

Avaga.UJR31415.1_hypothetical_protein_I4U23_018908 MLTKEQQLLSFDGDIILSTDKEHDDLAKLSFLTEDILLEQLKQRYERDVITYLGDILVAVNPFHETSlyTKIRDLYRySTDVHkPPHYVALVDLVYRNV

Egranulosus.XP_024353854.1_Calciumbinding_mitochon

Egranulosus.XP_024348887.1_Calciumbinding_mitochon

Avaga.UJR13457.1_hypothetical_protein_I4U23_000471

Avaga.UJR23030.1_hypothetical_protein_I4U23_026056

Avaga.UJR25868.1_hypothetical_protein_I4U23_007218

Egranulosus.XP_024349898.1_Calciumbinding_mitochon

Hsapiens.NP_775908.2_mitochondrial_carrier_protein

Lanatina.XP_013394192.1_calciumbinding_mitochondri

Hsapiens.NP_037518.3_calcium-binding_mitochondrial

Hsapiens.NP_001317917.1_calcium-binding_mitochondr

Hsapiens.NP_077008.2_calcium-binding_mitochondrial

Dmelanogaster.SCaMC_short_Calciumbinding_mitochond

Cintestinalis.LOC100186688_uncharacterized_protein

Myessoensis.XP_021372793.1_calciumbinding_mitochon

Aplanci.LOC110976327_calciumbinding_mitochondrial

Bbelcheri.LOC109482499_calciumbinding_mitochondria

Bbelcheri.LOC109467967_solute_carrier_family_25_me

Egranulosus.XP_024353850.1_Solute_carrier_family_2

Avaga.UJR35750.1_hypothetical_protein_I4U23_028499

Dmelanogaster.DPCoAC_dephosphocoenzyme_A_carrier_i

Aplanci.LOC110984196_mitochondrial_coenzyme_A_tran

Myessoensis.XP_021355166.1_mitochondrial_coenzyme

Lanatina.XP_013386564.1_mitochondrial_coenzyme_A_t

Hsapiens.NP_848621.2_mitochondrial_coenzyme_A_tran

Bbelcheri.LOC109468737_mitochondrial_coenzyme_A_tr

Aplanci.LOC110973531_graves_disease_carrier_protei

Cintestinalis.LOC100180500_graves_disease_carrier

Lanatina.XP_013414919.1_graves_disease_carrier_pro

Myessoensis.XP_021350602.1_graves_disease_carrier

Bbelcheri.LOC109481428_graves_disease_carrier_prot

Hsapiens.NP_689920.1_graves_disease_carrier_protei

0a 20a 40a 60a 80a

Avaga.UJR31415.1_hypothetical_protein_I4U23_018908 CHGIYNQCCVISGESGSGKTESTKFLKQLMYLCCGSSQLQEQILQATPLLESFGNAQTMNNNSRFKGYIALKFVNGKVIGAQISDYLLKSRVVQTQ

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Hsapiens.NP_689920.1_graves_disease_carrier_protei

100a 120a 140a 160a 180a

Avaga.UJR31415.1_hypothetical_protein_I4U23_018908 SPGERNFHIFYFLDYLPSEVKNMLCHTKHDYRYLLTNSTTVQNSSTGNSLDEVTNAMGLLNFTDKEQHSMFRLSGILTVGNLEFSTDDDEGFTRQIF

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200a 220a 240a 260a 280a

Avaga.UJR31415.1_hypothetical_protein_I4U23_018908 DEEKTKNLSIIANFMGVNSDLIMECLTITITLTRNERVTRKYSLQSSQDARDALSKHLYARLFSWLIGKINETLNNPYSQHFFQIAEIGLLDIYGFEH
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Hsapiens.NP_689920.1_graves_disease_carrier_protei
300a 320a 340a 360a 380a
Avaga.UJR31415.1_hypothetical_protein_I4U23_018908 FELNSFEQLCINLANEQIQFFFNQHIFRMEMMEYESEGIIAQTLSFTDNHSLLELFMAKPLGILSLDDESRLPKASDQTFVEKLNHYHFGSNKHECYLIN
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Egranulosus.XP_024348887.1_Calciumbinding_mitochon
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400a 420a 440a 460a 480a
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500a 520a 540a 560a 580a

Avaga.UJR31415.1_hypothetical_protein_I4U23_018908 HPVFMRICKPNQKQAHLFDDTFVRAQLRYCGMETLTRIRKEGYSVRLTFEEFIRKYGILSKIHSNSSSLSTCHHILEETKLTWEQLGKTKVFLKYYHPE
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700a 720a 740a 760a 780a
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800a 820a 840a 860a 880a

Avaga.UJR31415.1_hypothetical_protein_I4U23_018908 SLSFRAEDRCRHYMINQLKNSKYNVIGESKQVHSQSLDTLIEYYRTHELSNWNGRLTDPCKADWSQYDHESLMPNLNPNRRPYHPMKSI PNRTHTISTSPIL
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900a 920a 940a 960a 980a
Avaga.UJR31415.1_hypothetical_protein_I4U23_018908 SCFSNPYSKSLFTTRPMLINNAFTNTMKLP IAIKNLIENDES FHELEEVVHKLHQDNGNRIRIGDLEAALQRIDEDN-RSKPERKKQVRKFLTS LKP-KG
Egranulosus.XP_024353854.1_Calciumbinding_mitochon -MGELEKCTEKVGGHYRGLSP I V I A A R S S N T F V T P S G T V L S R K S V D R -
Egranulosus.XP_024348887.1_Calciumbinding_mitochon -MKTGTDEKAQSVGFDDLD R Q I D L D K D G L I S K E D V K I F L R Q F D L K L - T K N N L D V L A E S F L E C C G V G P N
Avaga.UJR13457.1_hypothetical_protein_I4U23_000471 -M N K S V Q S P N D E P Q L -
Avaga.UJR23030.1_hypothetical_protein_I4U23_026056 -M L K T S P D L I K D P N I H Q K L N E K Q L S Y D E L F H H V D K N N D G R I D V D E L I E L L E K T G G E T - M S K R R F A I A R H I L K H G T G S S D A
Avaga.UJR25868.1_hypothetical_protein_I4U23_007218 -M N G T S P D L I K D A V I H H D L N E S H L S Y R K L F H R L D Q N H D R I D V D Q L I D L L E K S G V E T - S T N K R W D I V R R I A Q A G G S P D S
Egranulosus.XP_024349898.1_Calciumbinding_mitochon -M P E K S S L R P E D R E R I A N L F K E L D V D K D G R V S V A E L A S K I K G S E Q T S - T A E K I I S R G D E D H P K
Hsapies.NP_775908.2_mitochondrial_carrier_protein -M G A Q P G E Q N T C S R I Q T L F R R V K T L L I K A P P P P Q P P P P P S W N P G C -
Lanatina.XP_013394192.1_calciumbinding_mitochondri -M S S S A P E Q G E S V - S E E G T R Y L E L F E K L D V N K D G K V D I E D L S R S L R E M S F E K H S W D Q V D H A K K I F D R D L D K D
Hsapies.NP_037518.3_calcium-binding_mitochondrial -M L R N L R D V L F T A A C Q D A E Q P T R Y E T L F Q A L D R N G D G V D I G E L Q G L R N L G I P L - T E G E L Q K I V Q A G D K N D
Hsapies.NP_001317917.1_calcium-binding_mitochondr V L C R C V A S P P P D A A A T A S S S A S P A S V D P C G G A I C G P D H R L R L N R L F Q T L D V N R D G G L C V M D L A V G L R L G L H R - T E G E L Q K I V Q A G D K N D
Hsapies.NP_077008.2_calcium-binding_mitochondrial -M R G S P G D A E R R Q W G R L F E E L D S N K D G R V D V H E L R Q G L A R L G G G N - P D F G A Q Q G I S S E G D A D P D
Dmelanogaster.SCaMC_short_Calciumbinding_mitochond Q N L G L Q H A H L A T S S T T N T P L A Y L D L H E V A S S G S I L P T E I P I E D E E R L E R I F N K L D R D G D G R I D I H D L S A A L H E F G L S S - V Y A E K F L Q Q S D K D Q S
Cintestinalis.LOC100186688_uncharacterized_protein K D S S A T L D L V L S S L N L N E L S L P E V H L A M G N D G S P Q I C P Q K E A Y Y R E I F D R L D V N D G R V D V H E L K E A Y M R M G L L Q - V P G Q A E K F V S A S D S N K D
Myessoensis.XP_021372793.1_calciumbinding_mitochon -M T A G A E F V L S A E S K K Y Q E L F N K L D V N S D G R I D I A D L T S S L T E M N V P L - G Q A Q E F L K K H D A N K
Aplanci.LOC110976327_calciumbinding_mitochondrial -M P D M M N A A S D L S S T H P Q L T P E D E A R Y A K L F Q L D V N A D G R I D V E D L Q E G L E R L G V H I - V P H A Q K F M S K S D Q N K D
Bbelcheri.LOC109482499_calciumbinding_mitochondria -M A S T R E L H E L S A E E E E Q T L F K R L D A S G D G R I D F E E L R E G L K L G V H S - D Q A E K H A Q E I L K K S D K D D D
Bbelcheri.LOC109467967_solute_carrier_family_25_me -M G S R K D H R L T F -
Egranulosus.XP_024353850.1_Solute_carrier_family_2 -M K L L R L P S T A S N K S F S R D F A P S -
Avaga.UJR35750.1_hypothetical_protein_I4U23_028499 -M S K K L D E D S H L S N T Q K I -
Dmelanogaster.DPCoAC_dephosphocoenzyme_A_carrier_i -M S R L E K P N I A M S I K S T G S Q L S S T M T T A S A T L -
Aplanci.LOC110984196_mitochondrial_coenzyme_A_tran -M R S S H C F S K S A E S H N L K H C N D S T T S A M I E S E E E H P I R R I Q E D H -
Myessoensis.XP_021355166.1_mitochondrial_coenzyme -M L G M G V S E E T N L R P D V L N Q S N L S L A S S P N V D Q T T S P N S H G N G E E H H H E E H -
Lanatina.XP_013386564.1_mitochondrial_coenzyme_A_t -M A S V K D N T P G L K T D L K L V T P A V T R G G I T H I D V H G K V H D E E H H -
Hsapies.NP_848621.2_mitochondrial_coenzyme_A_tran -M G N G V K E G F V R L H E D A E A V L S S V S S -
Bbelcheri.LOC109468737_mitochondrial_coenzyme_A_tr -M I E P A R E S G S V A A I Q D R T A T L E Q E E E I R -
Aplanci.LOC110973531_graves_disease_carrier_protei -M L R A I T Q S V H Q L V N R I H V -
Cintestinalis.LOC100180500_graves_disease_carrier -M A V P Q N H K R G T D W S T L -
Lanatina.XP_013414919.1_graves_disease_carrier_pro -M C N S E K G F Y I Q K L G L Q A -
Myessoensis.XP_021350602.1_graves_disease_carrier -M P D A I Q P Q S F S H L -
Bbelcheri.LOC109481428_graves_disease_carrier_prot -M C E N L G E I A A P A A T G F L G A Q C F R D R R Y N G P D Q H P D R P G K D R P S K A P L -
Hsapies.NP_689920.1_graves_disease_carrier_protei -M A A T A A A A L A A A D P P A M P Q A A G A G -
1000a 1020a 1040a 1060a 1080a
Avaga.UJR31415.1_hypothetical_protein_I4U23_018908 D R I D G E K F L Q I M L E R Q K E L K S F E E I D N K D G V D P I E L A K A F S R L K I V L K K D L M K I E V - L D R D K D F N I T F S E W Q T Y
Egranulosus.XP_024353854.1_Calciumbinding_mitochon
Egranulosus.XP_024348887.1_Calciumbinding_mitochon G H V N A K Q F A H Y V H E Q D R R L S P I Y A Q M D R N M Q G K V D L L D I Q A Y F I K L G I P I E P T E A K R L L R R - I D K N N H D C I E Y E W R K F
Avaga.UJR13457.1_hypothetical_protein_I4U23_000471
Avaga.UJR23030.1_hypothetical_protein_I4U23_026056 S S L T F Q Q F A D Y V L K Q E K K L S I V F R K V D A S H Q G K F D A E D L V Y F N K L G I K L D L Q E A K L V E K - M D Q N S L Q I S F D E W R S F
Avaga.UJR25868.1_hypothetical_protein_I4U23_007218 S S L S F K Q F T N Y L V Q Q E K K L S I V F R K L D A S N H G K F D A K L D V Y F R K L R I Y L D L E E A N K L V E K - M N Q Q K S S I S Y D E W R S F
Egranulosus.XP_024349898.1_Calciumbinding_mitochon S T M T F N E F V D Y V T D T E T Q L K L A F R Q M D K N H D N V D S E I T R A A M L D L G V E I G Q K E A E K L L K - V D K D G S L S I D F N E W R D F
Hsapies.NP_775908.2_mitochondrial_carrier_protein -T H V Y G Y A F G H M D N N L E H L P S Q Q V -
Lanatina.XP_013394192.1_calciumbinding_mitochondri G H I T F K E F V R Y L S E H E K L K L A F H K L D E N R D G V I D S H E I Q A S F R K L G I H I D R E E A M K L L H R - M D K D K T L K I N W D E W R D Y
Hsapies.NP_037518.3_calcium-binding_mitochondrial G K L D F E E F M Y L K D H E K M K L A F K S L D K N N D G K I E A S E I V Q S L Q T L G L T I S E Q Q A E L I Q S - I D V D G T M V D W N E W R D Y
Hsapies.NP_001317917.1_calcium-binding_mitochondr Q L D L F E E F V H Y L Q D H E K K L R L V F K S L D K N N D G R I D A Q E I M Q S L R D L G V K I S E Q Q A E K I L K R - I R T G H F W G P V T Y M D K N G T M I D W N E W R D Y
Hsapies.NP_077008.2_calcium-binding_mitochondrial G G L D L E E F S R Y L Q E R E Q R L L M F H S L D R N Q D G H I D V S E I Q Q S F R A L G I S I S L E Q A E K I L H S - M D R D G T M I D W Q E W R D H
Dmelanogaster.SCaMC_short_Calciumbinding_mitochond G N V G F A E F L H Y V R E H E K N L V L Q F S H L D K N R D G K V D L E E I I S A F K D L G L D I M D E A R N L L T R - M D K D G S L N I S F N E W R D F
Cintestinalis.LOC100186688_uncharacterized_protein G E L D V A E F V R Y L H E H E M K L K L M F R L D R D K D G R L T S A E I E A L R S V G F D V S K D E A K E I T R R - I D K D G T S S I D I N E W V E H
Myessoensis.XP_021372793.1_calciumbinding_mitochon Q G I D F A E F L Q V T V H D Q Q L R L Y F K K I D T N Q D G T D A S E I Q E S F R K L G L N I D R D E A E K L L S R - M D K D G T L K I D F N E W R N F
Aplanci.LOC110976327_calciumbinding_mitochondrial G H V D F A E F L Q V T E H E K Q L K L V F K H I D H N Q D G H L D V E I L A S L R K L G V S V S E D A D R L M K R L K G C K G C V P T H L E D D V E C V C Y M D K G S L K V D W N E W R N Y
Bbelcheri.LOC109482499_calciumbinding_mitochondria E E I F A E F V K Y M S E H Q R K L K L T F D K L D K N D G R I D T E E I I E A L R G L V H I D K S E A N K I M K S F T L R L R T F L A Q G T S V F G A C R C - M D K D G T L T V D W D E W R E Y
Bbelcheri.LOC109467967_solute_carrier_family_25_me
Egranulosus.XP_024353850.1_Solute_carrier_family_2
Avaga.UJR35750.1_hypothetical_protein_I4U23_028499
Dmelanogaster.DPCoAC_dephosphocoenzyme_A_carrier_i
Aplanci.LOC110984196_mitochondrial_coenzyme_A_tran
Myessoensis.XP_021355166.1_mitochondrial_coenzyme
Lanatina.XP_013386564.1_mitochondrial_coenzyme_A_t
Hsapies.NP_848621.2_mitochondrial_coenzyme_A_tran
Bbelcheri.LOC109468737_mitochondrial_coenzyme_A_tr
Aplanci.LOC110973531_graves_disease_carrier_protei
Cintestinalis.LOC100180500_graves_disease_carrier
Lanatina.XP_013414919.1_graves_disease_carrier_pro
Myessoensis.XP_021350602.1_graves_disease_carrier
Bbelcheri.LOC109481428_graves_disease_carrier_prot
Hsapies.NP_689920.1_graves_disease_carrier_protei
1100a 1120a 1140a 1160a 1180a

Avaga.UJR31415.1_hypothetical_protein_I4U23_018908 FRFP-----STELEASLRWRRGQVQDITNE-QQMNSYTEKERENGFY---ARHFIAGALSGMSVRTVAPLDRLLKIYMQAMG-----KKKLLNT--
Egranulosus.XP_024353854.1_Calciumbinding_mitochon -----RRYFAGFLAGVSRCTCTAPIDRLKVLKQAAT-PEIAGLNMYKS--
Egranulosus.XP_024348887.1_Calciumbinding_mitochon LFLFP-----ITDLASVTFQWRHGAIDLSDVPVPAIPQFMKHEHALRRD---VLQLIAGGTAGVSRCTCTAPIDRLKVMRVQYG-YKHKQSGFVEGVK
Avaga.UJR13457.1_hypothetical_protein_I4U23_000471 -----LW-----LRHFFAGVGCAGGVSRTCTAPIDRLRTFFQVYGLDTHGRMTIGST--
FMNPNVILETITNDPHEMLQYWRGASYLDLGDSPYRTDD---ALIEGGLW---WKNLIAGGCAGAVSRATAPFDRLLKIMQYLG-SRH-QMSVISG-
Avaga.UJR25868.1_hypothetical_protein_I4U23_007218 FMINPMLETTITGDPNEMLRVWRGATHLDFGETSYAVCED---EEIRNKQL---WKNLIAGGCAGAVSRATAPFDRLLKIMQYLG-SRH-QMSVISG-
Egranulosus.XP_024349898.1_Calciumbinding_mitochon LLLSG-----KTQLHDIFHYWRRASAVDIGEL-VQVPPDDYTEEEKSGEA---WRTLLAGGIAGVSRATAPIDRLKTIYQARG-GRAASTGLVGS--
Hsapiens.NP_775908.2_mitochondrial_carrier_protein -----LDTGEQ-LMVPFVEVLVDNKEAL---WKFLLSGAMAGAVSRGTAPLDRAKVYMQVYS-SKTNTNLLGG--
Lanatina.XP_013394192.1_calciumbinding_mitochondri LTFHP-----NSDLHDIVHYWRHG-FIDFGED-RLVPDDFTEEMQEGVW---WRLHVAGGAAGLRSRTVAPIDRLKVLQVYS-TNQNKLGVYSG-
Hsapiens.NP_037518.3_calcium-binding_mitochondrial FLFNP-----VTDIEEIRFWKHSTGIDIGDS-LTIPEDEFTEDEKKSQGW---WRQLLAGGIAGVSRSTAPLDRLLKIMQVHG-SKSDKMNIFGG--
Hsapiens.NP_001317917.1_calcium-binding_mitochondr HLLHP-----VENIPEIILYKXHSITFDVGEN-LTVPDFTEVERQTGMW---WRLHVAGGAGAVSRCTAPLDRLLKIMQVHA-SRSNNMIVGG--
Hsapiens.NP_077008.2_calcium-binding_mitochondrial FLIHS-----LENVEDVLVFKHSTVLIDIGEC-LTVPDFSEKQEKLTGMW---WKQLVAGVAGAVSRGTAPLDRLLKIMQVHA-SKTNRNLILGG--
Dmelanogaster.SCaMC_short_Calciumbinding_mitochond MLLAP-----STDIDHLIKFWRHSTYLDIGED-MNVPDFTQKEMQTGLW---WRLHVAGGIAGAVSRCTAPLDRLLKIVVLQV---QTQRMGISFC-
Cintestinalis.LOC100186688_uncharacterized_protein HLLHP-----SADLKDIVSYWKHATYIDIGES-LIVPDFSEAEKVSQGW---WRQLVAGGAAGVSRCTAPLDRLLKIMQVHA-TKSQNLGSISSG-
Myessoensis.XP_021372793.1_calciumbinding_mitochon LLLSP-----AQNIHMDMLHYWRHASIIDIGEN-TIVPDFTEKEMKTGMW---WRLHVAGGAAGAVSRCTAPLDRLLKVLQVHA-TSKNNYGVVNG-
Aplanci.LOC110976327_calciumbinding_mitochondrial LLLHP-----SSDLRDIITYYKHATFIDIGET-LSIPEDEFSEDEKETGRW---WRLILAGGAAGAVSRVTAPLDRLLKIVFQVIG-SKKQNLISITSG-
Bbelcheri.LOC109482499_calciumbinding_mitochondria LLLHP-----SADLKDIVRYWRHTVSIDIGEN-LCVPDFTEEEKVETGMW---WRLVAGGTAGAVSRCTAPLDRLLKVLQVHG-AHQARGGMSGS-
Bbelcheri.LOC109467967_solute_carrier_family_25_me -----LQSFVCGGTAGVTRSLTSPLDVKILSQG-G-KTDTQEGFLRA--
Egranulosus.XP_024353850.1_Solute_carrier_family_2 -----FADFIIIGGLAGCAKTAIAPLDRKINFTQSE-MYFVNKALIKF--
Avaga.UJR35750.1_hypothetical_protein_I4U23_028499 -----ISSMITGACAGAVAKTTIAPLDRKINFTQSE-MYFVNKALIKF--
Dmelanogaster.DPCoAC_dephosphocoenzyme_A_carrier_i -----VLSISGAAGALAKTAIAPLDRKTIQFQSD-MHFSPPRASRLRY-
Aplanci.LOC110984196_mitochondrial_coenzyme_A_tran -----SSDLDADTSRTQLSPSETSVGLVLPATTVTPMRQKIDQV---
Myessoensis.XP_021355166.1_mitochondrial_coenzyme_A -----HHLCDISIKTKDGGQAAKQAAAWKEIVSLTAGAVAGATAKTAPLDRKTIQFQSD-MHFSPPRASRLRY-
Lanatina.XP_013386564.1_mitochondrial_coenzyme_A_t -----RINQKVPNNHKI---ITSLTAGAVAGAVAKTTIAPLDRKTIHFQISN-KQFSVRDIAQF--
Hsapiens.NP_848621.2_mitochondrial_coenzyme_A_tran -----EDEFKISQKVSNNKYI-FTSLTAGAVAGAVAKTTIAPLDRKTIHFQISN-KQFSVRDIAQF--
Bbelcheri.LOC109468737_mitochondrial_coenzyme_A_tr -----KRDRHQV---LSSLLSGALAGALAKTAVAPLDRKTIHFQISN-KRFSAKEAFRV--
Aplanci.LOC110973531_graves_disease_carrier_protei -----RQHERKV---VANLAAGAIAAGIAKTIVAPLDRKTIHFQISN-NRFSAKEAYKV--
Cintestinalis.LOC100180500_graves_disease_carrier -----RLEEFWKATVIMIDARRIAGCCGVTTAPLDRVKILLQAHN-QYNNHGLGVSS--
Lanatina.XP_013414919.1_graves_disease_carrier_pro -----FKRLAAGLSGCGTKLAAPLDRKTIHFQISN-PYYDLGLIFRC--
Myessoensis.XP_021350602.1_graves_disease_carrier -----PSMIEQQNEGKNYSRYAKMLFAGGIAGCACTFVAPLDRKILLQAHN-RHYKHLGLIST--
Bbelcheri.LOC109481428_graves_disease_carrier_prot -----AKKLAGGAAGCACTAVAPLDRKILLQAHN-HHYKHLGVSS--
Hsapiens.NP_689920.1_graves_disease_carrier_protei -----QRVPEW---GKALLAGGIAGCACTAVAPLDRKILLQAHN-SHYKHLGIFST--
1200A 1220A 1240A 1260A 1280A
Avaga.UJR31415.1_hypothetical_protein_I4U23_018908 -----ASTLYGEGGGVGKIGRSFWRNGIAVFMKPEMALRQGIETFRELRGVDYDI-----VSPVTNKLFLGLGSLGFIQATCIYPLEVLK
Egranulosus.XP_024353854.1_Calciumbinding_mitochon -----FRALIADG---GLFSLWRNGINVLKNGPETALRFHGHLKDI-----LFPEA---KELHPQSRLFVAGSLAGAWSLLTYPMPEVK
Egranulosus.XP_024348887.1_Calciumbinding_mitochon VHRLLTHSAYRYMLREG---GLWSLRNGINLINSIKIAPETAIVKYTTYEWYKCLLMDMEDDG---FPDRHVPATKFAAGSLAGLTAQVSYPVPEVK
Avaga.UJR13457.1_hypothetical_protein_I4U23_000471 -----FISMIKEG---GIRSLWRNGINLNMVKSVPETGIRLMSYEAFFKRL---LGQTA---THEVNIQFQKLCGSTATGTAASVLYPMPTIK
Avaga.UJR23030.1_hypothetical_protein_I4U23_026056 -----YRVLVKEG---GVKSLWRNGINVLNVKIIPETALRTVYEESSKLLKSQNKD---LSTETIIPFRFAGIAGISQATVLYPLDVLK
Avaga.UJR25868.1_hypothetical_protein_I4U23_007218 -----YRVLIEEG---GVQSLWRNGINLNVKIIPETALRFAFFESKKLVKLQIGKD---LNTETITFERFISGAIAGFSSQTLVLYPLDVLK
Egranulosus.XP_024349898.1_Calciumbinding_mitochon -----FRMLKKEG---GISWMRNGINVLKIAPEAQFQAYETKYRL---FFKDD---GSTPELSPRQFATAGALAGTSQTLIYPMPEVK
Hsapiens.NP_775908.2_mitochondrial_carrier_protein -----LQSMVLEG---GIRSLWRNGINVLKIAPEYAKFVSFEQCKNY---FCGQI---GSPFPQERLLAGSLAVASQTLINPMEVK
Lanatina.XP_013394192.1_calciumbinding_mitochondri -----FKQVLYREG---GARGLWRNGINVLKIAPESAIKFMAYEQIKRS---FKDPY---GSPIAPVHRFISGSLAGAVASQTLIYPMPEVK
Hsapiens.NP_037518.3_calcium-binding_mitochondrial -----FQOMVKEG---GIRSLWRNGINVLKIAPEAVKFMAYEQIKRL---LTEEG---QKIGTIFERFISGMAAGTAQTLIYPMPEVK
Hsapiens.NP_001317917.1_calcium-binding_mitochondr -----FQMIKEG---GARSLWRNGINVLKIAPESAIKFMAYEQIKRL---VQSDQ---ETLIRHERLAVAGSLAGTAQTLIYPMPEVK
Hsapiens.NP_077008.2_calcium-binding_mitochondr -----LRSMVLEG---GIRSLWRNGINVLKIAPESAIKFMAYEQIKRA---ILGQQ---ETLHVQERFVAGSLAGATAQTLIYPMPEVK
Dmelanogaster.SCaMC_short_Calciumbinding_mitochond -----MHIMLNEG---GSRSMWRNGINVLKIAPEAFKFAAYEQMKRL---IRGDD---GSRQMSIVERFVAGAAAGGISQTLIYPMPEVK
Cintestinalis.LOC100186688_uncharacterized_protein -----FNSMLKEG---GAKSLWRNGINVLKIAPEAVKFAIYERMKKL---IGAQS---GGEGIAAEKFLAGSMAGVTSQTLIYPMPEVK
Myessoensis.XP_021372793.1_calciumbinding_mitochon -----FQFMLENG---GVKSLWRNGINVLKIAPEAIKFMAYEQIKTW---FRGED---PAKELHILERLCSGSLAGISQTLIYPMPEVK
Aplanci.LOC110976327_calciumbinding_mitochondrial -----FQHYMKEG---GLMSWRNGINVLKIAPEATLKFAYEHLKKL---LGEIG---RELHMHRFPMAGSMAGVTSQTLIYPMPEVK
Bbelcheri.LOC109482499_calciumbinding_mitochondria -----FQOMLKEG---GVKSLWRNGINVLKIAPESAIKFMAYERLKKL---FTREG---QSLGVVERFCSGSLAGISQTLIYPMPEVK
Bbelcheri.LOC109467967_solute_carrier_family_25_me -----FSNLYKNE---GLRAFVKNGELCLRLFPYTAIQFSAYTKFRQL---FVDDM---GYNLGSAGGLMAGSLGGITATCIIMYPTDMVK
Egranulosus.XP_024353850.1_Solute_carrier_family_2 -----LRHSYVTA---GVRSLWRNGINVLKIAPEYAKFVSFEQCKNY---LGIQSDTLHCLSKSQVIRRFIAGGIAGGASVSFTYPLDLVR
Avaga.UJR35750.1_hypothetical_protein_I4U23_028499 -----LKESYKKE---GFTSWYRNGINLANLRIAPSAALNYTAHEQWKYI---LGDTK---NEKTPARRFLSGLAGAVASQTLIYPMPEVK
Dmelanogaster.DPCoAC_dephosphocoenzyme_A_carrier_i -----LQNTYANE---GLVALWRNGINLNMVKSVPETGIRLMSYEAFFKRL---LHVDK---DGNTLKGRRFVAGSLAGISQTLIYPMPEVK
Aplanci.LOC110984196_mitochondrial_coenzyme_A_tran -----ILKYVNEG---GLVALWRNGINLNMVKSVPETGIRLMSYEAFFKRL---LHVDK---DGNTLKGRRFVAGSLAGISQTLIYPMPEVK
Myessoensis.XP_021355166.1_mitochondrial_coenzyme_A -----LQNTFKNE---GFLALWRNGINLNMVKSVPETGIRLMSYEAFFKRL---LHVDK---DGNTLKGRRFVAGSLAGISQTLIYPMPEVK
Lanatina.XP_013386564.1_mitochondrial_coenzyme_A_t -----IKNTVYKE---GFTFLWRNGINLNMVKSVPETGIRLMSYEAFFKRL---LHVDK---DGNTLKGRRFVAGSLAGISQTLIYPMPEVK
Hsapiens.NP_848621.2_mitochondrial_coenzyme_A_tran -----LYTYTYNE---GFTFLWRNGINLNMVKSVPETGIRLMSYEAFFKRL---LHVDK---DGNTLKGRRFVAGSLAGISQTLIYPMPEVK
Bbelcheri.LOC109468737_mitochondrial_coenzyme_A_tr -----IFRTYKNE---GFTFLWRNGINLNMVKSVPETGIRLMSYEAFFKRL---LHVDK---DGNTLKGRRFVAGSLAGISQTLIYPMPEVK
Aplanci.LOC110973531_graves_disease_carrier_protei -----LAKVVEKE---GVRGLWRNGINLNMVKSVPETGIRLMSYEAFFKRL---LHVDK---DGNTLKGRRFVAGSLAGISQTLIYPMPEVK
Cintestinalis.LOC100180500_graves_disease_carrier -----VLAIIRRE---GVMSLWRNGINLNMVKSVPETGIRLMSYEAFFKRL---LHVDK---DGNTLKGRRFVAGSLAGISQTLIYPMPEVK
Lanatina.XP_013414919.1_graves_disease_carrier_pro -----LKHVIDNE---GFTFLWRNGINLNMVKSVPETGIRLMSYEAFFKRL---LHVDK---DGNTLKGRRFVAGSLAGISQTLIYPMPEVK
Myessoensis.XP_021350602.1_graves_disease_carrier -----LRQVKKNE---GFTFLWRNGINLNMVKSVPETGIRLMSYEAFFKRL---LHVDK---DGNTLKGRRFVAGSLAGISQTLIYPMPEVK
Bbelcheri.LOC109481428_graves_disease_carrier_prot -----LEATWRKE---GVQGVKNGINLNMVKSVPETGIRLMSYEAFFKRL---LHVDK---DGNTLKGRRFVAGSLAGISQTLIYPMPEVK
Hsapiens.NP_689920.1_graves_disease_carrier_protei -----LRAVPQKE---GFTFLWRNGINLNMVKSVPETGIRLMSYEAFFKRL---LHVDK---DGNTLKGRRFVAGSLAGISQTLIYPMPEVK
1300A 1320A 1340A 1360A 1380A
Avaga.UJR31415.1_hypothetical_protein_I4U23_018908 TQAA-MRTTGG---YSSILDLKRLKYRE-GWRVYFVYGLNSLGVFPAAIGDIFALYEYLRVRYREKVT-----S-----
Egranulosus.XP_024353854.1_Calciumbinding_mitochon TRMA-LRKTDD---SNSIADCKMTVYSQG-GLRSFYRGVATISMLSYVYAGLDFLSFELPKRSYVEYHPYRGPEMP-----H-----
Egranulosus.XP_024348887.1_Calciumbinding_mitochon TRMC-LRKTGG---YSSVDDCAARIRYREL-GIRGFFRGYVNVNLGIPYAGIELATYEWLKSAYIRHVMYSHILRLSPRVFDDSSASL-----E-----
Avaga.UJR13457.1_hypothetical_protein_I4U23_000471 TRLT--TRKTNE---YKSIIVDCISIKYRGE-GLRAFYKGLLPSALALIPASGIDIALYETLKQLEAYHG-----Y-----
Avaga.UJR23030.1_hypothetical_protein_I4U23_026056 VRFC-LRRTGE---YSHWVDAVKRMKYFE-GPTSFWRGIVLNIGIVPYAGFDLACYESLKRLLYIDRH-----N-----
Avaga.UJR25868.1_hypothetical_protein_I4U23_007218 VRLC-LRRTGE---FNSWADAIRIRYRFE-GAKAFWGRGTTLNIGIVPYAGFDLACYESLKRLLYIKTH-----E-----
Egranulosus.XP_024349898.1_Calciumbinding_mitochon TRMC-LRKTGG---YSSIFDCAKRLYRHE-GMWIFYRGVFNILGILPYAGIDLALYETFKTLIVKALNSRADNSGTQ-----K-----
Hsapiens.NP_775908.2_mitochondrial_carrier_protein TRLA-LGRITGE---YSGIIVDCVSRVKKHD-GMSLYRGYGLPNLVGILPYAGIDLFYIETLRSKHKAWPY-----D-----
Lanatina.XP_013394192.1_calciumbinding_mitochondri TRLA-VGKTGG---YSGIYDCAKILKHE-GLGAFYKGYVFNILGIPYAGIDLAVYELLSYWLNDFAK-----D-----
Hsapiens.NP_037518.3_calcium-binding_mitochondrial TRMA-LRKTGG---YSGMLDCARRILARE-GVAAPYKGYVFNMLGIPYAGIDLAVYETLKNWNLQHYAV-----N-----
Hsapiens.NP_077008.2_calcium-binding_mitochondr TRLT--LRRTGG---YKGLLDCARRILERE-GPRAFYKGYVFNVLGIPYAGIDLAVYETLKNWNLQOYSH-----D-----
Dmelanogaster.SCaMC_short_Calciumbinding_mitochond TRLA-LRRTGG---YAGIADAAVKIKYQE-GVRSFYRGVFNILGILPYAGIDLAVYETLKRRIYANHD-----N-----
Cintestinalis.LOC100186688_uncharacterized_protein TRLA-LRKTGG---YSGIFDCAKVLRLNE-GPKAFFKGYIPNCLGIPYAGIDLCTIYETLKNYIKITGYA-----E-----
Myessoensis.XP_021372793.1_calciumbinding_mitochon TRLA-LRKTGG---FNGIFDCAKMYKNE-GIRMFYRGVFNILGIPYAGIDLAVYETLKKTYRQKT-----N-----
Aplanci.LOC110976327_calciumbinding_mitochondrial TRLA-LRKTGG---YKGLLDCALKVYRNE-GLRCFYKGYVFNILGIPYAGIDLAVYETVKNRWLRHQ-----E-----
Bbelcheri.LOC109482499_calciumbinding_mitochondria TRLA-LRKTGG---YSGMMDCAKVIYQRE-GLRAFYKGYVFNILGILPYAGIDLCTIYETLKNWNLQOYSH-----D-----
Bbelcheri.LOC109467967_solute_carrier_family_25_me TRLT--AQHTKRSKAHYRGLITHFRVVYRTE-GITAFFRGMSVSYGVVFPAGGTFMAYELLDRAWSP-----D-----
Egranulosus.XP_024353850.1_Solute_carrier_family_2 ARMA-VTERVK---YANLVDVQVLTLYREG-GLRTLYHGFTPALLGILPYSGIAFYTFETLKEWLKRRITS-----D-----
Avaga.UJR35750.1_hypothetical_protein_I4U23_028499 ARMA-VTNKTV---HKSMSGISLITLRYE-GFLSFYRGYGLTVLGVIPYGGISFFIFETFKKKHRELT-----G-----
Dmelanogaster.DPCoAC_dephosphocoenzyme_A_carrier_i ARMAVTDRTYTG---YRTLQVQFTKIWVEE-GPRTLFYRGYATVGLVPIYAGTSFFTYETLKRREYEVV-----G-----
Aplanci.LOC110984196_mitochondrial_coenzyme_A_tran ARMA-VTNKTV---HKSMSGISLITLRYE-GFLSFYRGYGLTVLGVIPYGGISFFIFETFKKKHRELT-----G-----
Myessoensis.XP_021355166.1_mitochondrial_coenzyme_A -----ARMA-VTAQDR---YHNLFEVLKIKAE-GLRTLYRGYGLTVLGVIPYAGTSFFTYETLKRREYEVV-----G-----
Lanatina.XP_013386564.1_mitochondrial_coenzyme_A_t -----ARMA-VTLKCR---YHSLFEVLKIKAE-GLRTLYRGYGLTVLGVIPYAGTSFFTYETLKRREYEVV-----G-----
Hsapiens.NP_848621.2_mitochondrial_coenzyme_A_tran -----ARMA-VTPKEM---YHNLFEVLKIKAE-GLRTLYRGYGLTVLGVIPYAGTSFFTYETLKRREYEVV-----G-----
Bbelcheri.LOC109468737_mitochondrial_coenzyme_A_tr -----ARMA-VTKKAK---YHSLFEVLKIKAE-GLRTLYRGYGLTVLGVIPYAGTSFFTYETLKRREYEVV-----G-----
Aplanci.LOC110973531_graves_disease_carrier_protei -----ARLA-VQVQGEHL---YRGLITCRSIIWHEEQRLALRYRGVFTLLGMVYAGAAFYYSYEMGKAVYLVKGLPYLSK-----S-----
Cintestinalis.LOC100180500_graves_disease_carrier -----ARLA-PQITGEHR---YRGLITCRSIIWHEEQRLALRYRGVFTLLGMVYAGAAFYYSYEMGKAVYLVKGLPYLSK-----S-----
Lanatina.XP_013414919.1_graves_disease_carrier_pro -----ARLA-PQITGEHR---YRGLITCRSIIWHEEQRLALRYRGVFTLLGMVYAGAAFYYSYEMGKAVYLVKGLPYLSK-----S-----
Myessoensis.XP_021350602.1_graves_disease_carrier -----ARLA-PQITGEHR---YRGLITCRSIIWHEEQRLALRYRGVFTLLGMVYAGAAFYYSYEMGKAVYLVKGLPYLSK-----S-----
Bbelcheri.LOC109481428_graves_disease_carrier_prot -----ARLA-PQITGEHR---YRGLITCRSIIWHEEQRLALRYRGVFTLLGMVYAGAAFYYSYEMGKAVYLVKGLPYLSK-----S-----
Hsapiens.NP_689920.1_graves_disease_carrier_protei -----ARLA-PQITGEHR---YRGLITCRSIIWHEEQRLALRYRGVFTLLGMVYAGAAFYYSYEMGKAVYLVKGLPYLSK-----S-----
1400A 1420A 1440A 1460A 1480A

Avaga.UJR31415.1_hypothetical_protein_I4U23_018908 --LEEPS-----IATLTMISNVSAALMAYASYPLYLIRTRQOYQIV-----P-----ENNFMEMMKIWRIDGW-RGIFYGFSIPN
Egranulosus.XP_024353854.1_Calciumbinding_mitochon --LAKPV-----AISLIIC-----SSSIPLLVYPANLMRTRFQANTN-----FIP-----PSILNMFQAILKADGL-SGLYRGFLTS
Egranulosus.XP_024348887.1_Calciumbinding_mitochon --YLHPP-----SHIIPLVAATSSMAGIVATYPVALIRAKMQATFY-----YSSKPSTSQHTGIVTQHP-----VTVPSSLRAIWHDDGL-IGFYRGLGTN
Avaga.UJR13457.1_hypothetical_protein_I4U23_000471 --ATNPI-----EKLIL-----GNVSNGISOFFIYPLLNVNRTLQSNVD-----RT-----DTMTQLKRLWTHHGL-RGLYNGFSLH
Avaga.UJR23030.1_hypothetical_protein_I4U23_026056 --NKEPP-----IYIVLSCGAISSFTAQLVITYPALIRTRRQOQIV-----PLPNMDQSKAHP-----VPATKMLKDIWHNEGI-VGLYRGLVFN
Avaga.UJR25868.1_hypothetical_protein_I4U23_007218 --NRQPP-----VYIYLSGCAISSFAGQLVITYPITLLIRIRRQOQIV-----PLPHMDQSKAHPV-----LPFRVLMNDIQWNEGL-AGFYRGLVFN
Egranulosus.XP_024349898.1_Calciumbinding_mitochon --LTGPP-----VYVSLTAGACSSVCGQVATYPLALIKTKLQAESE-----K-----ISLEKLFQRIIKTEGI-MGMYRGMGAN
Hsapiens.NP_775908.2_mitochondrial_carrier_protein --MGDPS-----GLVLSLSSVTLSTTCGQMSYPLTVLRTRMQAQT-----VEGSN-----PTMRGVLQRIIAQQGW-LGLYRGMTPT
Lanatina.XP_013394192.1_calciumbinding_mitochondri --HQDPS-----IIFLLFCGATSCSFGQLCTYPLALIRTKLQAKGK-----LGKKK-----DSWIGLGRITVKEEGF-LGLYRGLIIPN
Hsapiens.NP_037518.3_calcium-binding_mitochondrial --SVNPG-----VMVLLGCGALSSTCGQLASYPLALVTRTRMQAQM-----LEGSPQ-----LNMVGLFRRIISKEGI-PGLYRGITPN
Hsapiens.NP_001317917.1_calcium-binding_mitochondr --SADPG-----VFVLLACGTMSSTCGQLASYPLALVTRTRMQAQS-----IEGAFE-----VTMSSLFKHILRTEGA-FGLYRGLAPN
Hsapiens.NP_077008.2_calcium-binding_mitochondrial --SADPG-----TLVLLACGTISSTCGQIASYPLALVTRTRMQAQS-----IEGGPQ-----LSMLGLLPHILSQEGM-RGLYRGIAPN
Dmelanogaster.SCaMc_short_Calciumbinding_mitochond --NEQPS-----FLVLLACGTISSTCGQLASYPLALVTRTRMQAQAAS-----IEGAFE-----VTMSSLFKHILRTEGA-FGLYRGLAPN
Cintestinalis.LOC100186688_uncharacterized_protein --KEKPS-----VLLLLACGTISSTCGQLASYPLALVTRTRMQAQAAS-----LPNHDKNQKTSVMVSLFSPISVQTDGV-FGLYRGLAPN
Myessoensis.XP_021372793.1_calciumbinding_mitochon --GQDPG-----LALLGCGTISSTCGQLSSYPLALIRTKLQAQGA-----KGQ-----DTLRTMTFTKIVKQDGF-FGLYRGLAPN
Aplanci.LOC110976327_calciumbinding_mitochondrial --SSAPP-----TLVLLACGTFSSTCGQIASYPLALVTRTRLQAQLT-----TG-----SSMVGLFSDIYRQEGI-RGLYRGIAPN
Bbelcheri.LOC109482499_calciumbinding_mitochondria --KNQPNPG-----VMVLLACGTISSTCGQLASYPLALIRTKLQAQTT-----PIPRG-----DTMVGLFGQILKDEGL-RGLYRGIAPN
Bbelcheri.LOC109467967_solute_carrier_family_25_me --SSHLT-----PLANFINGCIAAFAQTSYSPFDITRKLLQAYST-----VLPNRCGVVDVEF-TGMVDAFIQTYYKHGGM-QGLWRGTTAN
Egranulosus.XP_024353850.1_Solute_carrier_family_2 --GRSPR-----SLRPLENLSGCAFGAVLGQATSYPLDIVRRRRMQTAGV-----TGHPE-YT-RSILGTMQIVYQQEGLLHGLYKGVTMN
Avaga.UJR35750.1_hypothetical_protein_I4U23_028499 --SHRP-----NKKERLLYGSVAGLVGGQTSYSPFDIVRRRLQTAAV-----IRPNE-TS-LGALATARKIIEBGRIRRGLYKGVTMN
Dmelanogaster.DPCoAc_dephosphocoenzyme_A_carrier_i --NNKPN-----TLVSLAFGAAGAAGATASYPLDIVRRRRMQTRMV-----NTAGDG-RY-PTILETLVKIYKEEGVKNFYRGLSMN
Aplanci.LOC110984196_mitochondrial_coenzyme_A_tran --KSPHS-----SPQNMAGFAGVAGQTSYSPLDIVRRRRMQTAGL-----TKYTY-----DTIINTARDIYHEGGVVRGLYRGLSMN
Myessoensis.XP_021355166.1_mitochondrial_coenzyme --GKDLT-----LGERLCFCGACAGLLSQSASYPLDIRRRRRMQTAGV-----TGHSN-DY-RSVTETFRKRVVKEEGFRGLYRGLSIN
Lanatina.XP_013386564.1_mitochondrial_coenzyme_A_t --GKDPS-----AYQRLCFGALAGLGGQTSYSPLDIVRRRRMQTAGV-----TGKSS-EY-TGIIRTRMKVRQAEVIGGLYRGLSMN
Hsapiens.NP_848621.2_mitochondrial_coenzyme_A_tran --RRQPY-----PFERMIFGACAGLLGQTSYSPLDIVRRRRMQTAGV-----TGYPY-----ASIAARTLRTIYREEGAVRGLYRGLSMN
Bbelcheri.LOC109468737_mitochondrial_coenzyme_A_tr --GKEPN-----PQRLIFGMLAGLFGQTSYSPLDIVRRRRMQTAGV-----TGNPC-----SSILGTARMIKKEEGVRGLYRGLSMN
Aplanci.LOC110973531_graves_disease_carrier_protei --PANLQERVLTAQANLFIGGFAGAFQITVYPLDIVRRRLMLQAGM-----VFNAN-PS-SSCLETLVLYTERGT-QGLFRGVVIN
Cintestinalis.LOC100180500_graves_disease_carrier --NFSPETRVLKWPVSLLCGGFAGASQTSVSPFLDVARRRRMLAHV-----LPDSDH-KF-KGIVSTLATVYQENGVRGLYRGLSIN
Lanatina.XP_013414919.1_graves_disease_carrier_pro --KGNPV-----LKIWARTLCGGLAGALQATATYPLDIVRRRRMQVATM-----LPEGH-KF-RTLRTQFTKTIWEDGLRNLFRGLTIN
Myessoensis.XP_021350602.1_graves_disease_carrier --STNPKDLVLIMPAAVVFGGIAGAGMQTAYPLDIVRRRRVQLARM-----LPDSD-KYRRRWYQILIMYKEDGVPRGLYRGMN
Bbelcheri.LOC109481428_graves_disease_carrier_prot --DRALR-----APVNLVLGGVAGATAQTSYPLDIVRRRRMLAVI-----TANAD-KF-SGCVQTLTVYRTDGVKHGLYRGSVN
Hsapiens.NP_689920.1_graves_disease_carrier_protei --SDNPVNLVLKTHVNLGCGVAGATAQTSYSPFDIVTRRRMLQGTV-----LPEFE-KC-LTRMDTKVYVYHGIRKGLYRGLSIN
1500Å 1520Å 1540Å 1560Å 1580Å
Avaga.UJR31415.1_hypothetical_protein_I4U23_018908 LIKVLPASTVAYLTFFEYSSFL
Egranulosus.XP_024353854.1_Calciumbinding_mitochon LSKTLPASVTITYLTFEALMEMM
Egranulosus.XP_024348887.1_Calciumbinding_mitochon LVKVLPAATISMILTETIRREIKWTKDTHEEADLGKENILRKSSRFVLVLEKRPCSVSSPHDVLVELAIVANKDAVPPNFTLIDRTLDTRERCFKGKYLC
Avaga.UJR13457.1_hypothetical_protein_I4U23_000471 MLRLAPSSGISFTLTFEYISKLL
Avaga.UJR23030.1_hypothetical_protein_I4U23_026056 MLKVIPAVSISYLVVETVLKAI
Avaga.UJR25868.1_hypothetical_protein_I4U23_007218 MLKVVPVAVSMYSYLVETTIKAL
Egranulosus.XP_024349898.1_Calciumbinding_mitochon MLKVIPAVSISYACYEKARALL
Hsapiens.NP_775908.2_mitochondrial_carrier_protein LLKVLPAAGGISYVVVEAMKKTL
Lanatina.XP_013394192.1_calciumbinding_mitochondri FAKVLPAVVISYVYVEYHVRKLL
Hsapiens.NP_037518.3_calcium-binding_mitochondrial FMKVLPAVVISYVVVENMKQTL
Hsapiens.NP_001317917.1_calcium-binding_mitochondr FMKVIPAVSISYVVYENLKITL
Hsapiens.NP_077008.2_calcium-binding_mitochondrial FMKVIPAVSISYVVYENMKQAL
Dmelanogaster.SCaMc_short_Calciumbinding_mitochond FLKVLPAVVISYVVVEYTSRAL
Cintestinalis.LOC100186688_uncharacterized_protein FMKVAPAVSISYVVVEYKMRMHL
Myessoensis.XP_021372793.1_calciumbinding_mitochon FMKVIPAVSISYVVVEYHSRDAL
Aplanci.LOC110976327_calciumbinding_mitochondrial FMKVAPAVSISYVVYENVRQVL
Bbelcheri.LOC109482499_calciumbinding_mitochondria FMKVAPAVSISYVVYEKTRRAL
Bbelcheri.LOC109467967_solute_carrier_family_25_me LMKVVPYVAGVMFMSFEACKRAFLYSNG
Egranulosus.XP_024353850.1_Solute_carrier_family_2 WIKGPVIAAGISFTVFHQLQHFY
Avaga.UJR35750.1_hypothetical_protein_I4U23_028499 WLKGPVSVGVSMFTDFTLIKLI
Dmelanogaster.DPCoAc_dephosphocoenzyme_A_carrier_i WIKGPVIAVGISFSTYDLIKAWL
Aplanci.LOC110984196_mitochondrial_coenzyme_A_tran WVKGPVIAVGISFTTYELARRFL
Myessoensis.XP_021355166.1_mitochondrial_coenzyme WVKGPVIAVGISFATFDVTTLWL
Lanatina.XP_013386564.1_mitochondrial_coenzyme_A_t WIKGPVIAVGISFTTFTEVQKYL
Hsapiens.NP_848621.2_mitochondrial_coenzyme_A_tran WVKGPVIAVGISFTTFDLMQILL
Bbelcheri.LOC109468737_mitochondrial_coenzyme_A_tr WVKGPVIAVGISFTTFDFTLQRTL
Aplanci.LOC110973531_graves_disease_carrier_protei YLRAIPAAVAFSFTLYEHLQKYL
Cintestinalis.LOC100180500_graves_disease_carrier YLRVIPQQAIAFSVHEYLLELI
Lanatina.XP_013414919.1_graves_disease_carrier_pro YVRVPTVISISFTVYETLKQKL
Myessoensis.XP_021350602.1_graves_disease_carrier YLRGAPMYAVSFTMNEILKEMF
Bbelcheri.LOC109481428_graves_disease_carrier_prot YLRVIPQVAMSFVCVYEICKQLF
Hsapiens.NP_689920.1_graves_disease_carrier_protei YIRCIPSQAVAFPTYETILMKQFF
1600Å 1620Å 1640Å 1660Å 1680Å
Avaga.UJR31415.1_hypothetical_protein_I4U23_018908
Egranulosus.XP_024353854.1_Calciumbinding_mitochon
Egranulosus.XP_024348887.1_Calciumbinding_mitochon
Avaga.UJR13457.1_hypothetical_protein_I4U23_000471 KYDANKPSMTAITDVVVFKNPRDALKGHTLVGLSEQRVLACVLSALGNSPTSKKAPVLPSEVPKRPVIYNPMSGVPFELTRDCRVGSDDDIMSRYSVH
Avaga.UJR23030.1_hypothetical_protein_I4U23_026056
Avaga.UJR25868.1_hypothetical_protein_I4U23_007218
Egranulosus.XP_024349898.1_Calciumbinding_mitochon
Hsapiens.NP_775908.2_mitochondrial_carrier_protein
Lanatina.XP_013394192.1_calciumbinding_mitochondri
Hsapiens.NP_037518.3_calcium-binding_mitochondrial
Hsapiens.NP_001317917.1_calcium-binding_mitochondr
Hsapiens.NP_077008.2_calcium-binding_mitochondrial
Dmelanogaster.SCaMc_short_Calciumbinding_mitochond
Cintestinalis.LOC100186688_uncharacterized_protein
Myessoensis.XP_021372793.1_calciumbinding_mitochon
Aplanci.LOC110976327_calciumbinding_mitochondrial
Bbelcheri.LOC109482499_calciumbinding_mitochondria
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Egranulosus.XP_024353850.1_Solute_carrier_family_2
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Aplanci.LOC110984196_mitochondrial_coenzyme_A_tran
Myessoensis.XP_021355166.1_mitochondrial_coenzyme
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Bbelcheri.LOC109468737_mitochondrial_coenzyme_A_tr
Aplanci.LOC110973531_graves_disease_carrier_protei
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Lanatina.XP_013414919.1_graves_disease_carrier_pro
Myessoensis.XP_021350602.1_graves_disease_carrier
Bbelcheri.LOC109481428_graves_disease_carrier_prot
Hsapiens.NP_689920.1_graves_disease_carrier_protei
1700Å 1720Å 1740Å 1760Å 1780Å

Avaga. UJR31415.1_hypothetical_protein_I4U23_018908					
Egranulosus.XP_024353854.1_Calciumbinding_mitochon					
Egranulosus.XP_024348887.1_Calciumbinding_mitochon					
Avaga. UJR13457.1_hypothetical_protein_I4U23_000471					
Avaga. UJR23030.1_hypothetical_protein_I4U23_026056					
Avaga. UJR25868.1_hypothetical_protein_I4U23_007218					
Egranulosus.XP_024349898.1_Calciumbinding_mitochon					
Hsapiens.NP_775908.2_mitochondrial_carrier_protein					
Lanatina.XP_013394192.1_calciumbinding_mitochondri					
Hsapiens.NP_037518.3_calcium-binding_mitochondrial					
Hsapiens.NP_001317917.1_calcium-binding_mitochondr					
Hsapiens.NP_077008.2_calcium-binding_mitochondrial					
Dmelanogaster.SCaMC_short_Calciumbinding_mitochond					
Cintestinalis.LOC100186688_uncharacterized_protein					
Myessoensis.XP_021372793.1_calciumbinding_mitochon					
Aplanci.LOC110976327_calciumbinding_mitochondrial					
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Bbelcheri.LOC109467967_solute_carrier_family_25_me					
Egranulosus.XP_024353850.1_Solute_carrier_family_2					
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Myessoensis.XP_021355166.1_mitochondrial_coenzyme					
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Hsapiens.NP_848621.2_mitochondrial_coenzyme_A_tran					
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Avaga. UJR31415.1_hypothetical_protein_I4U23_018908					
Egranulosus.XP_024353854.1_Calciumbinding_mitochon					
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Avaga. UJR13457.1_hypothetical_protein_I4U23_000471					
Avaga. UJR23030.1_hypothetical_protein_I4U23_026056					
Avaga. UJR25868.1_hypothetical_protein_I4U23_007218					
Egranulosus.XP_024349898.1_Calciumbinding_mitochon					
Hsapiens.NP_775908.2_mitochondrial_carrier_protein					
Lanatina.XP_013394192.1_calciumbinding_mitochondri					
Hsapiens.NP_037518.3_calcium-binding_mitochondrial					
Hsapiens.NP_001317917.1_calcium-binding_mitochondr					
Hsapiens.NP_077008.2_calcium-binding_mitochondrial					
Dmelanogaster.SCaMC_short_Calciumbinding_mitochond					
Cintestinalis.LOC100186688_uncharacterized_protein					
Myessoensis.XP_021372793.1_calciumbinding_mitochon					
Aplanci.LOC110976327_calciumbinding_mitochondrial					
Bbelcheri.LOC109482499_calciumbinding_mitochondria					
Bbelcheri.LOC109467967_solute_carrier_family_25_me					
Egranulosus.XP_024353850.1_Solute_carrier_family_2					
Avaga. UJR35750.1_hypothetical_protein_I4U23_028499					
Dmelanogaster.DPCoAC_dephosphocoenzyme_A_carrier_i					
Aplanci.LOC110984196_mitochondrial_coenzyme_A_tran					
Myessoensis.XP_021355166.1_mitochondrial_coenzyme					
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Hsapiens.NP_848621.2_mitochondrial_coenzyme_A_tran					
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Aplanci.LOC110973531_graves_disease_carrier_protei					
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Myessoensis.XP_021350602.1_graves_disease_carrier_					
Bbelcheri.LOC109481428_graves_disease_carrier_prot					
Hsapiens.NP_689920.1_graves_disease_carrier_protei					
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Avaga. UJR31415.1_hypothetical_protein_I4U23_018908					
Egranulosus.XP_024353854.1_Calciumbinding_mitochon					
Egranulosus.XP_024348887.1_Calciumbinding_mitochon					
Avaga. UJR13457.1_hypothetical_protein_I4U23_000471					
Avaga. UJR23030.1_hypothetical_protein_I4U23_026056					
Avaga. UJR25868.1_hypothetical_protein_I4U23_007218					
Egranulosus.XP_024349898.1_Calciumbinding_mitochon					
Hsapiens.NP_775908.2_mitochondrial_carrier_protein					
Lanatina.XP_013394192.1_calciumbinding_mitochondri					
Hsapiens.NP_037518.3_calcium-binding_mitochondrial					
Hsapiens.NP_001317917.1_calcium-binding_mitochondr					
Hsapiens.NP_077008.2_calcium-binding_mitochondrial					</

Avaga.UJR31415.1_hypothetical_protein_I4U23_018908-----
Egranulosus.XP_024353854.1_Calciumbinding_mitochon-----
Egranulosus.XP_024348887.1_Calciumbinding_mitochonLSRLPFRYSGSRFAVINQAVERQVNASHVFPDYADIHKVVEESSIRENLGLRQVPYTTWTREDFILCEVCLDGVNVSKTMLLATVSDDLNRADLADVES
Avaga.UJR13457.1_hypothetical_protein_I4U23_000471-----
Avaga.UJR23030.1_hypothetical_protein_I4U23_026056-----
Avaga.UJR25868.1_hypothetical_protein_I4U23_007218-----
Egranulosus.XP_024349898.1_Calciumbinding_mitochon-----
Hsapiens.NP_775908.2_mitochondrial_carrier_protein-----
Lanatina.XP_013394192.1_calciumbinding_mitochondri-----
Hsapiens.NP_037518.3_calcium-binding_mitochondrial-----
Hsapiens.NP_001317917.1_calcium-binding_mitochondr-----
Hsapiens.NP_077008.2_calcium-binding_mitochondrial-----
Dmelanogaster.SCaMC_short_Calciumbinding_mitochond-----
Cintestinalis.LOC100186688_uncharacterized_protein-----
Myessoensis.XP_021372793.1_calciumbinding_mitochon-----
Aplanci.LOC110976327_calciumbinding_mitochondrial_-----
Bbelcheri.LOC109482499_calciumbinding_mitochondria-----
Bbelcheri.LOC109467967_solute_carrier_family_25_meGELREWHNRNQVRVKKRVNSPSTRPGCAISHCQELIGPPP-----
Egranulosus.XP_024353850.1_Solute_carrier_family_2E-----
Avaga.UJR35750.1_hypothetical_protein_I4U23_028499KD-----
Dmelanogaster.DPCoAC_dephosphocoenzyme_A_carrier_i-----
Aplanci.LOC110984196_mitochondrial_coenzyme_A_tranVG-----
Myessoensis.XP_021355166.1_mitochondrial_coenzyme_-----
Lanatina.XP_013386564.1_mitochondrial_coenzyme_A_tDHG-----
Hsapiens.NP_848621.2_mitochondrial_coenzyme_A_tran-----
Bbelcheri.LOC109468737_mitochondrial_coenzyme_A_tr-----
Aplanci.LOC110973531_graves_disease_carrier_protei-----
Cintestinalis.LOC100180500_graves_disease_carrier_-----
Lanatina.XP_013414919.1_graves_disease_carrier_pro-----
Myessoensis.XP_021350602.1_graves_disease_carrier_-----
Bbelcheri.LOC109481428_graves_disease_carrier_protSQPNRLEQNPPNSQONSRRKEHTYNLQNSNSQKTAENSTEKTONSKLS-----
Hsapiens.NP_689920.1_graves_disease_carrier_protei-----
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Egranulosus.XP_024348887.1_Calciumbinding_mitochonVLVSI I IHEHVQLRELVNHRASTIATLAREIFTDVGAILKHRREFRHDFGCHLTDEQADADEDPALHSAELRRRLLENRRIATSKIESVIAKYSRLQE
Avaga.UJR13457.1_hypothetical_protein_I4U23_000471-----
Avaga.UJR23030.1_hypothetical_protein_I4U23_026056-----
Avaga.UJR25868.1_hypothetical_protein_I4U23_007218-----
Egranulosus.XP_024349898.1_Calciumbinding_mitochon-----
Hsapiens.NP_775908.2_mitochondrial_carrier_protein-----
Lanatina.XP_013394192.1_calciumbinding_mitochondri-----
Hsapiens.NP_037518.3_calcium-binding_mitochondrial-----
Hsapiens.NP_001317917.1_calcium-binding_mitochondr-----
Hsapiens.NP_077008.2_calcium-binding_mitochondrial-----
Dmelanogaster.SCaMC_short_Calciumbinding_mitochond-----
Cintestinalis.LOC100186688_uncharacterized_protein-----
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Avaga.UJR35750.1_hypothetical_protein_I4U23_028499-----
Dmelanogaster.DPCoAC_dephosphocoenzyme_A_carrier_i-----
Aplanci.LOC110984196_mitochondrial_coenzyme_A_tran-----
Myessoensis.XP_021355166.1_mitochondrial_coenzyme_-----
Lanatina.XP_013386564.1_mitochondrial_coenzyme_A_t-----
Hsapiens.NP_848621.2_mitochondrial_coenzyme_A_tran-----
Bbelcheri.LOC109468737_mitochondrial_coenzyme_A_tr-----
Aplanci.LOC110973531_graves_disease_carrier_protei-----
Cintestinalis.LOC100180500_graves_disease_carrier_-----
Lanatina.XP_013414919.1_graves_disease_carrier_pro-----
Myessoensis.XP_021350602.1_graves_disease_carrier_-----
Bbelcheri.LOC109481428_graves_disease_carrier_prot-----
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Egranulosus.XP_024353854.1_Calciumbinding_mitochon-----
Egranulosus.XP_024348887.1_Calciumbinding_mitochonSQENREASRLCENKDSHAATVDLDAVEFVDVVEEPARLPSSPECSSFSQSEEIPMPISSPDALIESPVFMDLDLDEVEHLPQTQVEMEVEVPPVECPST
Avaga.UJR13457.1_hypothetical_protein_I4U23_000471-----
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Avaga.UJR25868.1_hypothetical_protein_I4U23_007218-----
Egranulosus.XP_024349898.1_Calciumbinding_mitochon-----
Hsapiens.NP_775908.2_mitochondrial_carrier_protein-----
Lanatina.XP_013394192.1_calciumbinding_mitochondri-----
Hsapiens.NP_037518.3_calcium-binding_mitochondrial-----
Hsapiens.NP_001317917.1_calcium-binding_mitochondr-----
Hsapiens.NP_077008.2_calcium-binding_mitochondrial-----
Dmelanogaster.SCaMC_short_Calciumbinding_mitochond-----
Cintestinalis.LOC100186688_uncharacterized_protein-----
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Aplanci.LOC110976327_calciumbinding_mitochondrial_-----
Bbelcheri.LOC109482499_calciumbinding_mitochondria-----
Bbelcheri.LOC109467967_solute_carrier_family_25_me-----
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Avaga.UJR35750.1_hypothetical_protein_I4U23_028499-----
Dmelanogaster.DPCoAC_dephosphocoenzyme_A_carrier_i-----
Aplanci.LOC110984196_mitochondrial_coenzyme_A_tran-----
Myessoensis.XP_021355166.1_mitochondrial_coenzyme_-----
Lanatina.XP_013386564.1_mitochondrial_coenzyme_A_t-----
Hsapiens.NP_848621.2_mitochondrial_coenzyme_A_tran-----
Bbelcheri.LOC109468737_mitochondrial_coenzyme_A_tr-----
Aplanci.LOC110973531_graves_disease_carrier_protei-----
Cintestinalis.LOC100180500_graves_disease_carrier_-----
Lanatina.XP_013414919.1_graves_disease_carrier_pro-----
Myessoensis.XP_021350602.1_graves_disease_carrier_-----
Bbelcheri.LOC109481428_graves_disease_carrier_prot-----
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Egranulosus.XP_024348887.1_Calciumbinding_mitochon PTSTITISDDEDEEPQVVFRGYPPPKDFPAMQTLMSGDRMSLQLSYGGCLVISRSQRHVLQPIPTMEMIRQQCQQCQRLLSRPPRSAMGSFIRR
Avaga.UJR13457.1_hypothetical_protein_I4U23_000471 -----
Avaga.UJR23030.1_hypothetical_protein_I4U23_026056 -----
Avaga.UJR25868.1_hypothetical_protein_I4U23_007218 -----
Egranulosus.XP_024349898.1_Calciumbinding_mitochon
Hsapiens.NP_775908.2_mitochondrial_carrier_protein
Lanatina.XP_013394192.1_calciumbinding_mitochondri
Hsapiens.NP_037518.3_calcium-binding_mitochondrial
Hsapiens.NP_001317917.1_calcium-binding_mitochondr
Hsapiens.NP_077008.2_calcium-binding_mitochondrial
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Cintestinalis.LOC100186688_uncharacterized_protein
Myessoensis.XP_021372793.1_calciumbinding_mitochon
Aplanci.LOC110976327_calciumbinding_mitochondrial_
Bbelcheri.LOC109482499_calciumbinding_mitochondria
Bbelcheri.LOC109467967_solute_carrier_family_25_me
Egranulosus.XP_024353850.1_Solute_carrier_family_2
Avaga.UJR35750.1_hypothetical_protein_I4U23_028499
Dmelanogaster.DPCoAC_dephosphocoenzyme_A_carrier_i
Aplanci.LOC110984196_mitochondrial_coenzyme_A_tran
Myessoensis.XP_021355166.1_mitochondrial_coenzyme_
Lanatina.XP_013386564.1_mitochondrial_coenzyme_A_t
Hsapiens.NP_848621.2_mitochondrial_coenzyme_A_tran
Bbelcheri.LOC109468737_mitochondrial_coenzyme_A_tr
Aplanci.LOC110973531_graves_disease_carrier_protei
Cintestinalis.LOC100180500_graves_disease_carrier_
Lanatina.XP_013414919.1_graves_disease_carrier_pro
Myessoensis.XP_021350602.1_graves_disease_carrier_
Bbelcheri.LOC109481428_graves_disease_carrier_prot
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Number of sequences: 32

Alignment width: 2497

Sequence type: aa