

humanABCD1	-MPVLSRPRPWRGNTLKRT-----AVLLALAAYGAHKVYPLVR-----	37
mouseABCD1	-MPVLSTPRPSRVTTLKRT-----AVVLALTAYGVHKIYPLVR-----	37
zebrafishABCD1	-MSVYSKLPSQLKKPLVKK-----AVVLLIALYGVKKLSPYFF-----	37
celegansABCD1	-MSVQSKFLETGIDPEKRR-----KALLVGAA-GVA AVAVAHW-----	36
drosophilaABCD1	-MSVLSKYVDRIA EKCEHNGFTKHAFSYALVTSAILALT IKVTIPYVKNVNTTSSVRTQK	59
yeastABCD1	MISTASAFYQKHRVNLLRSS-----YIILLLATLYNSNSSSSNNKTDKKDSESTVLE	52
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humanABCD1	----QCLAPARGLQAP-----AGEPTQEASGVAAAK-----AGMNRVFLQRL L WLLRL	81
mouseABCD1	----QCLTPARGPQVP-----AGEPTQEASGATATK-----AGMNRVFLQRL L ALLRL	81
zebrafishABCD1	----GKLKGRTSKQVKGADPLTSNGEPLVEAARKRKRS-----PAVNREFFDRLIRLLKI	88
celegansABCD1	----VSLRKSQKSHHKME----KEDSVASDGT PKKNKK-----KAFDPQFLKQLKELLKI	83
drosophilaABCD1	GKTNGQLSPSTRDSSEEDFKLAEAEKLLVAQQLKKKATNNLVEPGLNKEFLKHLQMLAKI	119
yeastABCD1	NKKIEEGKETAVDREEDESSKEELTIVSKHSTDSEDGAI IIDKESKTNHKGGERKGVDF	112
	. . :	
humanABCD1	LFPRVLCRETGLLALHSAALVS--RTFLSVYVARLDGRLARCIVRKDPRAFGWQLL-QWL	138
mouseABCD1	LFPRVLCRETGLLALHSAALVS--RTFLSVYVARLDGRLARCIVRKDPRAFSWQLL-QWL	138
zebrafishABCD1	LFPRLFCKELGLLGFHSLALIS--RTFLSIYVANLDGQIVKTIVKKDPRAFVVELT-KWL	145
celegansABCD1	MIPGVFSKEAGIIGMHSIILIC--RTFLTIFVAQLEGSMVQAIVEKKNVLQFVLHLV-KWI	140
drosophilaABCD1	MIPQAFCYETGLLSVHTFCLIS--RTFLSIYVAALLEGALVKFIVRKDIKQFALVLL-KWF	176
yeastABCD1	LFKLLLHDKKCLILFITQAILLNIRTLLSLRVATLDGQLVSTLVRAQYANFTKILLGKWM	172
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humanABCD1	LIALPATFVN SAI RYLEGQLALSFRSRLVAHAYRLYFSQQTY YRVSNMDGRLRNP DQSLT	198
mouseABCD1	LIALPATFIN SAI RYLEGQLALSFRSRLVAHAYGLYFSQQTY YRVSNMDGRLRNP DQSLT	198
zebrafishABCD1	LIAIPATFVN SAI RYLEGQLTLAFRTRLVTHAYMLYFSDQTY YRVSNMDGRLANPDQSLT	205
celegansABCD1	LVALPATFVN SMIRFFESYLGLAFRTRLTKHAYKQYFSDQTY YAVSNLDTRLQ NADQCLT	200
drosophilaABCD1	GIAIPATFVN SMIRFLESKL SLAFRTRLVRHSYRLYFKNQNY YRVSNLDGRIENADHRLT	236
yeastABCD1	ILGIPASFINS LISYTTKLC AVTINRKVSDFLLSKYLSNHHTFY SVASAE SVSEIQDNLT	232
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humanABCD1	EDVVAFAASVAHLYSNLTKPLLDVAVTSYTLLRAARSRGAG--TAWPSAIAGLVVFLTAN	256
mouseABCD1	EDVVAFAASVAHLYSNLTKPLLDVAVTSYTLLRAARSRGAG--TAWPSAIAGLVVFLTAN	256
zebrafishABCD1	EDVVMFAASVAHLYSNLTKPILDVVVTCYTLIKTAESKGAN--TTWPSVIAGIVVALTAK	263
celegansABCD1	EDITMFSQSVAHLYSHLTKPVL DVALITFTLIK LAIQRTGRSTFLPSCMAIMAVSLTAK	260
drosophilaABCD1	EDISVFANSVAHLYSSLTKPCFDLMLIGLALMRSSKKMKAN--IITGPALSIGVIALTAH	294
yeastABCD1	KDIYTFSMNSSLLLNQLLK PMLDLILCSFKLLTSNTSVMGEG-----TLALGLIVYASNS	287
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humanABCD1	VLRAFSPKFGELVAEEARRKGELRYMHSRVVANSEEIAFYGGHEVELALLQ RSYQDLASQ	316
mouseABCD1	VLRAFSPKFGELVAEEARRKGELRYMHSRVVANSEEIAFYGGHEVELALLQ HSYQDLASQ	316
zebrafishABCD1	VLRAFSPRFGKLVAEEARRKGD LRYMHSRIIANSEEIAFYGGH KIEMLQLQ RSYNSLSRQ	323
celegansABCD1	ILRAVSPRFGHMVAEEARRKGHLRYLHSRIITNSEEIAFYGGHQAEYKQLDGAFNSLYQQ	320
drosophilaABCD1	ILRIVSPKFGQLVSEEANRYGYLRHIHSRIITNAEEIAFYGGHKVEMQQLRQAYNRLVNQ	354
yeastABCD1	LLKLIQPNFTRLTMASASLESWFRSLHSNLHSSNEEIALLRGQKRELENVDYSFYRLVLF	347
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humanABCD1	INLILLERLWYVMLEQFLMKYVWSASGLLMVAVPIITATGYSES DAEAVKKA ALEKKEEE	376
mouseABCD1	INLILLERLWYVMLEQFLMKYVWSASGLLMVAVPIITATGYAESDSEAMKKA ALEMKEEE	376
zebrafishABCD1	INLILFKRLWYVMLEQFLMKYLWSASGLVMVAVPIITATGYSKYDSEDVKQAALDMKEED	383
celegansABCD1	MMLIFKKRIPYIMIEQFLMKYVWSGTGMVMIALPIL-ATEYADDE----KSTKLEDLPDR	375
drosophilaABCD1	MTTIFNQKLWFIMLEQFFMKYVWSGTGMIMVSLPILTGSDVGLGT---VPNTAIS---ES	408
yeastABCD1	LNREIKARAIYDVATAFVIKYTWGAAGLVLC SIPIFFKNKPS EDT-----LQLKE	397
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humanABCD1	LVSERTEAFTIARNLLTAAADAIERIMSSYKEVTELAGYTARVHEMFQVFEDVQRCHEFKR	436
mouseABCD1	LVSERTEAFTIARNLLTAAADATERIMSSYKEVTELAGYTARVYEMFQVFEDVKHCRFKR	436
zebrafishABCD1	LVSERTQAFTTARSLLNAAADAVERIMVSYKEVTELAGYTARVYEMFEVVFEDVRDGVYRR	443
celegansABCD1	GVSETRRGYATAKTLLFNSADAVERLMTSYKEVTELAGYTGRVHEMFQVFDDAKKGIYQR	435
drosophilaABCD1	RVSERTQYLTTARNLLISAADAIERLMSSYKEIVSLAGYTFRVAGMMDVFEETALGVYCK	468
yeastABCD1	PGNDMTADFITNRRLLVTAASSIGRFVELKRNIQQLRGIRLRLNKFNDLLDANKGDDEKE	457
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humanABCD1	PR-ELEDAQAGSGTIGRSGVRVEGPLKIRGQVVDVEQG-IICENIPIVTPSGEVVVASLN	494
mouseABCD1	TG-DLEEAQAGPGVMVQSGVHVEGPLKIQGQVVDVEQG-IICENIPIITPTGEVVVASLN	494
zebrafishABCD1	SATEVKPEETGAPQNVTHGMRVEGPLQIRGQVIDVEQG-IKCENLPIITPTGDVVVSSLN	502
celegansABCD1	QTVSAGAEQG-----QRGERFD-TSKIEGIITDSEADEIILNSVPIVTPNGDVVVKNMT	488
drosophilaABCD1	TS-VMESNQSNGIIEFRNGKPIAKGRIIY--SDDPKNMSISLRAPVVTTPNCDIVVPKLT	525
yeastABCD1	PR-----DERCIVEYDDSRIKFENIPLITPANQVLVPELS	492
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humanABCD1	IRVEEGMHLLITGPNGCGKSSLFRILGGLWPTYGG-----VLYKPPPQR----MFYI	542
mouseABCD1	IRVEEGMHLLITGPNGCGKSSLFRILGGLWPTYSG-----VLYKPPPQR----MFYI	542
zebrafishABCD1	MQVDEGMHLLITGPNGCGKSSLFRILSGLWPVYSG-----VLYKPSPDH----MFYI	550
celegansABCD1	LTISPGMHVLITGPNGCGKSSLFRILGGLWPVYRG-----HLEKPTSDR----MYYI	536
drosophilaABCD1	LCIEPGVHLLITGPNGCGKSSLFRILSGLWPIYAG-----ELHIPRPVKDVPCMFYI	577
yeastABCD1	FDLKHGNHLLIIGPNGCGKSSLFRILGGLWPPIRATPNKNHQSKLIMPRRTVDRDCAIFYL	552
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humanABCD1	PQRPYMSVG-SLRDQVIYPDSVEDMQRK-----GYSEQDLEAILDVVHLHHIL-----	589
mouseABCD1	PQRPYMSVG-SLRDQVIYPDSAEDMRK-----GCSEQQLEAILGIVHLRHIL-----	589
zebrafishABCD1	PQRPYMSVG-TLRDQVIYPHSVQEMQEK-----GITDRQLEEILQTVSLRYIL-----	597
celegansABCD1	PQRPYMTLG-TLRDQVIYPDTTIQMRRO-----GITDQDLMTMLRIVHLEHIV-----	583
drosophilaABCD1	PQRPYMSIG-SLCDQIIYPDTREDMKRK-----HITENELRSILKMVSLEHIA-----	624
yeastABCD1	PQRPYMGNRSTFREQIIYPDSIEQFKERYHNDYDLGDADLIKILQLLDLEDLVTENMSLL	612
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humanABCD1	-----QREGGWEAMCDWKDVLSGGEKQORIGMARMFYHRPKY	625
mouseABCD1	-----QREGGWEAVCDWKDVLSGGEKQORIGMARMFYHRPKY	625
zebrafishABCD1	-----EREGGWDAVSDWKDVLSGGEKQORMGMARMFYHK---	630
celegansABCD1	-----EREGGWDAQNDWMDVLSGGEKQORMGMARVFYHRPKY	619
drosophilaABCD1	-----QRDS-FDVVRDWDKILSGGEKQORMAIARLFYHRPRY	659
yeastABCD1	LAQRTSKNDSQQLSTEDNQSPCAIKVRDAFSIVRNWSEELTIGVQQLAMARMYYHKPKF	672
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humanABCD1	ALLDECTSAVSIDVEGKIFQAAKDAGIALLSITHRPSLWKYHTHLLQFDGEGGWKFEKLD	685
mouseABCD1	ALLDECTSAVSIDVEGKIFQAAKDAGIALLSITHRPSLWKYHTHLLQFDGEGGWKFEKLD	685
zebrafishABCD1	-----YVTNTYILIN-----	640
celegansABCD1	ALLDECTSAVSIDVEGSIYQAIKDSGITLLTVTHRPSLWKFHTHLLQYDGEGGYKVSSLN	679
drosophilaABCD1	ALLDECTSAVSIDVESSIYEIAKGMGITLLTITHRPTLWKYHTHILEFDGLGNWQFRKMN	719
yeastABCD1	AVLDECTSAVAPEMEQRMYEQAQNFGLISVCHRTSLWHFHNLLKFDGKGGYQFGPFN	732
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humanABCD1	S-----AARLSLTEEKQORLEQQLAGIPKMQRRLQELCQILGEAVAPAHV	729
mouseABCD1	S-----AARLSLTEEKQORLEQQLAGIPKMQGRRLQELRQILGEAAAPVQP	729
zebrafishABCD1	-----	
celegansABCD1	EK-----TIGERMSYSEEKQOLEKQLAEVPRWKERLEEVCQLLGGNEDHLNM	726
drosophilaABCD1	S-----DEEQKGQFLS-----	730
yeastABCD1	PKERLCNEEKLLLELNAILDQQVPLWERKLDLTIAKESNIIRKSETNLNLFEKIEDPKTS	792
humanABCD1	PAPSPQGPGLQGA	745
mouseABCD1	LVP-----GVPT-----	736
zebrafishABCD1	-----	
celegansABCD1	TIDTDDSE-----	734
drosophilaABCD1	-----	

yeastABCD1	KSNALFNANKGQRITSPTGQETSKRLPLFSQPSSSASSNLLRNNKSLNKKVKTKKEEGKE	852
humanABCD1	-	
mouseABCD1	-	
zebrafishABCD1	-	
celegansABCD1	-	
drosophilaABCD1	-	
yeastABCD1	R	853

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