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1 MHLNPAEKEK MELSPREKDKLLI F TAGLV AERRKARGVKLNYPEAIA Y S
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 MHLTPREQDKLMIVVAADLAQRRRQRGLKLNFPEAVALI T



 $M K L S P K E \square E G L L I H Q A G F L A Q K R L A R G V R L N Y P E A V A L I A$ $M H$ RETDKLLLFPAALVAERRLARGVKLNYP
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 MH L L R E Q D K L L L H H A GTLLA QK RLA R GVVRL NQTEATA LI A $M N L T P R E L E K L T T I F T A G E L A R K R R A R G L K L N H P E A V A L I T T$
 MHLTYQERDKLLLELASELAQKRLARGLKLNYPEAAALI S

 MHLSPRETEKLLI A MAAEVARKRRARGVKLNYPEAI ALI


 M K L
 MRLGPKE DDKLLLHEAGFLAQKRLARGLPLNYPE
 M Y L T P REK D K L MI A V A A M I A R G RLLA R G L K L
M H
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UniRef90_C3XHC4

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SFTME GARDGK TVAMLMEE GKHVLTRDDVMEGVPEMIDDI




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## UniRef90 AOPSG4

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1 MRLLTPHEQE ${ }^{10}$ MDLTPRDKDKLML MDLTPREKDKLLIFTAALLAERRHQRGLKLNHPEAVAFI S MNLVPKELDKLVISQLGSLAQKRLARGLKLNHTEATAALI S
 MHL LPREQEKLMLVVANDLARRRQARGLKLNYPEAVAII

 MQLTEREKEKLLVTIAADLARRRLKRGVKLNYPESVALI T MKLSPREQESLLLHNVGTLAQKRLARGVCLNYTESVALI A MRLSPHEQDRLLVSYAAELARRRQARGLQLNHPEAIAVIT
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$H$
$V$ MI MKLTLKKQEKLLL MKLSPKDNERLK MMLAPREMEKMWI WTACVVAQKRYARGLKLNYP
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UR UniRef90-R7YYX4 UniRef90-U4KXB5 UniRef90-Q17YJ7 UniRef90_UPI00037F2F60


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D H|V LE GARDGRT|V|AE|L|MASGCE|VL|GRDDV|MEG|V|PEM|I|AD|V| LFILD GAREGRSVA ELMSAGREVLTRDDVMEGVPEMI PSII
 NNLQELIDRGHTVADLMSLGTTMLGRRHVASVPSTL DAVTEAARDGLSVAEAMRVGTEVLSRDDVMDGVREMLDLI AALMEGARDGQSVAELMNYGTTLLTTDQVMEGVEEMVETV YELLEGARDGKTVPELMDFGTTVLGREDVLDGVPELVSQV AEVLEGDREGKSVAELMDLGAQVLKREDVMEGVADMLEEM SQVLEFDRDGKSVSELMDLGRQLGTRHVLPAVRYLLDTV SQVQEMVRDGYSVAQMMSDGRRMLGYRQVQPGVANMVHEV DHLLEGARDGRSVADLMSSGREDLSADDVLGGVPELLPEV VEIMEGARAGKTVAEMDYGRTILTATDVMEGIPAMIPDV YEIMEGARDGKTVAELMSYGREILSKDDVMEGVEAMVTDI AAVMEGARDGKTVAELMEAGAKILTREDVMEGVAELIPDI SQILEHARDGKTVAQLMSDGKHLLGRRQVLPAVPHLLNDI
 CELLEGLREGKSVAELMDLGTKMLRKEDVMEGVPEMLEVV SQLIEGMRDGNTVADLMDMGKKMLGKRHVQPDVLGMLVEV
 YEIMEGARDGKTVAELMHYGTQILTRDDVMDGIPELLDDVI
 SQCVERAREGSIVAELMAYGRTLLKPEDVMDGVAEMLDVV TQIVEFVRNGDTVSELMSMGRELLGRRQVLSAVPHLLLETV SNLQELIRDGHSVASLMSLGATMLGRRHVLPSVPATLTEL HYVMEGARDGKTVKELYEAGNDLHDGQVMDGVYELLHN SVLHELIDRGHSVADLMALGATLLGRKHVLDSVPHTLTEL DHVVEGARDGRSVAELMESGGHVLTRAQVMRGVPEMI HDV SELMEAARDGKSVSELMQFGAKILKEEDVMSGVSSMIPDI DWIFEGAREGKDVAELRAGATGLLGREDVMEGVPEMIDMV AQLQELI RDGHSVA

A
DWACERAREGMSVAE
AELMELARDKEVVE RQEATALLTREDVMDGVPELVDMV

 SYULEGAREGKTVAQLMVDATKVLGEDDVMDG|ASMMHMV AVLQELIDDGHTVAQLMSKGKQILGRRHVQPAVPQLLHEL CFVLEGAREGKSVATLMKEGKHVLRAEEVMEGIPEMLDHI FELLEGARDGKSVSELMQAGREVLTVDDVMDGAADM1 HDV
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 AFVLEGAREGKTVAQMMEGKQVLTSADVMEGVPEMLDNV DAVIEAARDGKSVAEAMHDGTTVLTADEVLDEVPDMVSDV DFILESAREGKPISQQVKEAQELLTESDVMDMVPEMLDTV SQLHELIRDGHSVADLAQHGKRMLGRRHVLPGVPILVKVI AELLEGARDGQSVAELMQFGKQVLGRDDVMEGVPEALCEMV CAILEGARDGQSPEEVMSASRNLLSRDDVMEGI AEMLTEVV DFAFERURRGDSVAKMMEEGRHVLTTEDVMPGVPEMLPVV SQVQEFARDGDTLAEVTAKGRRVGRNHVLPGVASMDDEL
 MELMEMARDGHTVTDDMARGREDLTREDVMEGVPEMIPSV NNLHELTRGHSVADLMSMGEMLGRRHVLPAVVSSLASL NNLQELIRDGNTVATLQQAGKMMLGRRHVLPAVASLLNEI



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M H|L|APHERDK|L LV|H|L|AAR|L|ARERMDRG|L|K|L|NHPEA|V|A|LI|T

 $M \mathrm{NI}$ S P A E Q EKLLLSVA GMVARDRHARGVLLNYPESIIALLS MHLNPREQEKLLVHQAGFLAQQRLARGLKLNQSEAVALIAA






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 MS LT P REEDD KLGYI MHFTPGDTEKLLL $M H$ LTA




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 MY L S PRE QEKLLLI S WA A EL A KRRKSKGLLKLNFEEAYA I L I
 MFLLTPSDREKLLLSVAGMVARDRDERGVRLNHPESDALLS
 M HLL T P K E F D K LLT I H S L A A M V A N A R K A R G V K L N H P E A VA V I C
 $M Y L T P S D T E K L L L S V A G M V A R D R L D R G I K L N Y P E A T A L L S$ M Q F S P A DVE KL L L A T A G MV A R D R L A R GVVR L NHPEAVALL S

ML H F A GELAA KRKNRGVKLNYV
MHLIPKEL

 $M K L P P$ S DVVEKLL L

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 $M D L S P R E \square D K L L$ H Y A G E L A A K K R R K E R R G V K K L N N Y V

 $M H$ L
 MRLFPREIDRLLLHQAASLAKARKTRGLLLTEPEARABI A MQLTPRREDKLLVHMLADVALKRRAKGLKLNYPEAVAVI S $M N L N P K D R E R L E L Y N A A E L A R R R K E N G V D L N Y P E C V V A L I S$ $M Y L T A R E Q E R L L V F L A A Q L A R R R R D S G L R L N M P E A R A L I A A$ $M R L T P R E Q E K L L I H V A A D V A R R R R E R G L R L N H P E A B I A L I T$ MRLTPCEIDKLILFAAGRVAQRRLARGMRLNHPEAVALI A
 M HLLT P R E N E R L TII Y TAA A E LAA R R R L $M$ M V V A A A E V A A R R R K A R MF L T N R E Q E K L L
 MRLTP TERDRLLLFGAAQLARTRLARGLKLNVPEATALI A
 MHLVPKELDKI TI SSLGFLAQRRLARG

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





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$1 \quad 10 \quad 20 \quad 30 \quad 40$
MNLAPREDDKLHVYVVAD|L|ARRRRARGTK|LNYSEAAALI|T MKLVPREAEKLALHGAGFLAQKRDARGLRLNYTEADALI A MNLSPTELERLTIFTAAEHARRLKARGVKLSHPEAVALI A
 MELTPREKDKLLLETAALVAERRLARGLKLNYPESVALI S MHLTPREQERLLLESAAELARRRLARGAPLGAGEAVALVC
 $M Q L D A R E L D K L V I A Q T G L L A Q R R L A R G V K L N Y S E A T$ Y VVa DLARKRQGRGLKLNYSEAVALIT

 MHLTPKEEDRLLLFLAAELARRHKDKGLKLSYPEARALCA $M H L T P$ K K E E D R L L L L

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 MLVYVAADVAAKRRADGVKLNYPEVMAYI S S S MTMREQEKMMI SLAAMI AQRRKDKGI KLNHPEAVALI

 M H LVPKE
$A \subset!\begin{aligned} & \text { S } \\ & A\end{aligned}$ MRLTPTERDRLLLFSAAELARRRRADGVLLNVPEATALI A MRLTPTERDRLLIFTAAELARARRARGLLLNVPEAAALIA
$M Q L T P R E N K L L L F T A A L L A E R R S A \quad M A L L T$
 MRLNPKEQEK $\square M \square H M A G N \square A K E R R A R G L K L N Y P E A \square A Y \square R$




ARGSRLGSAEA I ALVC
MDK $L$ M $\square V Q A R E \square S E K D \square E A G L R M A H P E A \square K Y \square E$

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[^1]
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UniRef90_E3L9M4
UniRef90_V7C0V9

$Q V E A D F P H G T T L V H V T E P F G$


 QI ELTFEDGTK
 M 1 DAPFPDGTKLVALDDPDT





 QVEAT
QVEGTFKTGTHLIT IHNPTS
QVVE G T F P S S G T Y



Q DEGTFPDGTYYVTHDPDC
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QVEALFPHGSSLVHVDEPFG
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