRRAVPALTSQPR
 DRRRAATLREKRRLKKVNEAFEALKRSTLGLNPNQR ESHNA VERRRRDNLLNERDQE|LATLVPDSTKDGK


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| UniRef90-UPIO00359D740 |  |
| UniRef90-N1S0V6 | Q $\square \mathrm{E}$ |
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 KRQIHDQSEQKRRAQIKDGFDELRNELPTCLNKKM RRQIANCNERRRMQSINAGFQSLKLLLPR RDGEK
DGQQKMSHVNVERNRRKQMNEHLTVLRSLLMPCFYVKR KTSHTTI ERRYRTNLNARITGLKHAVPALRVARK RDRNKKDCHNRIERKRRDYUNNQUELGQLLPELSTESK GEGPSKRENHSEIERRRRNKMTQYITELSDMVPTCSAARK MNRQRKAANERERKRMCSINKGFDKLRLRLPTMPYEKK EAENQRMTHTAVERNRRRQMNQHDSVLRSLMPQPFAHK RDSQRRAGHIHAEQKRRYNDKNGFDQLHDLIPQLQNNAK RRKTANARERSRMREI NEAFEALRRAVPHLAHNEK RERDRRLANNARERVRVRDI NEAFRELRMCQVHLQSDKA SHSTRRAIHNQSERRRRDRINQKMKTLQKLVPNSSKTD RKDNHKEVERRRRSAI ADGDTQLSQIVPGC DAKN STTDRRKAATMRERRRDRKVNEAFETLKRCT SSNPSQR RSKHSATEQRRRSKINDRFQMLRNLVPHSDQKR
REKERRQANNARERITVRDINEAFKELRMCMMHLKTDKA RRTKANNRERSRMHHLNDALDRLRNVLPVLPDDSK RQAANDRERRRMDSINSAFEELRGRVPTFPYEKR GRDKNAREAHSQUEKRRRDKMNSFDDELASVPTCNAMRK RSVATEREKRRLAKMNEAYQDLRSTLPEQYRGCD VRRQEANARERNRMHGLNDALDDLRKVVPCYSKTQK RRVFTNSRERWRQQNVNGAFSELRKLIPTHPPEKK EQRRQNHVGSERRRRDFIGRGYDHLMAIVPGLMNGAA ENQRIDNHAVERNRRRQMNEHINSLRALLPP SYIDQR RSKTLISERRRRVRMKEKLYALRSLVPNDTKMD
NQRMTHI AVERNRRRQMNDYLAVLRSLMPPSYAQRG EQQRRRNHILHEKKRRALIKDGFDDLDNLVPDVKDRG KKNRRVKANDRERNRMHSLNYALDKLRCLLPSFPDDTK

RKR
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DRRRAATMRERRRLKKVNHAFEALRRCDSANPNQR SQDELSANHVLAERRRREKLNERFIGLRSLVPFVTKMD KRELVNAKERLRDRNLNAMFSRLKRMVPLMRPDRK
 KNVRRLESNERERLRMHSINDAFQSLREVIPHVKKDRR QRTRNERERNRVKLINTTFQTLRQHLPSKGKTRK RQTHTANERRRRNEMRDDFEKLKGALGGHNDPK RDGDKETKHFATERQRRVHLNDKYKALRSMVPNPSKNDR GGLESRRTSHKAAEQKRRDSLKFCFDELRGLLPADSANKA ERNLRRLESNERERMRMHSLNDAFQSLREVIPHVEMERR GHQPQKRVFTNSRERWRQQHVNGAFAELRKLLPTHPPDRK KEQRRVCHINAEQKRRCNIKNGFDTLHSLIPQDSQNPN MQKRRLAANARERRRMNSLNVAFDRLRQVVPSVGNDRK DAEKKANHTASEKKRRQNTRLGFDQLDETVPSLTQGNR PERRSEHVIAERKRREKLQQQFVSLATIVPGL KK REKERRQANNVRERMRMRDLNEALKELRMCMTHLKTDKP RRTTHKAAEQKRRDSKKSFDELKKVVPSDGSMKN QPVKKTAHNMDEKRYRTNLNDKDAALRDSVPSDRPAHK HQAAEQRRRTRINERLELLRKLVPH ABER GRQPQKRVFTNSRERWRQQNVNGAFAEERKLIPTHPPDKK REKARRLANNARERLRVRDINEAFKELRMCQLHLSYEKP DRRKAATLRERRRLKKINEAFDALKKTVP NPNQR RENHCQ! ERRRRNKMSAYMTELCOMLPSCNSVRR GEATDR EQADKRESHCEDERRRRNKMTSYDNELCDMVPTCSTARK VErRRRETINEGDNELAKIVPGCEK
HQVLRR NERERKRVQQVNDGFDHLRDRVPHSATSKK KKDNHNLIERRRRFN: NDRMKELGDLVPSTDPETR QRMTHIAVERNRRRLMNDHLASLRSLIPS DYDPR RSMSHIAVERNRRKQMNEQLSILRSLMP CFYVKR KKNRRDKANDRERNRMHNLNDALDELRGVLPAFPDETK NETRRAAHLSAEQKRRCNLKNGFDMLVVLVPSLTQNPK SHSLAERVRREKISERMRMLQELVPGCNKDTG RDRERRMANNARERVRVRDI NEAFRELRMCQLHLKSDKA KKTAHNMIEKRYRTNLNDRTCELRDAVPSLRPARK STHNSLDWNRRAHLRDCLERLKALIPLGPDCNR RRHETKQLHSVIEKRRRLKKINREEALKYLIPACRESGA SQDSRRQPHNQVERKYREGLNSELERLRRAVPLLRQNDK RRQEANARERNRMHGLNDALDNLRKVVPCYSKTQK


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| :---: | :---: |
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| UniRef90－Q58994 |  |
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| UniRef90－A0A016SHK3 UniRef90 UPIOOO34427A2 | LS S K Did |
| UniRef90＿N6U7K7 | LS RIEETLRLATTYI SFMTEL |
| UniRef90－Q6C2U3 | TSKANTVENAIDYIRKLKT |
| UniRefofo－118TY4 |  |
| UniRet90－E1G275 | LSKAA L Q |
| UniRef90－M4CFU1 |  |
| UniRef90－U5YQE6 | RNKGGILKNSVIYUQQLL |
| iRef90＿Q6E2N6 | PDKLLT L RMAVSHMKSMR |
| UniRef90－F1L | SKMDTLKQAI E |
| UniRet90－Q56） | GDQASVGGAIDFIKELEHKLLS |
|  |  |
| M4Y 16 | KLI ILQQAVQVILSLEKQVRELLNPKAACLKRREEEKVS |
| UniRef90－M4AY16 | KASMLQEVIEYYLKQLEAQVQMMNVRNACLKRREEEKVS |
| UniRef90－UPI0004561183 | TNKSSIIVAAVNYI QDLKNNEADLHSQLEEVRRDNDRLRQ |
| UniRef90－E3U911 | PKVELLRNAIRYI E |
| UniRef90－A9SL54 | KASFLLEVI EYVQVLQEKVQKY ETAEQGRHQERLK |
| UniRee90－Q7NK | SKVNTR |
| UniRef90 E5S13 | LT KIETLRMAHNYI MTLT |
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| UniRef90－H9C | LDKLTVLRMAVQHMKTLR |
| UniRef90－C3YOV1 |  |
| UniRef90－UPI00032A59DF | ｜GKALVLDEIINYIHSLQHQVEFLSMKLEALINSR |
| UniRef90－G3Q783 | LSKNEILRLAVKYIN |
| UniRef90 G2QPS7 | SVSLNLVADWIEE |
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| －1 | Qasi VGGA】NFVKELE |
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| UniRef90－M7B358 | LS KVETLRAAINYikhlo |
| UniRet90－A8WSF8 | LSKVETLRQAAQY।RQLQG |
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| UniRef90－UPIO004446908 | PSKVDTLKAATEYIRLLLAVLR |
| UniRet90＿10YVQ7 |  |
| UniRef90－＿gjJJE1 | LSKUETLTLAKNYIDALTKII CEMRGELDPFKDSQE |
| Unireto－UP100 | DQASIIGGAMNFVKELEQLLQSLEAS RRTNQQ |
| UniRet90－UPIO003598C | LSKVQTL RSAID Y R |
| UniRef90－K4AYO2 |  |
| UniRef90－E7AOY7 | ISKVALLRHSNEYLVRMKKRLERRDAA宜AVCRNEVHELRQ |
| niRet90＿B4M | KIETLTLAKNYIINL |
| UniRee90 UPI000359F9 | KNEVLRLAMKYUGFLVRLLIRDQAA |
| UniRet90 A0A023FBM <br> UniRef90 W9RVX5 |  |
| UniRef90－T1IYY8 | LSKYETLQLA QNYICALVELM |
| UniRef90－W5JZV7 | LSKMKTLRLA TSY：AYLMDVLAKESGGTEAFRAEDRELKR |
| UniRet90－11C477 | SKAF |
|  |  |
| UniRet90 UPI00046BB |  |
| UniRef90－A0A015KVU4 | VSKLFLLKRAHDYIVELEQKSK |
| UniRef90－L2FFK9 |  |
| UniRef90－Q65Z16 |  |
| UniRe90－6XBP0 | QTKLILQQAVTVILNLEQQVRELNPKAACLKRREEELEH |
| UniRef90－Q7T270 | L］PKVEL RSAINYIEKLQDLLVTLDNHD |
| UniRef90－U615 | KLTILRMAVG |
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| UniRer90－M4DMN0 | AGML |
| UniRef90－A3LRQ4 | RSELNI TKSADYMDQLREENANLV |
| UniRet90－E4ZGQ1 |  |
| UniRef90－E1FN | KVETLREAARY |
| UniRef90 H3DQ84 | WNKGTULKASVDYU R |
| iRef90－I1HAD | GDQATVVGGATDYVKQL |
| UniRet90－UPIO0032A5 | GDQAS I EGVVDY। NELHQLLQCLETKKQR |
| UniRef90 UP10002A4CBD8 | İETLRFAHNYUWALSETUR |
| UniRet90 V4AN |  |
| UniRet90＿B9GNL5 | QQVEKLATVNPELQ\DVERULS |
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| UniRef90－W5h | A H TKK |
| UniRef90－A5DDF9 | A SkLitikka |
| iRef90＿M2SU89 | T |
| UniRef90＿G3SJZ77 | LSKUETLRLAKNY |
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QRQAAN $\quad$ R E RKRMFNL NEAF D Q L R R KV PTMAY E K R $R Q K V D R S R T L V S E R K R R G R M K E R L C A L R S L V P N I T K M D$
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 A S Q A E R L R R R D K M N S F I D E L A S S L V P T C S A M R K WE A H S Q Q YKDRRREAHTQAEQKRRDAI KKGYDSLQGLVPTCQQPD $\square$
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 E L Q S Q R I L A N N $\operatorname{V}$ VR E R R Q R T Q S REQHNALERRRRRDNDIKDMYTSSLREVVVPDTNGERQ $K K \square R R L K A N G R E R H R M H G L N N A L D L L R Q Y V P D T T Q H Q K$ Q Q E Q RL L V N SRERRRMHDLNQALDGLREVMPYAQGPRK RQNHSE $\square E K R R R D K M N A Y I T E L S S M L P M C N A M R K$ ERRDDEANARE RTARVHTMSAA YEKLR RA乌PAYSNA QK S D S DK WAHHNA LE QK HRD SI LS L Q Q T R RLLANARERTRVH TVAAFEALRKQVPCYSYGQK

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| UniRef90_G7YM12 | $L S K L D T L K L A A G Y I A Y L R R$ |
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| UniRef90_G1QHU8 | TDKAT T L Q WT I T F L K Y I Q ERH |
| UniRef90_G7YA33 | LS K I A T L R L A I Q Y I R A M |
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| UniRef90_UPI000023ED8F |  |
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| UniRef90-A7TL31 | L N K S M L E K A V D Y I L Y L Q N NEKLY E M EVQQRL R N EL |
| UniRef90_S4RFN2 |  |
| UniRef90_H2ZEC9 | LS K I K TL HL A S S Y I A Y L |
| UniRef90-J3LRH4 | M D K A TILS DAASYI RELQGKLK A M E P E |
| UniRef90-E0W3N1 | A S NLNILH S A L R F |
| UniRef90-W5N3L9 | H T TLLGLLNKAKA H $\quad$ K K L E E $\square$ D R K |
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| UniRef90-W8AQV8 | LS K I D TL R L A I A Y I S L L R EVL Q |
| UniRef90-UPI0003C1A33D | LS KL D T L R L A S S Y I A HL RQLL HGDRYEN |
| UniRef90-K1RJ49 | L S KI A T L T L A R N Y I Q T L T K SVEEMKR |
| UniRef90-T1HV96 | L S K I D T L R L A $\square$ A Y I A LL R E |
| UniRef90-F4WY99 | LSKMETLTLLAKNYIVAL T DVI CAMRSE |
| UniRef90-F6W9Y6 | V S KVEILQ HVID Y I WDLQLELDS Q A |
| UniRef90-B3GVU5 | M S KVV TL R A AI D Y I N QLQ E |
| UniRef90_O08785-2 |  |
| UniRef90_C5NZ43 | K 1 R K Q L N |
| UniRef90-UPI00038337FD | LS K L DVLLLA T T Y $\quad$ A HLT R S L Q D |
| UniRef90-B3A026 | L S KL D Th RLA A S Y I A HL R A LL HE |
| UniRef90-M5G2J8 | V S K L A L L R H S NEYIVGLLSKRIER |
| UniRef90_W5MES4 | LS K IA T T R R A $\square$ N R I S A L |
| UniRef90-U6NXC2 | CTNAAILIFRACDY |
| UniRef90-R1H102 | PSKAVVLASATAY |
| UniRef90_A9RE75 |  |
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| UniRef90-M3XRY9 | DS A S L EATVVD Y V K Y I REKI D L L Q S NRRFCKKQ Q M S L L |
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| UniRef90_L1I9J0 | D R N KVLQLAI E Y K K A K S |
| UniRef90-S6DR04 | LE K A EIL E M TVVE Y R A I Q T S E |
| UniRef90-V8NF28 | MS K VETLR S AVE Y I R A L Q Q L LDE H D AVS A A L Q |
| UniRef90-A0A034VP27 | LEKAD L E K TV K HLQELQRQQSAMQQ |
| UniRef90_U5GF91 | RAGMLDEDINYVQSSLQRQVEFLQSMKDAAL |
| UniRef90-W4XZH4 | A S K A N MLVKGVE Y |
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| UniRef90_A5DJG3 | L N K G T I L E K S V E Y |
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| UniRef90-B0XE97 | L E K A I L Q L TVD HLK TLHAR |
| UniRef90_P19360 | L S KVETLR SAVEYIRALQ R R L L A E H A VRA |
| UniRef90_G7YG65 | L T K I R T L R Y A I S Y I R Q L M D TVD Q |
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| UniRef90_M4A351 | LS K L DVLVLA T N Y i A Y L TETLD Q |
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| UniRef90-Q8H102 | YS D M L D L A VQ H I K G L Q H QLQ |
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| UniRef90-G3H5C8 | LS K V D T L R L A I G Y $\square$ NF L S E L VQ |
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| UniRef90-A0A017SFS1 | I S K A S TVEEMAl D Y I K SLQ He L |
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| UniRef90-UPI0002C314D5 | M G M A VMLDVVIS YVQSLQ NQ ITEFL |
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