

Supplementary Figure S2. Amino acid sequence alignment of Aqp of six species. The residue similarity was divided into four levels (green: 100%, blue: 80–100% or yellow; 60–80%).

	*	20	*	40	*	60	*	80	*	100
LwAqp9b	:	-----	-----	MELENNMRKLRGKCMLE	----	RRDIIREFLALCTG	-	G	----	TFVLLFLC
LwAqp7	:	-----	-----	MKQEVNIMEDGFGQHMAPTVVSMLKI	-----	KNECIRVALAATTC	-	C	-----	TFVMVFFG
LwAqp10aa	:	-----	-----	MSLVKKIVKRMKV	-----	KNELARQIMGEVLG	-	G	-----	TFVLLFLC
LwAqp10bb	:	-----	-----	MDRLLRRCRI	-----	KSSVLRECLAEFFG	-	F	-----	VYVLLFLG
LwAqp11	:	-----	-----	MAYLTVSLCLLVGVIVVFSEVARRTASYLPFNLNW	-----	IPYVLFETLS	-	S	-----	TFQLCA
LwAqp14	:	-----	-----	MIYWLLIHHRFNVSYLQLFLPFDSHQELRSSQF	-----	WGILAEATLG	-	G	-----	SLTFSAV
LwAqp1aa	:	-----	-----	MKELKSCAF	-----	WRAVLABLVG	-	G	-----	MTLFFFLS
LwAqp12	:	-----	-----	MSGLNASLGYYFLTIVGVSAVGRVML	-----	ARSRLRWTLFIETFA	-	A	-----	AFALAA
LwAqp1ab	:	-----	-----	MARELKSWSF	-----	WRAVLABFVG	-	G	-----	MTVFFIG
LwAqp0a	:	-----	-----	MWEFRSMSE	-----	WRAVFAEFYG	-	G	-----	TMFVFFG
LwAqp0b	:	-----	-----	M	-----		-		-----	
LwAqp3a	:	-----	-----	MGWQKAMLDKLAHTFHI	-----	RNKLLRQGLABCTG	-	G	-----	TLILLMFC
LwAqp3ap1	:	-----	-----	MGWQKAMLDKLAHTFHI	-----	RNKLLRQGLABCTG	-	G	-----	TLILLMFC
LwAqp3ap2	:	-----	-----		-----		-		-----	MF
LwAqp3b	:	-----	-----	MGRQKVLLEKMSRTLQV	-----	RNMMLRQALABCTG	-	G	-----	TLILLMFC
LwAqp4b	:	-----	-----	MRKAFSRVSVPNRSRGFLRRCCVSCCNRNVAAFKGVTQE	-----	WRAVSGEFLA	-	F	-----	MITFVLLS
LwAqp8aa	:	-----	-----	MTSVESKADLFTVATGDGGDNHQTQKKS	-----	FEHYIQPCIAFVG	-	G	-----	STLFFVFG
LwAqp9a	:	-----	-----	MKHHCAL	-----	KHSIFKEFLAEFLG	-	G	-----	TFVLLFLG
LwAqp15	:	-----	-----	MS	-----	WDSITDEPLPTLDS	-	S	-----	SPA
LwAqp8ab	:	-----	-----	MSVEVEKLELKELDKTLTKKNESPSPQSK	-----	VERIIOQCVAELTG	-	G	-----	TMPVFIG
DrAqp0a	:	-----	-----	MWEFRSMSE	-----	WRAVFAEFYG	-	G	-----	TMFVFFG
DrAqp0b	:	-----	-----	MWEFRSMSE	-----	WRAVFAEFYG	-	G	-----	TMFVFFG
DrAqp1aa	:	-----	-----	MNELKSCAF	-----	WRAVLABLVG	-	G	-----	MTLFFFLS
DrAqp1ab	:	-----	-----	MARELKSWSF	-----	WRAVLABFVG	-	G	-----	MTVFFIG
DrAqp7	:	-----	-----	MAPNVGSMLKI	-----	KNEYIRVALABSUC	-	C	-----	TFMVVFG
DrAqp10a	:	-----	-----	MKRMKV	-----	KNELARQIMGEVLG	-	G	-----	TFVLLFLG
DrAqp10b	:	-----	-----	MFGGVF	-----	W	-		-----	SLCF
LwAqp11b	:	-----	-----	NTIIRSEDGEMADLTVSLISILVGIIVLSEFARRTALYLPFNREW	-----	IYMLEETLS	-	S	-----	TFQLCA
DrAqp12	:	-----	-----	MSGLNSSLGFFLAVGLSVSGRLLL	-----	RRWTIVLLETS	-	A	-----	AFALCA
DrAqp15	:	-----	-----	LTDILSILF	-----	LRDVCEFLG	-	G	-----	TVFFFIS
DrAqp3b	:	-----	-----	MGRQKVLLEKMARIPOI	-----	RNMMLRQALABCTG	-	G	-----	TLILLMFC
DrAqp4b	:	-----	-----	MTSCGALDTFRRCVSSCCSNNSIMAFAFGVMTQE	-----	WRAVSGEFLA	-	F	-----	MITFVLLS
DrAqp8aa	:	-----	-----	MTSAESKSELFTVATGDGGDNHQPCKLPF	-----	FEHYIQPCIAFVG	-	G	-----	STLFFVFG
DrAqp8ab	:	-----	-----	MPVEAEKLELEELDKTLLNRDKPKPQSK	-----	YERIFIQPCIAFVG	-	G	-----	TPFFFIG
DrAqp8bb-1	:	-----	-----	MADDMKEMAAMDKMVQETEMEPEGL	-----	FEQLVQPCMAELTG	-	G	-----	TAFFLMC
DrAqp8bb-2	:	-----	-----	MTSKDLRIDRAHTLQSFOQHTMADDKMEAKAMDQMVQETEMEPEGL	-----	FEQLVQPCMAELTG	-	G	-----	TAFFLMC
DrAqp9b	:	-----	-----	MEYLENI RNLRGCVL	-----	RRDIIREFLALCTG	-	G	-----	TFVLLFLG
DrAqp3a	:	-----	-----	MGWQKSVLKDQAQTFQI	-----	RNKLLRQGLABCTG	-	G	-----	TLILLMFC
DrAqp14	:	-----	-----	MAIKEELRSRQF	-----	WGILAEAVLG	-	G	-----	SLTFSAV
DrAqp9a	:	-----	-----	MKQHCAL	-----	QRILFEFLAEFLG	-	G	-----	TFVLLFLG
XtAqp0	:	-----	-----	WEFRSSF	-----	WRAVFAEFYG	-	G	-----	TMPVFFG
XtAqp11	:	-----	-----	AGPRDRKQDSVAGPEVRMDPALWGSALVAGIVLQCEAL	-----	RAVSGKL RDG	-	L	PRELVIETSTFQL	
XtAqp12	:	-----	-----	MAGNLINLVAFFASTVALCQLLRWASRRF	-----	LPDRLYOCTSEDA	-	S	TFQLCA	
XtAqp4	:	-----	-----	MYACKGVMTQAF	-----	WKAVTCEFLA	-	F	MITFVLLS	
XtAqp6	:	-----	-----	MKEICTGPF	-----	TRAFLAEFLG	-	G	TMVFFFG	
XtAqp1	:	-----	-----	MASELKKAF	-----	WRAVTABFLG	-	F	MITVFFIS	
XtAqp13	:	-----	-----	MVSHLAPLKNMKLKLRT	-----	QNLXVRCGLABFLG	-	G	TL	

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MuAqp3 : -----MGRQKELMNRCEMLHI-----RYRLLRQAALACLG-----TLTLMFPG :
MuAqp4 : -----MSDRAAARRWKCGHSCRSRISIMVAFKGVVWQAF-----W-----KAVSAFFLA-----TLTFLVLLG :
MuAqp6 : -----MEPLCSRAYLLVGG-----WTAISKALFAFFLA-----TGLVWFFG :
MuAqp7 : -----MAPRSVLETIQS-----VLQKNMVRFLAFAS-----TYMMVFFG :
MuAqp8 : -----MSGETPMCSMDLPEVVKTKSMAGRCRVF-----YEQVQVPCIVLVG-----SALEFLIG :
MuAqp9 : -----MPSEKDRAKNLLVQRLL-----KSCLAKEITLSEFLG-----TFIMVLVG :
MuAQP0 : -----MWE-----LRSASF-----W-----RAIFAFFFA-----TLFVWFFG :
MuAqp5 : -----MKKE-----VCSVAF-----FKAVFAFFLA-----TLTFLVFFG :

      *          120          *          140          *          160          *          180          *          200
LwAqp9b : C-SVAQKVL-----SRGALGET-T-IHFGFTLGVMLAVYMACGVSGGVNPAVSLAMVVVGKPIKFPVVAACFLCAFAGSCAVYGLYY- :
LwAqp7 : L-GSVAQVVT-----GNGFFGDYLS-MNIGFGLSVAMGVHIGGRVSGARMNAVSTMCVFGRLRWKMLPLVFAACFLGSFLAAGTIFSLYY- :
LwAqp10aa : C-AAAAQVKT-----SRETQGFPLS-VNMAFSIGVMSAMYLRCRAVSGARDNPAVSLFCVLGDLAWIKLLPLSLACILGAYLASGLVLYL-IYH- :
LwAqp10bb : C-GSVAQVTT-----SQNTKGDYLS-INIGFALGTTFFGIYAKGVSGARDNPAVSLTLCVLGRFSWTCLPFPVWVSCLLCAFLAAATVAL-QYY- :
LwAqp11 : C-THEIKLLA-----EVRGID-PQGLTITITLISVHGLSFHGAICNPTGSEHLHRRGTLTRRRALAQSCCLAAVVARLVMPR- :
LwAqp14 : L-GSLVPGPD-----GASPGPIY-PALAAAGMATVVLGYCFGEISGAQVNPVAVALLATRKVDVLRVAVVLAACILGGILATGLMYL- :
LwAqp1aa : I-TAAVGNNT-----NDKPDQEK-K-VAFAFGLSLATLAQSLGHSIGARDNPAVTGLLASCQISLLKAVMIVTAMFPAALASGIVYG- :
LwAqp12 : C-RELVDTTA-----EVGQWAGALG-PDFAVTMLFISITIHGIIIVGVSGNPSVTLMGLLQKDTGAVAAVLSVAACILGAYVALLVAGK- :
LwAqp1ab : I-ASAINRHH-----NRYPDQEK-K-VAFAFGLSLATLAQSLGHSIGARDNPAVTGLLASCQISLLKAVMIVTAMFPAALASGIVYG- :
LwAqp0a : L-CAALRWTT-----GPHNVQ-VAFCFGLAAATILQSIGHSIGARDNPAVTFAYLIGSQMSLFFRAFFVTAACILGAYVALLVAGK- :
LwAqp0b : L-CAALRWTS-----GPYHVFH-TAFCFGLAAATILQSIGHSIGARDNPAVTFAYLIGSQMSLFFRAFFVTAACILGAYVALLVAGK- :
LwAqp3a : C-GAVALVIL-----SEGSHGRFT-INAFGFAATLGLLVCCGVSGGVNPAVTFALCLLGREKWRKFPVVFLEFCTIGFAGLAAIIFA-DYH- :
LwAqp3ap1 : C-GAVALVIL-----SEGSHGRFT-INAFGFAATLGLLVCCGVSGGVNPAVTFALCLLGREKWRKFPVVFLEFCTIGFAGLAAIIFA-EYH- :
LwAqp3ap2 : C-GAVALVIL-----SEGSHGRFT-INAFGFAATLGLLVCCGVSGGVNPAVTFALCLLGREKWRKFPVVFLEFCTIGFAGLAAIIFA- :
LwAqp3b : C-GAVALVIL-----SEGSHGRFT-INAFGFAATLGLLVCCGVSGGVNPAVTFALCLLGREKWRKFPVVFLEFCTIGFAGLAAIIFA- :
LwAqp4b : L-GSTINWTA-----KQENPPPADLIL-LS-CFGLSIATIVQCFHISGARDNPAVTAMVATRKISLAKGVFLTAACILGAYVALLVAGK- :
LwAqp8aa : C-VSVMGVNG-----ISGSQ-PALAHGLALAIATIAIFGEISGARDNPAVSCVYLIGGMEMLMLVPLVLSQMLGVIAAGLAKA- :
LwAqp9a : C-GSVAQTVL-----SRNTLGEPLT-VHGFSTGLMMGVYVAGGVSGGVNPAVSLAMVILGKLIKWFPPVTAACILGAYVALLVAGK- :
LwAqp15 : C-----STDPDLH-VSAFAGVSVARAGVCLGEV-----DNPVITLAVAGLRVSPWRGVLVLAACILGAYVALLVAGK- :
LwAqp8ab : C-VSVIENVE-----AAGRLQ-PALAHGLALAVILVACMAEISGSEFNPSHTAVILCGGQMLTMVVPVLTSLICGVLAGAMSKV- :
DrAqp0a : L-CAALRWTT-----GPHNVQ-VAFCFGLAAATILQSIGHSIGARDNPAVTFAYLIGSQMSLFFRAFFVTAACILGAYVALLVAGK- :
DrAqp0b : M-CAALRWTT-----GPYHVFH-TAFCFGLAAATILQSIGHSIGARDNPAVTFAYLIGSQMSLFFRAFFVTAACILGAYVALLVAGK- :
LwAqp1aa : I-TAAVGNNT-----NDKPDQEK-K-VAFAFGLSLATLAQSLGHSIGARDNPAVTGLLASCQISLLKAVMIVTAMFPAALASGIVYG- :
LwAqp1ab : I-ASAINRHH-----NRYPDQEK-K-VAFAFGLSLATLAQSLGHSIGARDNPAVTGLLASCQISLLKAVMIVTAMFPAALASGIVYG- :
DrAqp7 : L-GTVAQVVT-----GEGYFGEYFS-INIGFGLSVAMGVHIGGRVSGARMNAVSTMCVFGRLRWKMLPLVFAACFLGSFLAAGTIFSLYY- :
DrAqp10a : C-AAAAQVKT-----SRETQGFPLS-VNMAFSIGVMSAMYLRCRAVSGARDNPAVSLFCVLGDLAWIKLLPLSLACILGAYLASGLVLYL-IYH- :
DrAqp10b : L-NTRVRWIS-----GSGHHS-EYQGRVPVNPQGLRTGNHWHICKRSV-----RFSWTRLPFPVWVSCLLCAFLAAATVAL-QYY- :
DrAqp11b : C-THEIKLLA-----ELGCHD-PQGLTITITLISVHGLSFHGAICNPTGSEHLHRRGTLTRRRALAQSCCLAAVVARLVMPR- :
DrAqp12 : C-RELVDTTA-----EVGQWAGALG-PDFAVTMLFISITIHGIIIVGVSGNPSVTLMGLLQKDTGAVAAVLSVAACILGAYVALLVAGK- :
DrAqp15 : L-SALILWPA-----STDPDLH-VSAFAGVSVARAGVCLGEV-----DNPVITLAVAGLRVSPWRGVLVLAACILGAYVALLVAGK- :
DrAqp3b : C-GAVALVIL-----SEGSHGRFT-INAFGFAATLGLLVCCGVSGGVNPAVTFALCLLGREKWRKFPVVFLEFCTIGFAGLAAIIFA-MYF- :
DrAqp4b : L-GSTINWGA-----KQENPPPADLIL-LS-CFGLSIATIVQCFHISGARDNPAVTAMVATRKISLAKGVFLTAACILGAYVALLVAGK- :
DrAqp8aa : C-VSVMGVNG-----ISGSQ-PALAHGLALAIATIAIFGEISGARDNPAVSCVYLIGGMEMLMLVPLVLSQMLGVIAAGLAKA- :
DrAqp8ab : C-VSVIENVE-----AAGRLQ-PALAHGLALAVILVACMAEISGSEFNPSHTAVILCGGQMLTMVVPVLTSLICGVLAGAMSKV- :
DrAqp8bb-1 : C-LCVIESAQ-----EGHTLQ-AAVHGLALAVILVACMAEISGSEFNPSHTAVILCGGQMLTMVVPVLTSLICGVLAGAMSKV- :
DrAqp8bb-2 : C-LCVIESAQ-----EGHTLQ-AAVHGLALAVILVACMAEISGSEFNPSHTAVILCGGQMLTMVVPVLTSLICGVLAGAMSKV- :
DrAqp9b : C-GSVAQTVL-----SREAKQLT-T-IHFGFTLGVMLAVYMACGVSGGVNPAVSLAMVVVGKPIKFPVVAACFLCAFAGSCAVYGLYY- :
DrAqp3a : C-SLAQVIL-----SEGSHGRFT-INAFGFAATLGLLVCCGVSGGVNPAVTFALCLLGREKWRKFPVVFLEFCTIGFAGLAAIIFA-EYH- :
DrAqp14 : L-GSLVPGPD-----GVSPGPIY-PALAAAGMATVVLGYCFGEISGAQVNPVAVALLATRKVDVLRVAVVLAACILGGILATGLMYL- :
DrAqp9a : C-GSVAQTVL-----SRNTLGEPLT-VHGFSTGLMMGVYVAGGVSGGVNPAVSLAMVILGKLIKWFPPVTAACILGAYVALLVAGK- :
XtAqp0 : C-CAALKWAA-----GPANVIV-IAFAFGLVLAATMVSIGHSIGARDNPAVTFAYLIGSQMSLFFRAFFVTAACILGAYVALLVAGK- :
XtAqp11 : L-GSGLVPGPD-----LWNGEAL-PLGLTITITLISVHGLSFHGAICNPTGSEHLHRRGTLTRRRALAQSCCLAAVVARLVMPR- :
XtAqp12 : C-CLEIRMLL-----EIGMGWGGYG-PDFAVTMLFISITIHGIIIVGVSGNPSVTLMGLLQKDTGAVAAVLSVAACILGAYVALLVAGK- :
XtAqp4 : L-GSTINWSP-----KDNQPADLIL-LS-CFGLSIATIVQCFHISGARDNPAVTAMVATRKISLAKGVFLTAACILGAYVALLVAGK- :
XtAqp6 : L-GSALLWS-----ELPSVIV-IAFAFGLVLAATMVSIGHSIGARDNPAVTFAYLIGSQMSLFFRAFFVTAACILGAYVALLVAGK- :
XtAqp1 : I-SALIGIYQPIPSDPTNATSTDRPDQIK-VSAFGLSLATLAQSLGHSIGARDNPAVTGLLASCQISLLKAVMIVTAMFPAALASGIVYG- :
XtAqp13 : C-GSVAQML-----SGFAKAQPLS-VNMAFSIGVMSAMYLRCRAVSGARDNPAVSLFCVLGDLAWIKLLPLSLACILGAYLASGLVLYL-IYH- :
XtAqp16 : C-LSVLVNH-----NAGPIL-PAVHGFITLISVHGLSFHGAICNPTGSEHLHRRGTLTRRRALAQSCCLAAVVARLVMPR- :
XtAqp3 : C-GSVAQVTL-----SKSGHQPLT-INAFGFAATLGLLVCCGVSGGVNPAVTFALCLLGREKWRKFPVVFLEFCTIGFAGLAAIIFA-LYY- :
XtAqp5 : L-SALILWKP-----SLPNVIV-IAFAFGLVLAATMVSIGHSIGARDNPAVTFAYLIGSQMSLFFRAFFVTAACILGAYVALLVAGK- :
CcAqp0a-1 : L-SALILWTT-----GPHNVQ-VAFCFGLAAATILQSIGHSIGARDNPAVTFAYLIGSQMSLFFRAFFVTAACILGAYVALLVAGK- :
CcAqp3a-2 : C-GAVALVIL-----SEGSHGRFT-INAFGFAATLGLLVCCGVSGGVNPAVTFALCLLGREKWRKFPVVFLEFCTIGFAGLAAIIFA-EYH- :
CcAqp3b-1 : C-GAVALVIL-----SEGSHGRFT-INAFGFAATLGLLVCCGVSGGVNPAVTFALCLLGREKWRKFPVVFLEFCTIGFAGLAAIIFA-MYI- :
CcAqp3b-2 : C-GSVAQVIL-----SRGSHGRFT-INAFGFAATLGLLVCCGVSGGVNPAVTFALCLLGREKWRKFPVVFLEFCTIGFAGLAAIIFA-MYF- :
CcAqp4b-1 : L-GSTINWAA-----TQENPPPADLIL-LS-CFGLSIATIVQCFHISGARDNPAVTAMVATRKISLAKGVFLTAACILGAYVALLVAGK- :
CcAqp4b-2 : L-GSTINWAA-----TQENPPPADLIL-LS-CFGLSIATIVQCFHISGARDNPAVTAMVATRKISLAKGVFLTAACILGAYVALLVAGK- :
CcAqp7-1 : L-GTVAQVVT-----GNGVFGYFS-INIGFGLSVAMGVHIGGRVSGARMNAVSTMCVFGRLRWKMLPLVFAACFLGSFLAAGTIFSLYY- :
CcAqp7-2 : L-GTVAQVVT-----GNGVFGYFS-INIGFGLSVAMGVHIGGRVSGARMNAVSTMCVFGRLRWKMLPLVFAACFLGSFLAAGTIFSLYY- :
CcAqp8aa-1 : C-VSVMGVNG-----ISGSQ-PALAHGLALAIATIAIFGEISGARDNPAVSCVYLIGGMEMLMLVPLVLSQMLGVIAAGLAKA- :
CcAqp8aa-2 : C-VSVMGVNG-----ISGSQ-PALAHGLALAIATIAIFGEISGARDNPAVSCVYLIGGMEMLMLVPLVLSQMLGVIAAGLAKA- :
CcAqp8ab-1 : C-VSVIENVE-----AAGRLQ-PALAHGLALAVILVACMAEISGSEFNPSHTAVILCGGQMLTMVVPVLTSLICGVLAGAMSKV- :
CcAqp0a-2 : L-SALILWTT-----GPHNVQ-VAFCFGLAAATILQSIGHSIGARDNPAVTFAYLIGSQMSLFFRAFFVTAACILGAYVALLVAGK- :
CcAqp8ab-2 : C-MDWQW-----LCWVHVVQSCACRAGCSNVKGVLYALITHTEYNIIVTSRNPKHSTTDKYLILMTRENYM- :
CcAqp8bb : C-VSVIENVS-----DAGRLQ-PALAHGLALAVILVACMAEISGSEFNPSHTAVILCGGQMLTMVVPVLTSLICGVLAGAMSKV- :
CcAqp9a-1 : C-GSVAQTVL-----SRNTLGEPLT-VHGFSTGLMMGVYVAGGVSGGVNPAVSLAMVILGKLIKWFPPVTAACILGAYVALLVAGK- :
CcAqp9a-2 : C-GSVAQTVL-----SRNTLGEPLT-VHGFSTGLMMGVYVAGGVSGGVNPAVSLAMVILGKLIKWFPPVTAACILGAYVALLVAGK- :
CcAqp9b-1 : C-GSVAQTVL-----SRNTLGEPLT-VHGFSTGLMMGVYVAGGVSGGVNPAVSLAMVILGKLIKWFPPVTAACILGAYVALLVAGK- :
CcAqp9b-2 : C-GSVAQTVL-----SRNTLGEPLT-VHGFSTGLMMGVYVAGGVSGGVNPAVSLAMVILGKLIKWFPPVTAACILGAYVALLVAGK- :
CcAqp10a-1 : C-AAAAQVKT-----SRETQGFPLS-VNMAFSIGVMSAMYLRCRAVSGARDNPAVSLFCVLGDLAWIKLLPLSLACILGAYLASGLVLYL-IYH- :
CcAqp10a-2 : C-AAAAQVKT-----SRETQGFPLS-VNMAFSIGVMSAMYLRCRAVSGARDNPAVSLFCVLGDLAWIKLLPLSLACILGAYLASGLVLYL-IYH- :
CcAqp10b-1 : C-GSVAQVTT-----SQNTKGDYLS-INIGFALGTTFFGIYAKGVSGARDNPAVSLTLCVLGRFSWTCLPFPVWVSCLLCAFLAAATVAL-QYY- :
CcAqp10b-2 : C-GSVAQVTT-----SQNTKGDYLS-INIGFALGTTFFGIYAKGVSGARDNPAVSLTLCVLGRFSWTCLPFPVWVSCLLCAFLAAATVAL-QYY- :
CcAqp0b-1 : M-CAALRWTSGPYHVFHTALCFERSSTASDTCFCFGLAAATILQSIGHSIGARDNPAVTFAYLIGSQMSLFFRAFFVTAACILGAYVALLVAGK- :
CcAqp11b-1 : C-THEIKLLA-----EVRGID-PQGLTITITLISVHGLSFHGAICNPTGSEHLHRRGTLTRRRALAQSCCLAAVVARLVMPR- :
CcAqp12-1 : C-RELVDTTA-----EVGQWAGALG-PDFAVTMLFISITIHGIIIVGVSGNPSVTLMGLLQKDTGAVAAVLSVAACILGAYVALLVAGK- :
CcAqp12-2 : S-RELVDTTA-----EVGQWAGALG-PDFAVTMLFISITIHGIIIVGVSGNPSVTLMGLLQKDTGAVAAVLSVAACILGAYVALLVAGK- :
CcAqp14-1 : L-GSLVPGPD-----GASPGPIY-PALAAAGMATVVLGYCFGEISGAQVNPVAVALLATRKVDVLRVAVVLAACILGGILATGLMYL- :
CcAqp14-2 : L-GSLVPGPD-----GASPGPIY-PALAAAGMATVVLGYCFGEISGAQVNPVAVALLATRKVDVLRVAVVLAACILGGILATGLMYL- :
CcAqp15-1 : PKGNPLSWDSITDEPLTDLSSSLACSPDLH-VSAFGLSLATLAQSLGHSIGARDNPAVTFAYLIGSQMSLFFRAFFVTAACILGAYVALLVAGK- :
CcAqp15-2 : L-MANVTQLVLVQVAAQPKSVFSSVAFLI-----CLSVTHGHIMADTTLN- :
CcAqp0b-2 : M-CAALRWTT-----GPYHVFH-TAFCFGLAAATILQSIGHSIGARDNPAVTFAYLIGSQMSLFFRAFFVTAACILGAYVALLVAGK- :
CcAqp1aa-1 : I-TAAVGNNT-----NDKPDQEK-K-VAFAFGLSLATLAQSLGHSIGARDNPAVTGLLASCQISLLKAVMIVTAMFPAALASGIVYG- :
CcAqp1aa-2 : I-TAAVGNNT-----NDKPDQEK-K-VAFAFGLSLATLAQSLGHSIGARDNPAVTGLLASCQISLLKAVMIVTAMFPAALASGIVYG- :
CcAqp1ab-1 : I-ASAINRHH-----NRYPDQEK-K-VAFAFGLSLATLAQSLGHSIGARDNPAVTGLLASCQISLLKAVMIVTAMFPAALASGIVYG- :
CcAqp1ab-2 : I-ASAINRHH-----NRYPDQEK-K-VAFAFGLSLATLAQSLGHSIGARDNPAVTGLLASCQISLLKAVMIVTAMFPAALASGIVYG- :
CcAqp3a-1 : C-GAVALVIL-----SEGSHGRFT-INAFGFAATLGLLVCCGVSGGVNPAVTFALCLLGREKWRKFPVVFLEFCTIGFAGLAAIIFA-EYH- :
HsAqp0 : L-GSGLRWAP-----GPHLVQ-VAFAFGLSLATLAQSLGHSIGARDNPAVTFAYLIGSQMSLFFRAFFVTAACILGAYVALLVAGK- :
HsAqp10 : Q-GAVALVIL-----SGETKGNFTT-MFAGSLAVITIAIYVGVNPSGARDNPAVSTMCVFGRLRWKMLPLVFAACFLGSFLAAGTIFSLYY- :
HsAqp11 : C-CCTHELQL-----LSEQHFAH-PWTLLTILVFFSLVHGLTIVGTSNPPCGVMQMMGLGSPETGAVRLAACILGAYLASGLVLYL-IYH- :
HsAqp12a : R-BAMRTIL-----ELGFWAGDFG-PDGLTLLTLLFLLLAHGVILDCASANTVSGQEFMAEESLPGLTLKAAACILGAYLASGLVLYL-IYH- :
HsAqp12b : C-FLEMTILV-----ELGFWAGDFG-PDGLTLLTLLFLLLAHGVILDCASANTVSGQEFMAEESLPGLTLKAAACILGAYLASGLVLYL-IYH- :
HsAqp1 : I-SALGFKY-----PVGNNQTAQVDNIV-VSAFGLSLATLAQSLGHSIGARDNPAVTGLLASCQISLLKAVMIVTAMFPAALASGIVYG- :
HsAqp2 : L-SALINWQ-----ALPSVIV-IAFAFGLVLAATMVSIGHSIGARDNPAVTFAYLIGSQMSLFFRAFFVTAACILGAYVALLVAGK- :
HsAqp3 : C-GSVAQVIL-----SRGTHGRFT-INAFGFAATLGLLVCCGVSGGVNPAVTFALCLLGREKWRKFPVVFLEFCTIGFAGLAAIIFA-LYY- :
HsAqp4 : L-GSTINWGG-----TEKPLPVDML-LS-CFGLSIATIVQCFHISGARDNPAVTAMVATRKISLAKGVFLTAACILGAYVALLVAGK- :

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HsAqp5      : L-GSALKWPS-----ALPTILQ-IALAFGLAIGTLAQAALGFVSGGHNPAITLALLVGNQISLLRAFFVVAAGLVGATAGAGILYG---- :
HsAqp6      : V-GSVMRWPT-----ALPSVLQ-IALTFNLVTAMAVQVWTWKASGABANPAVTLAFLVGSHISLPRAVAVVAAGLVGATVGAALLYG---- :
HsAqp8      : C-LSVIENTGT-----DTGLIQ-PALAHGIALGLVIATLGNISGGHNPAVSLAAMLIGGLNLMVLLPFWWSLGLGMLGAALAKA----- :
HsAqp9      : C-GCVAQAIL-----SRGRFGVHT-INVGFMSMAVAMATVYAGGVSGGHNPAVSLAMCLFGRMKWFKLPFVVGAFGLGAFVGAATVFG-IYY- :
HsAqp7      : L-GSAHMLVL-----NKT-YGSYLQ-VNLGFGFGVITMGVHVAGRTSGAHMAAVTFTNCALGRVPWRKFPVHLGGFLGSLFLAAATYICVSA- :
MuAqp11     : C-THEIQVLS-----EQDSA-PTWTLLIYFSSLVHGLTLV-TASNPCGVMMQMLGGMSPEMGAVRLAQLVSAALCSRYCISA----- :
MuAqp12     : R-GAVGAQAQLAACCLEMRVLVELGFWAGGFG-PDILLTIVFLFLVHVGVTFDGASANPTALQEFLLMVEASLPNTLLKISAGVLGAQAACALTOR- :
MuAqp1      : I-GSALGFNY-----PLERNQTLVQDNMK-VSAFGLSATLAQSVGHTSGAHNPAVTLGCLLSGQISILRAVMITACQVGAIVATAILISG- :
MuAqp2      : L-GSALQWAS-----SPPSVLQ-IALAFGLIGITLQALCHVSGAHNPAVTVACLVGCHVSPFLRAAFVVAAGLVGAVAGAAILHE----- :
MuAqp3      : C-GSAQVVL-----SRGTHGGFT-INVAFGFAVTLGLLVAGGVSGAHNPAVTFANCFLAREPWIKLPILALACTLCAFTGAGIVFG-LYY- :
MuAqp4      : V-GSTINWGG-----SENPLPVDML-LSGCFGLSIATMWQCFGLSGGHNPAVTVAMVCTRKISIAKSVFTIACCLGAILGAGILYL----- :
MuAqp6      : V-GSVLPWPV-----ALPSVLQ-IALTFNLATATAVQISWKTSGABANPAVTLAYLVGSHISLPRAMADARCLAGATAGAAALLYG---- :
MuAqp7      : L-GSAHMLVL-----GENSGSYLG-VNLGFGFGVITMGVHVAGRTSGAHMAAVTFTNCALGRMTWKFPPVVLGGFLGSLFSAATTYL-IFY- :
MuAqp8      : C-LSVIENTSP-----NTGLIQ-PALAHGIALGLVIATLGNISGGHNPAVSLAVTVGGKLTMLLIPIWISGLFGITGAATLAKV----- :
MuAqp9      : C-GSIAQAVL-----SREKAGGIT-INVGFATAVVMALYATFGVSGGHNPAVTFANCFGRMEWFKFPVVGAGLLGAFVGAATVFG-IYY- :
MuAQP0      : L-GSALRWAP-----GPLHVLQ-VALAFGLALATLVQTVGHISGABANPAVTFAPLVGSQMSLLRAFCVTAACLLGAVAGAALVYS----- :
MuAqp5      : L-GSALKWPS-----ALPTILQ-IALAFGLAIGTLAQAALGFVSGGHNPAITLALLVGNQISLLRAFFVVAAGLVGATAGAGILYW---- :

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sg h np q g

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LwAqp9b     : -----GAFANFS--DGHLSVIGH-----NATAGIFAS-----Y----- :
LwAqp7       : -----DAIHHCY--GGNFTVSGP-----KATAGIFAT-----Y----- :
LwAqp10aa    : -----DAIMEFS--GGILTVFGP-----NETASIFAT-----Y----- :
LwAqp10bb    : -----DAIMDFT--GGDLTVSGA-----TATAGIFST-----Y----- :
LwAqp11      : -----LWSLALSDM--HELHTLMDPKCT-----N----- :
LwAqp14      : -----SLPL-----KSTAQNYIN-----K----- :
LwAqp1aa     : -----TKG-----DTLGLN-----T----- :
LwAqp12      : -----YWEMELTDM-----HMIKNLMMS-----E----- :
LwAqp1ab     : -----VSPD-----PDTTLGLN-----M----- :
LwAqp0a      : -----VTPS-----NMRGNLAIN-----T----- :
LwAqp0b      : -----VTPN-----NMRGTLAIN-----T----- :
LwAqp3a      : -----DAMYEFAGESNLLVTGP-----KATAGIFAT-----Y----- :
LwAqp3ap1    : -----DAMYEFAGESNLLVTGP-----KATAGIFAT-----Y----- :
LwAqp3ap2    : -----EY-----HATAGIFAT-----Y----- :
LwAqp3b      : -----DAIWDFG--HGSLTVGVD-----NATAGIFAT-----Y----- :
LwAqp4b      : -----VTPD-----SVRGGMGVT-----S----- :
LwAqp8aa     : -----VTSN--EAFSNATGAAFNA-----S----- :
LwAqp9a      : -----DAFMEFT--SGILSVTGI-----NATGHIFAS-----Y----- :
LwAqp15      : -----VTPD-----NMRGNLAIN-----T----- :
LwAqp8ab     : -----VTSN--ENYVNATGAAFNA-----S----- :
DrAqp0a      : -----VTPD-----NMRGNLAIN-----T----- :
DrAqp0b      : -----VTPN-----NMRGTLAIN-----T----- :
DrAqp1aa     : -----VSKG-----DALGLN-----Q----- :
DrAqp1ab     : -----VSPD-----PDTTLGLN-----M----- :
DrAqp7       : -----DAINHFC--GGNFTVSGP-----KATAGIFAT-----Y----- :
DrAqp10a     : -----DAIMEFS--GGVLTVFGP-----NETASIFAT-----Y----- :
DrAqp10b     : -----DAIMDFT--GGHLTVSGA-----TATAGIFST-----S----- :
DrAqp11b     : -----AWALASDDL--HAQHSITGFSCT-----N----- :
DrAqp12      : -----FWAMELSDM--HMIKNLMMS-----E----- :
DrAqp15      : -----VAPT-----TQIVKGLFLI-----S----- :
DrAqp3b      : -----DAIWKFG--QGSLVDVG-----NATAGIFAT-----Y----- :
DrAqp4b      : -----VTPA-----SVRGGMGVT-----S----- :
DrAqp8aa     : -----VTTN--DAFSNATGAAFNA-----S----- :
DrAqp8ab     : -----VTSN--ENYVNATGAAFNA-----S----- :
DrAqp8bb-1   : -----VTSN--EKYAQAQGAFTV-----S----- :
DrAqp8bb-2   : -----VTSN--EKYAQAQGAFTV-----S----- :
DrAqp9b      : -----DAFTEFA--NGELAVTGP-----NATAGIFAS-----Y----- :
DrAqp3a      : -----DAIYDYAGESNELLVGE-----KETAGIFAT-----Y----- :
DrAqp14      : -----SLPL-----KSTAQNYIN-----K----- :
DrAqp9a      : -----DAFMEFT--SGILSVTGI-----NATGHIFAS-----Y----- :
XtAqp0       : -----VTPA--AIRGNLAIN-----T----- :
XtAqp11      : -----YWLLGSLPLHSRASLCLR----- :
XtAqp12      : -----YWALELTFE-----HMIQNLMQA----- :
XtAqp4       : -----VTPS--DVAGNLGAT-----L----- :
XtAqp6       : -----VTPD--SVHGNFGVN-----G----- :
XtAqp1       : -----VTPQ-----ISKNSLGLN-----L----- :
XtAqp13      : -----DALHVYS--NGNWTVYGP-----QSTAGIFAS-----Y----- :
XtAqp16      : -----VADQ-----ESFINHTGAA----- :
XtAqp3       : -----DAIWFFA--NDQLYVIGE-----NGTAGIFTT-----F----- :
XtAqp5       : -----VAPL--DVRGNLAIN-----S----- :
CcAqp0a-1    : -----VTPN-----NMRGNLGLN-----T----- :
CcAqp3a-2    : -----DAMYDYGSENNVLLVGE-----NATAGIFAT-----Y----- :
CcAqp3b-1    : -----DAIWYDG--QGSLVVGD-----NATAGIFAT-----Y----- :
CcAqp3b-2    : -----DAIWYDG--QGSLVVGD-----NATAGIFAT-----Y----- :
CcAqp4b-1    : -----VTPA--SVRGGMGVT-----S----- :
CcAqp4b-2    : -----VTPA--SVRGGMGVT-----S----- :
CcAqp7-1     : -----DAIHHCY--GGNFTVSGP-----KATAGIFAT-----Y----- :
CcAqp7-2     : -----LSVTRKKIN----- :
CcAqp8aa-1   : -----VTTD--EAFGNATGAAFNA-----S----- :
CcAqp8aa-2   : -----VTTN--EAFANATGAAFNA-----S----- :
CcAqp8ab-1   : -----VTSN--ENYVNATGAFTI-----S----- :
CcAqp0a-2    : -----VTPS-----NMRGNLGLN-----T----- :
CcAqp8ab-2   : -----NATGATFSV----- :
CcAqp8bb     : -----VTSN--EKYAQAQGAFTV-----S----- :
CcAqp9a-1    : -----DAFMDFD--SGILSVTGI-----NATGHIFAS-----Y----- :
CcAqp9a-2    : -----DAFMDFD--SGILSVTGI-----NATGHIFAS-----Y----- :
CcAqp9b-1    : -----GAFANFA--DGKQIVGGE-----NATAGIFAS-----Y----- :
CcAqp9b-2    : -----GAFANFA--DGKRIVNGE-----NATAGIFAS-----Y----- :
CcAqp10a-1   : -----DAIMEFS--GGVLTVFGP-----NETASIFAT-----Y----- :
CcAqp10a-2   : -----DAIMEFS--GGVLTVFGP-----NETASIFAT-----Y----- :
CcAqp10b-1   : -----DAIMDFT--GGHLTVSGA-----TATAGIFST-----Y----- :
CcAqp10b-2   : DFGPLGNSPVLLLLSPDAIMDFT--GGHLTVSGA-----TATAGIFST-----Y----- :
CcAqp0b-1    : -----VTPN-----NMRGTLAIN-----T----- :
CcAqp11b-1   : -----AWALASDDL--HAQHSITGFSCT-----N----- :
CcAqp11b-2   : -----AWALASDDL--HAQHSATGFKCA-----S----- :
CcAqp12-1    : -----YWQMEITDM-----HMIKNLMMS-----E----- :
CcAqp12-2    : -----YWQMEITDM-----HMIKNLMMS-----E----- :
CcAqp14-1    : -----SLPL-----KSTAQNFIN-----K----- :
CcAqp14-2    : -----SLPL-----KSTAQNYIN-----K----- :
CcAqp15-1    : -----VAPT--ALKSNLGVNEMWLMRVGATLDLLISSLHQCSTHFLERKWKGNKMGMDGWREISKRERRE :
CcAqp15-2    : -----DMGMT----- :
CcAqp0b-2    : -----VTPN-----NMRGTLAIN-----T----- :
CcAqp1aa-1   : -----VTDG-----NALGLN-----T----- :
CcAqp1aa-2   : -----VTDG-----KALGLN-----S----- :
CcAqp1ab-1   : -----VSPD-----PESTLGLN-----M----- :
CcAqp1ab-2   : -----VSPD-----PESTLGLN-----M----- :
CcAqp3a-1    : -----DAMYEYAGEKNELLVGD-----KATAGIFAT-----Y----- :

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HsAqp0 : -----TTP-----AVRGNIALN-----T-----:
HsAqp10 : -----DALQNYT--GGNLT--TGP-----KETASIFAT-----Y-----:
HsAqp11 : -----LWSLGTQY-HVRSERSFACK-----:
HsAqp12A : -----CWAWELSDL-----HLLQSLMAQ-----S-----:
HsAqp12B : -----CWAWELSDL-----HLLQSLMAQ-----:
HsAqp1 : -----TSS-----LTGNSLGRN-----D-----:
HsAqp2 : -----TTPA--DIRGDLAVN-----A-----:
HsAqp3 : -----DAIWHFA--DNQLFVSGP--NGTAGIFAT-----Y-----:
HsAqp4 : -----TTP--SVVGGIGVT-----M-----:
HsAqp5 : -----APL--NARGNLAVN-----A-----:
HsAqp6 : -----MPG--DIRETLGIN-----V-----:
HsAqp8 : -----SPE-ERFWNASGAAFVT-----:
HsAqp9 : -----DGLMSFA--GGKLLVGE--NATAHIFAT-----Y-----:
HsAqp7 : -----AAILHFS--GGELMTGP--FATAGIFAT-----Y-----:
MuAqp1 : -----LWSLSLTKY--HYDERILAC-----R-----:
MuAqp11 : -----SPINVPLQAAAVDSCAFVHTAAG-NLDKVEEKYRVP-----H-----:
MuAqp12 : -----CWAWELSEL-----HLLQSLMAA-----H-----:
MuAqp1 : -----TSS-----LVDNLSGRN-----D-----:
MuAqp2 : -----TPV--EIRGDLAVN-----A-----:
MuAqp3 : -----DAIWAFA--NNELFVSGP--NGTAGIFAT-----Y-----:
MuAqp4 : -----TTP--SVVGGIGVT-----T-----:
MuAqp6 : -----TPG--GIRETLGVN-----V-----:
MuAqp7 : -----GAINHFA--GGDLLVSGS--KATANIFAT-----Y-----:
HsAqp8 : -----SPE-ERFWNASGAAFAI-----:
MuAqp9 : -----DGLMAFA--DGKLLVGE--NGTAGIFAT-----Y-----:
MuAqp0 : -----TTP-----AVRGNIALN-----T-----:
MuAqp5 : -----APG-----NARGNLAVN-----A-----:

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*          320          *          340          *          360          *          380          *          400
LwAqp9b : -----PREDSLNLNGFVDVIGAAAVLVCIL-----AIVDKKNIGAPKMEPLVIGLSLALGVSMALNCGYFINPARDLGRFET--AIAGNGLDV :
LwAqp7 : -----PAPYISITVTGFFDVVGAMMLCLCM-----ALADQRNQPLVSGEPVGVGLVLLGVSMG--SNISGYAINPARDLGRFET--LMAGNGMEV :
LwAqp10aa : -----PTDVVSQTNFLDVVGAMMLCLCM-----PLNDKRNAPAEALLPPIATVVLGSSMSMS--ANCSAANINPARDLGRFET--FTAGNGTGV :
LwAqp10bb : -----PADYLSLWGGVVDVIGAAAVLVCIL-----ALGDPNPTAPPGLPVLVGAALVIGISMG--SNISGYAINPARDLGRFET--YIAGNGDEV :
LwAqp11 : -----SPINVPLQAAAVDSCAFVHTAAG-NLDKVEEKYRVP-----AIAAVITTVYAGC--HITGAVNPALAFSIOFFC--PGNTL :
LwAqp14 : -----VPVDMNAGQALVMEIATFVSGTTF-----SVEDQRRRD-INEPGNLACFATTAIFAC--RFSGLASLNPARSLGCAHIL--GYM :
LwAqp1aa : -----INSDISAGQGVGIEIATFVSGTTF-----ATTDKRRRD-VSGAPLALGSLV-CIHLTA--ISFTGCGINPARSFGCAHIL--RDE :
LwAqp12 : -----CTTSRLVSAIQGVLAALAGVATFHVYL-----VLKSRSQL-----LSVPIFSLTLTFAYAGN--NYTSGYVNPALAYALTFTC--PGHSE :
LwAqp1ab : -----LSNGVSGQGFATIEIATFVSGTTF-----ATTDKRRRD-VSGAPLALGSLV-CIHLTA--ISFTGCGINPARSFGCAHIL--ESE :
LwAqp0a : -----LQPGISLGMATTIEIATFVSGTTF-----AVTDERRNG-RLGSAALSIGFSV-LGHLLG--MYITGAGMNPARSFGCAHIL--RNE :
LwAqp0b : -----LQPGISLGMATTIEIATFVSGTTF-----AVTDERRNG-RLGSAALSIGFSV-LGHLLG--MYITGAGMNPARSFGCAHIL--RNE :
LwAqp3a : -----PNPHLTLNLNGFFDVIGAAAVLVCIL-----AIVDPYNNPIQGLEAFTVGFVVLVIGQSMG--FNISGYAVNPARDLGRFET--AMAGNGSEV :
LwAqp3ap1 : -----PNPHLTLNLNGFFDVIGAAAVLVCIL-----AIVDPYNNPIQGLEAFTVGFVVLVIGQSMG--FNISGYAVNPARDLGRFET--AMAGNGSEV :
LwAqp3ap2 : -----PNPHLTLNLNGFFDVIGAAAVLVCIL-----AIVDPYNNPIQGLEAFTVGFVVLVIGQSMG--FNISGYAVNPARDLGRFET--AMAGNGSEV :
LwAqp3b : -----PNPHLTLNLNGFFDVIGAAAVLVCIL-----AIVDPYNNPIQGLEAFTVGFVVLVIGQSMG--FNISGYAVNPARDLGRFET--AMAGNGSEV :
LwAqp4b : -----VNETISTGHAIVIEIATFVSGTTF-----ATCDPKRRSD-LKGSAAALAGLSV-CIHLFA--IPYTGASMNPARSFGCAHIL--GHI :
LwAqp8aa : -----VQSSSQVGSATMAEMIMLFTVTVSG--MGAVNGRTRSH-----LAPFOIGLTV-TANILAC--GGISGACMNPARSFGCAHIL--GHI :
LwAqp9a : -----PGRHLTVLGGFVDVVGGMIVVCIL-----AIVDGRNIGAPRGEPLAVGLILGVSVMG--LNCGYFINPARDLGRFET--AAAGNGMEV :
LwAqp15 : -----VAPGVLYQAVLVIEIATFVSGTTF-----AATHPKSA--FSSVAPAVLGLS-TIHLMA--IGFTGCGMNPARSFGCAHIL--LNE :
LwAqp8ab : -----LKSDDELQKVVFAEMAMCLATVTVL--MGAVNGKSKSP-----MVPFMGCTV-IINVLG--GDVSGCLNPARSFGCAHIL--NYM :
DrAqp0a : -----LQPGISLGMATTIEIATFVSGTTF-----AVTDERRNG-RLGSAALSIGFSV-LGHLLG--MYITGAGMNPARSFGCAHIL--RNE :
DrAqp0b : -----LQPGISLGMATTIEIATFVSGTTF-----AVTDERRNG-RLGSAALSIGFSV-LGHLLG--MYITGAGMNPARSFGCAHIL--RNE :
DrAqp1aa : -----IHTDISAGQGVGIEIATFVSGTTF-----ATTDKRRRD-VSGAPLALGSLV-CIHLTA--ISFTGCGINPARSFGCAHIL--LDE :
DrAqp1ab : -----LNGNVKVGQGFATIEIATFVSGTTF-----ATTDKRRRD-VSGAPLALGSLV-CIHLTA--ISFTGCGINPARSFGCAHIL--ESE :
DrAqp7 : -----PAPYISITVTGFFDVVGAMMLCLCM-----ALSDQRNQPLVSGEPVGVGLVLLGVSMG--SNISGYAINPARDLGRFET--LMAGNGTGV :
DrAqp10a : -----PTDVVSQTNFLDVVGAMMLCLCM-----PLNDKRNAPAEALLPPIATVVLGSSMSMS--ANCSAANINPARDLGRFET--FTAGNGTGV :
DrAqp10b : -----PADYLSLWGGVVDVIGAAAVLVCIL-----ALGDAHNTAPAGLEPVLVGAALVIGISMG--SNISGYAINPARDLGRFET--YIAGNGDEV :
DrAqp11b : -----SPINAPVPLQAAAVDSCAFVHTAAG-NAEKVEEKYRVP-----AGAVMFCVWFCEG--G--HITGAVNPALAFSIOFFC--PGNTL :
DrAqp12 : -----CSTSLQVPLQGVFAEIALGALTFHVYL-----VLKSRSQL-----LRPIFAVLTLFAYAGN--NYTSGYVNPALAYALTFTC--PGHSE :
DrAqp15 : -----GVLSSNNSKKCALTVSKHLYIQVLCIQ-----AATHPKSA--FSSNPPAVTGLSD-TIHLMA--IGFTGCGMNPARSFGCAHIL--MNE :
DrAqp3b : -----PSKHLTLNLNGFFDVIGAAAVLVCIL-----AIVDPYNNPIQGLEAFTVGFVVLVIGQSMG--FNISGYAVNPARDLGRFET--AIAGNGSKV :
DrAqp4b : -----VNEEISAGHAIVIEIATFVSGTTF-----ATCDPKRRD-LKGSAAALAGLSV-CIHLFA--IPYTGASMNPARSFGCAHIL--VKI :
DrAqp8aa : -----IPSSDQVGAATMAEMIMLFTVTVSG--MGAVNGRTRSH-----LAPFOIGLTV-TANILAC--GGISGACMNPARSFGCAHIL--GHI :
DrAqp8ab : -----LKSDDELQKVVFAEMAMCLATVTVL--MGAVNGKSKSP-----MVPFMGCTV-IINVLG--GDVSGCLNPARSFGCAHIL--NYM :
DrAqp8bb-1 : -----LQADDDHMKALFAEAMAMCLATVTVL--LGAVNGKSKSP-----MVPFMGCTV-IINVLG--GDVSGCLNPARSFGCAHIL--NYM :
DrAqp8bb-2 : -----LQADDDHMKALFAEAMAMCLATVTVL--LGAVNGKSKSP-----MVPFMGCTV-IINVLG--GDVSGCLNPARSFGCAHIL--NYM :
DrAqp9b : -----PREDSLNLNGFVDVIGAAAVLVCIL-----AIVDKKNIGAPKMEPLVIGLSLALGVSMALNCGYFINPARDLGRFET--AIAGNGLTV :
DrAqp3a : -----PSKYITPLNGFFDVIGAAAVLVCIL-----AIVDPYNNPIQGLEAFTVGFVVLVIGQSMG--FNISGYAVNPARDLGRFET--AMAGNGSEV :
DrAqp14 : -----VPVDMNAGQALVMEIATFVSGTTF-----SVEDQRRRD-INEPGNLACFATTAIFAC--RFSGLASLNPARSLGCAHIL--GYM :
DrAqp9a : -----PGRHLTVLGGFVDVVGGMIVVCIL-----AIVDGRNIGAPRGEPLAVGLILGVSVMG--LNCGYFINPARDLGRFET--ALAGNGMEV :
XtAqp0 : -----LHNGVSLQATTIEIATFVSGTTF-----AVTDERRNG-RLGSAALSIGFSV-LGHLLG--MYITGAGMNPARSFGCAHIL--RNE :
XtAqp11 : -----SPHLVTLPGAGVIEIATFVSGTTF-----SAALATGTVVLGCG--SITGAVNPALAYALTFTC--EGNTL :
XtAqp12 : -----DCSSSLQVPLQGVFAEIALGALTFHVYL-----VLKSRSQL-----LRPIFAVLTLFAYAGN--NYTSGYVNPALAYALTFTC--PGHSE :
XtAqp4 : -----VNNKLSLASHGLLVEIATFVSGTTF-----ATCDPKRRD-ITGSVALALGFSV-SIHLFA--IPYTGASMNPARSFGCAHIL--NKM :
XtAqp6 : -----LSNDTISQOAVTVIEIATFVSGTTF-----ASTDNRNCD-NVGSPSISIGFSV-AGHLVG--IYFTGCGMNPARSFGCAHIL--GNF :
XtAqp1 : -----LSEGLISQOGLGVIEIATFVSGTTF-----AVTDERRNG-RLGSAALSIGFSV-AGHLIA--IDYTGCGMNPARSFGCAHIL--NOF :
XtAqp13 : -----PSHSLISATNGFTDVIGAAAVLVCIL-----ALIDEANNAAPGGLQPFLLGIMULLGLAMG--FNCGYFINPARDLGRFET--AIAGNGSEV :
XtAqp16 : -----CMIDSGDILNARAVGVIEIATFVSGTTF-----MGAVNELSKTP--LAPYSIAFVL-TAGILSG--GNISGCLNPARSFGCAHIL--NYM :
XtAqp3 : -----PSDHLTLNLNGFFDVIGAAAVLVCIL-----AIVDPYNNPIQGLEAFTVGFVVLVIGQSMG--FNISGYAVNPARDLGRFET--SLAGNGTGV :
XtAqp5 : -----AINSGSPQACAVIEIATFVSGTTF-----ASTDNRNCD-NVGSPSISIGFSV-AGHLVG--IYFTGCGMNPARSFGCAHIL--GNF :
CcAqp0a-1 : -----LQPGISLGMATTIEIATFVSGTTF-----AVTDERRNG-RLGSAALSIGFSV-LGHLLG--MYITGAGMNPARSFGCAHIL--RNE :
CcAqp3a-2 : -----PNPHLTLNLNGFFDVIGAAAVLVCIL-----AIVDPYNNPIQGLEAFTVGFVVLVIGQSMG--FNISGYAVNPARDLGRFET--AMAGNGSEV :
CcAqp3b-1 : -----PSKHLTLNLNGFFDVIGAAAVLVCIL-----AIVDPYNNPIQGLEAFTVGFVVLVIGQSMG--FNISGYAVNPARDLGRFET--AIAGNGSEV :
CcAqp3b-2 : -----PSKHLTLNLNGFFDVIGAAAVLVCIL-----AIVDPYNNPIQGLEAFTVGFVVLVIGQSMG--FNISGYAVNPARDLGRFET--AIAGNGSEV :
CcAqp4b-1 : -----VNAEISTGHAIVIEIATFVSGTTF-----ATCDPKRRD-LKGSAAALAGLSV-CIHLFA--IPYTGASMNPARSFGCAHIL--AKI :
CcAqp4b-2 : -----VNAEISTGHAIVIEIATFVSGTTF-----ATCDPKRRD-LKGSAAALAGLSV-CIHLFA--IPYTGASMNPARSFGCAHIL--AKI :
CcAqp7-1 : -----PAPYISITVTGFFDVVGAMMLCLCM-----ALADQRNQPLVSGEPVGVGLVLLGVSLG--SNISGYAINPARDLGRFET--LMAGNGMEV :
CcAqp7-2 : -----LSTTLELGHDLITISY-----CIQCKQKNN-----LQVLSHLIY-----:
CcAqp8aa-1 : -----VQSSSQVGSATMAEMIMLFTVTVSG--MGAVNIRTRSH-----LAPFOIGLTV-TANILAC--GGISGACMNPARSFGCAHIL--GHI :
CcAqp8aa-2 : -----VQSSSQVGSATMAEMIMLFTVTVSG--MGAVNIRTRSH-----LAPFOIGLTV-TANILAC--GGISGACMNPARSFGCAHIL--GHI :
CcAqp8ab-1 : -----LKSEELQKVVFAEMAMCLATVTVL--LGAVNGKSKSP-----MVPFMGCTV-IINVLG--GDVSGCLNPARSFGCAHIL--NYM :
CcAqp0a-2 : -----LQPGISLGMATTIEIATFVSGTTF-----AVTDERRNG-RLGSAALSIGFSV-LGHLLG--MYITGAGMNPARSFGCAHIL--RNE :
CcAqp8ab-2 : -----LKSEELQKVVFAEMAMCLATVTVL--LGAVNGKSKSP-----MVPFMGCTV-IINVLG--GDVSGCLNPARSFGCAHIL--NYM :
CcAqp8bb : -----LQADDDHMKALFAEAMAMCLATVTVL--LGAVNGKSKSP-----MVPFMGCTV-IINVLG--GDVSGCLNPARSFGCAHIL--NYM :
CcAqp9a-1 : -----PGRHLTVLGGFVDVVGGMIVVCIL-----AIVDGRNIGAPRGEPLAVGLILGVSVMG--LNCGYFINPARDLGRFET--AAAGNGMEV :
CcAqp9a-2 : -----PGRHLTVLGGFVDVVGGMIVVCIL-----AIVDGRNIGAPRGEPLAVGLILGVSVMG--LNCGYFINPARDLGRFET--AAAGNGMEV :
CcAqp9b-1 : -----PREDSLNLNGFVDVIGAAAVLVCIL-----AIVDKKNIGAPKMEPLVIGLSLALGVSMALNCGYFINPARDLGRFET--AMAGNGLEV :
CcAqp9b-2 : -----PREDSLNLNGFVDVIGAAAVLVCIL-----AIVDKKNIGAPKMEPLVIGLSLALGVSMALNCGYFINPARDLGRFET--AMAGNGLDV :
CcAqp10a-1 : -----PTDVVSQTNFLDVVGAMMLCLCM-----PLNDKRNAPAEALLPPIATVVLGSSMSMS--ANCSAANINPARDLGRFET--FTAGNGTGV :
CcAqp10a-2 : -----PTDVVSQTNFLDVVGAMMLCLCM-----PLNDKRNAPAEALLPPIATVVLGSSMSMS--ANCSAANINPARDLGRFET--FTAGNGTGV :
CcAqp10b-1 : -----PADYLSLWGGVVDVIGAAAVLVCIL-----ALGDPNPTAPPGLPVLVGAALVIGISMG--SNISGYAINPARDLGRFET--YIAGNGDEV :
CcAqp10b-2 : -----PADYLSLWGGVVDVIGAAAVLVCIL-----ALGDPNPTAPPGLPVLVGAALVIGISMG--SNISGYAINPARDLGRFET--YIAGNGDEV :
CcAqp0b-1 : -----LQPGISLGMATTIEIATFVSGTTF-----AVTDERRNG-RLGSAALSIGFSV-LGHLLG--MYITGAGMNPARSFGCAHIL--RNE :
CcAqp11b-1 : -----SPINAPVPLQAAAVDSCAFVHTAAG-NAEKVEEKYRVP-----AIAAVITTVYAGC--HITGAVNPALAFSIOFFC--PGNTL :
CcAqp11b-2 : -----SPINAPVPLQAAAVDSCAFVHTAAG-NAEKVEEKYRVP-----AIAAVITTVYAGC--HITGAVNPALAFSIOFFC--PGNTL :
CcAqp12-1 : -----CSTSLQVPLQGVFAEIALGALTFHVYL-----VLKSRSQL-----LRPIFAVLTLFAYAGN--NYTSGYVNPALAYALTFTC--PGHSE :
CcAqp12-2 : -----ECSTSLQVPLQGVFAEIALGALTFHVYL-----VLKSRSQL-----LRPIFAVLTLFAYAGN--NYTSGYVNPALAYALTFTC--PGHSE :
CcAqp14-1 : -----VPVDMNAGQALVMEIATFVSGTTF-----SVEDQRRRD-INEPGNLACFATTAIFAC--RFSGLASLNPARSLGCAHIL--GYM :

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	*	420	*	440	*	460	*	480	*	500
LwAqp9b	:	FRAGNGWMMVPEVAGLVGVGAGIVYFLML	ELHHP	----	EPAKNLEDNDSVKDKYEINTVN	----				
LwAqp9c	:	FRAGNGWMMVPLAEAFITGVGTASITYKAFVELHHP	----	DLKSTQTSQTSGDEPCVPLEKKCKNGSTEISV	----					
LwAqp10aa	:	FTCYDYFFWPLAEAFITGVGLVGSITVLVFL	QWHLP	----	-EPEESSESEEIKETQKDMEHNSKDELYLKMSSI	----				
LwAqp10bb	:	FRAGHGWWWPLVTCTVALIGSLIYELLGVHHP	----	DSEPMDPEGLTAKDQOTLEEGVSKFDTIKENGKERIFSIITSADIR	----					
LwAqp11	:	----AEYCGVYWGLITMTGSLITVDKV	PAISG	----	-KSTIQKHFNSSNLKKKKMNM	----				
LwAqp14	:	----EHNNVYWGLITAVLAGLSHEFI	FAPSAS	----	-RQKLVACLTKCDIEIVETAHSVSRSSLSTVTQSAMRNKQSNKLEHS	----				
LwAqp14aa	:	----TNHHVYWGLITGAAALVYDFLL	--FP	----	-KLDDFERRVRVLVSGNPDTDEVNGTDDPPAVEMSSK	----				
LwAqp12	:	----LAYSLVYWGLITMSLIAFLVLGN	PLLFS	----	-RNLLYSKKARFRVPKGKTSED	----				
LwAqp1ab	:	----KNHHVYWGAEMFGVAAALVYDFLL	--YP	----	-KKEAFGKRMLVKGTADPDASATEPIERPTFRSGSGGLGDE	----				
LwAqp0a	:	----INHHVYWGLITGANGALVDYFM	--FP	----	-RMRLSERLATLKGRDPPEAAQQETRGEPIELKTQAL	----				
LwAqp0b	:	----INHHVYWGLITGANGALVDYFM	--FP	----	-RMRLSERLATLKGRSPPEA--ENQQDGRGEPIELKTQTL	----				
LwAqp3a	:	FTTRQCWLVPFAFAPLESITIGVIYQLMGWHVE	----	----	-GEAR-DKKDKAREESLKLNDVTSKD	----				
LwAqp3ap1	:	-----LG	----	----	-EVFTTRQC	----				
LwAqp3ap2	:	FTTRQCWLVPFAFAPLESITIGVIYQLMGWHVE	----	----	-GEAR-DKKDKAREESLKLNDVTSKD	----				
LwAqp3b	:	FSANSYWSFPEFAFATVAVLGMVMVQLMGCHVE	----	----	-GEERDKREAVEREQEDRLKLTAVSSEKETA	----				
LwAqp4b	:	----QDHNVYWGLITGILAAAAYEYLFL	--CP	----	-DPDLKRRYADVLSKSHFQIDPYR-VVDVTETPSDAQLMQAQAI	RVLDLERAEEKRR				
LwAqp8aa	:	----TYHHVYWGLITALTIVTSVVRVLM	----	----	-GDKKIRVIFK	----				
LwAqp9a	:	FSTADYWWWPEVAGLVGVGVGAVYFLML	ELHHP	----	-KHNDKPLEEPREEEDEDESDLSLKDKYEMINMS	----				
LwAqp15	:	----HNHHVYWGLICALLAWLVDHL	----	----	-RWSCLDGWTECKVLWKDSLQPRGFENNMEGNMLSEI	----				
LwAqp8ab	:	----SYHHVYWGLITGLVAAALVRLFL	----	----	-GDEKTRVILK	----				
DrAqp0a	:	----INHHVYWGLITGAANGALVDYFM	--FP	----	-RVRLSERLAVLKGNRKPTEPEAQOETRGEPIELKTQAL	----				
DrAqp0b	:	----INHHVYWGLITGAANGAIFYDFFL	--FP	----	-RMRGFSERLATLKGRSPPEA--ENQQETRGEPIELKTQTL	----				
DrAqp1aa	:	----ANHHVYWGLITGCGVAAALVYDFLL	--YP	----	-KMDDFERVRVLVSGNPDTDEVNGTDDPPAVEMSSK	----				
DrAqp1ab	:	----KNHHVYWGAEMCGVAAALVYDFLL	--FP	----	-KREALKRRMNVLKGTADPDPSATEALIERPFSARSGGSQWRFP	----				
DrAqp7	:	FRAGNCWWMPLAFAFITGVGLGALYKALVELHHP	----	DLKSTITRPVDPCEIPLDCKCNKRIEITPV	----					
DrAqp10a	:	FTCYDYFFWPLAEAFITGVGLVGSITVLVFL	QWHLP	----	-ELEDESSEGMNDQTVMEHNNKDELYLKMSSI	----				
DrAqp10b	:	FRAGHGWWWPLVTCTVALIGSLIYELLGVHHP	----	----	-DSEAVDHEDPTAALQQTVEMAQSFDTIKENKSKGISITSADVGE	----				
DrAqp11b	:	----TEYSYVYWGLIT	----	----	----	----				
DrAqp12	:	----LVYSLVYWGLITVFIAVLFVLGN	PLLFS	----	-KNLLYSKKNFRFLPGKTKNDEKSS	----				
DrAqp15	:	----HNHHVYWGLITCSLLTWTFHDLL	--RP	----	----	----				
DrAqp3b	:	FSAESYWSFPEVFAFITAVFGVMVQLMGCHV	----	----	-GEERDKREAVEREKMERLKYVASDKDA	----				
DrAqp4b	:	----QDHNVYWGLITGILAAAAYEYLFL	--CP	----	-DPDLKRRYADVLSKSHFQIDPYR-VVDTSYPSDAQLMQAQAI	RVLDLERAEEKREST				
DrAqp8aa	:	----THHHVYWGLITALTIVTSVVRVLM	----	----	-GDKKIRVIFK	----				
DrAqp8ab	:	----TYHHVYWGLITGLVAAALVRLFL	----	----	-GDEKLRVVMK	----				
DrAqp8bb-1	:	----THHHVYWGLITGLIAAAALVRLFL	----	----	-GDNDTRVVMK	----				
DrAqp8bb-2	:	----THHHVYWGLITGLIAAAALVRLFL	----	----	-GDNDTRVVMK	----				
DrAqp9b	:	FSAGNGWMMVPEVAGLVGVGAAIVYFLML	EMHHP	----	-ENDKNLEDNDSLKDKYEINTVN	----				
DrAqp3a	:	FTARDYWFPLFAFAPLESITIGVIYQLMGWHVE	----	----	-GEAR-DKKAKAREEVMNLDVASKE	----				
DrAqp14	:	----EHNNVYWGLITAVLAGVSHETIFAPSAS	----	----	-RQKLVAACMTCKDIEIVETAHSVSRSSLSTVTQSAMRHQNKNKLEHS	----				
DrAqp9a	:	FSTADYWWWPEVAGLVGVGVGAVYFLML	ELHHS	----	-NHNDTPQEEPEEEEEDEDESDLSLKDKYEMINMS	----				
XtAqp0	:	----TNHHVYWGLITGALGLVYDFLL	--FP	----	-RMRLGERLSILKGARPAPEGOQEATGEPIELKTQSL	----				
XtAqp11	:	----PEYEVYVYGGLVVMLSLVLSQSPV	----	----	-LERKTRKENITTGSPKKTIN	----				
XtAqp12	:	----TEYSLYVCCGITMLLVIALFLVQGN	PLLFO	----	-RNLLYSQKGYKTPKTALKASTAKASNLSKPKRKKAPEKKAAPDVS	RKAATLPQAKRSS				
XtAqp4	:	----ESHNVYWGLITAVIAGAIVEYVY	--CP	----	-DPEMKNLQLEVKNATQSQSGKYKEVEKSQSLDSDLMLPMVMHV	KIEEKDKPEPSGEVLSS				

CcAqp10a-2 : FTCYDYFFNIPILVAVVGGVIGSLIYLVFQWHLF-----EPEDESDSFNEQTKCKAESGKQMQMOTPLPLPASLILLSSSWP----- :
CcAqp10b-1 : FRAGHGWMVVPVFTVCVCGALLGADLYELLGVHHP-----DSEPEEAEDLTAVLQQTVELD---GMQPKFDFKENGKDGIFSITSADTG----- :
CcAqp10b-2 : FRAGHGWMVVPVFTVCVCGALLGADLYELLGVHHP-----DS--EPEEAEDLTAVLQQTVELD---GMQPKFDFKENGKDGIFSITSADTG----- :
CcAqp0b-1 : -----INHVVYVWGPMTICGAMGAILYDFM---FP-----RMRGLSERLATLKGSRPPEA---ENQQETRGEPIELKTQTL----- :
CcAqp11b-1 : -----AEYSVYVWGPMTICGAMGAILYDFM---FP-----KSTIPKHSNRLKETKKMK----- :
CcAqp11b-2 : -----AEYSVYVWGPMTICGAMGAILYDFM---FP-----KRTNPKQLNSNGLKVKMK----- :
CcAqp12-1 : -----LAYSIVYVWGPMTICGAMGAILYDFM---FP-----RNLNLYSKKARFRVPKGTST---EDKTS----- :
CcAqp12-2 : -----LAYSIVYVWGPMTICGAMGAILYDFM---FP-----RNLNLYSKKARFRVPKGTST---EDKTS----- :
CcAqp14-1 : -----EHHVVYVWGPMTICGAMGAILYDFM---FP-----RQKLVAACLTCKDIEIVETASVSRSSSLSTVTQSAMRNKQSNKLEHS----- :
CcAqp14-2 : -----EHHVVYVWGPMTICGAMGAILYDFM---FP-----RQKLVAACLTCKDIEIVETASVSRSSSLSTVTQSAMRNKQSNKLEHS----- :
CcAqp15-1 : -----HNVVVYVWGPMTICGAMGAILYDFM---FP-----RQKLVAACLTCKDIEIVETASVSRSSSLSTVTQSAMRNKQSNKLEHS----- :
CcAqp15-2 : -----HNVVVYVWGPMTICGAMGAILYDFM---FP-----RQKLVAACLTCKDIEIVETASVSRSSSLSTVTQSAMRNKQSNKLEHS----- :
CcAqp0b-2 : -----INHVVYVWGPMTICGAMGAILYDFM---FP-----RMRGLSERLATLKGSRPPEA---DNQQETRGEPIELKTQTL----- :
CcAqp1aa-1 : -----TNHVVYVWGPMTICGAMGAILYDFM---FP-----KLDLDFDRVRVVLVSGPATDYDNTDDPPAVEMSSK----- :
CcAqp1aa-2 : -----TNHVVYVWGPMTICGAMGAILYDFM---FP-----KLDLDFDRVRVVLVSGPATDYDNTDDPPAVEMSSK----- :
CcAqp1ab-1 : -----KNHVVYVWGPMTICGAMGAILYDFM---FP-----KKEALRKRMMNLKGTADPDSATEALIEPRTPRSGSGVE----- :
CcAqp1ab-2 : -----KNHVVYVWGPMTICGAMGAILYDFM---FP-----KKEALRKRMMNLKGTADPDSATEALIEPRTPRSGSGVE----- :
CcAqp3a-1 : FTNRQCWFIPMFAPITGSIIGVTVQLMVGWHVE-----GEVR--DNKNKAKEESLKLDNVTSKD----- :
HsAqp0 : -----TNHVVYVWGPMTICGAMGAILYDFM---FP-----RLKSIERLSVLKGAKPDSV---NGQPEVTGEPELNTQAL----- :
HsAqp10 : FSAGNGWMMVVPVFTVCVCGALLGADLYELLGVHHP-----EGPEPAQDLVSAQHKASELETPASAQMLECKL----- :
HsAqp11 : -----PQFFIVYVWGPMTICGAMGAILYDFM---FP-----NHTINKKE----- :
HsAqp12A : -----LLEYVQVYVWGPMTICGAMGAILYDFM---FP-----RNLFGQKNKYRAPRGKAPASGDTQTPAKGSSVREPGRSGVEGPHSS----- :
HsAqp12B : -----LLEYVQVYVWGPMTICGAMGAILYDFM---FP-----RNLFGQKNKYRAPRGKAPASGDTQTPAKGSSVREPGRSGVEGPHSS----- :
HsAqp1 : -----SNHVVYVWGPMTICGAMGAILYDFM---FP-----RSDSLTDRVKVWTSQGVVEYDLADDINSRVEMKPK----- :
HsAqp2 : -----DDHVVYVWGPMTICGAMGAILYDFM---FP-----PAKSLSERLAVLKGLEPDTWEEREVRRRQSVLHSPQSLPRGSKA----- :
HsAqp3 : FTTGRHWMVVPVFTVCVCGALLGADLYELLGVHHP-----QPPSTEENENVKLAMHKHEQI----- :
HsAqp4 : -----ENHVVYVWGPMTICGAMGAILYDFM---FP-----DVEFKRRFKEAFSKAAQQTGKSYMEVE---DNRSQVETEDLILKPGVVHVIDVRGEEKKG----- :
HsAqp5 : -----SPAHVVYVWGPMTICGAMGAILYDFM---FP-----NSLSLSERVAIKGTIYEPDEDWEEQREERKKTMLTTR----- :
HsAqp6 : -----TVHVVYVWGPMTICGAMGAILYDFM---FP-----DTKTLAQRLAILTGTVVGTGAGAGAEFLKKESQPGSGAVEMESV----- :
HsAqp8 : -----NFHVVYVWGPMTICGAMGAILYDFM---FP-----GDGKTRLILKAR----- :
HsAqp9 : FRAGNNFWMVVPVFTVCVCGALLGADLYELLGVHHP-----EPDSVFKEQSEDKPEKYELSVIM----- :
HsAqp7 : FSDGGENWMMVVPVFTVCVCGALLGADLYELLGVHHP-----REPLKLEDSVAYEDHGITV---LPRKMGSHPEMISPLTLISVSLANRSSVHSHAP----- :
MuAqp11 : -----AYACVIMMIMDESFFLPWLHN-----NQMTNKKE----- :
MuAqp12 : -----LEYAVVYVWGPMTICGAMGAILYDFM---FP-----RNLFGQKNKYRAPRGKAPASGDTQTPAKGSSVREPGRSGVEGPHSS----- :
MuAqp1 : -----SNHVVYVWGPMTICGAMGAILYDFM---FP-----RSDSLTDRVKVWTSQGVVEYDLADDINSRVEMKPK----- :
MuAqp2 : -----DDHVVYVWGPMTICGAMGAILYDFM---FP-----PAKSLSERLAVLKGLEPDTWEEREVRRRQSVLHSPQSLPRGSKA----- :
MuAqp3 : FTTGRHWMVVPVFTVCVCGALLGADLYELLGVHHP-----QPPSTEENENVKLAMHKHEQI----- :
MuAqp4 : -----ENHVVYVWGPMTICGAMGAILYDFM---FP-----DVEFKRRFKEAFSKAAQQTGKSYMEVE---DNRSQVETEDLILKPGVVHVIDVRGEEKKG----- :
MuAqp6 : -----AVHVVYVWGPMTICGAMGAILYDFM---FP-----DTKTLAQRLAILTGTVVGTGAGAGAEFLKKESQPGSGAVEMESV----- :
MuAqp7 : FRAGNNFWMVVPVFTVCVCGALLGADLYELLGVHHP-----EPDSVFKEQSEDKPEKYELSVIM----- :
MuAqp8 : -----DFHVVYVWGPMTICGAMGAILYDFM---FP-----GDEKTRLILKSR----- :
MuAqp9 : FTFGNFWMVVPVFTVCVCGALLGADLYELLGVHHP-----EPDSVFKEQSEDKPEKYELSVIM----- :
MuAqp0 : -----SNHVVYVWGPMTICGAMGAILYDFM---FP-----RNLFGQKNKYRAPRGKAPASGDTQTPAKGSSVREPGRSGVEGPHSS----- :
MuAqp5 : -ESVQPLSLGLLGRITVCAVLAAHLYFYLL---FP-----SSLSLHDRVAVVKGTIYEPDEDWEDHREERKKTIELTAH----- :

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LwAqp9b : ----- : -
LwAqp7 : ----- : -
LwAqp10aa : ----- : -
LwAqp10bb : ----- : -
LwAqp11 : ----- : -
LwAqp14 : ----- : -
LwAqp1aa : ----- : -
LwAqp12 : ----- : -
LwAqp1ab : ----- : -
LwAqp0a : ----- : -
LwAqp0b : ----- : -
LwAqp3a : ----- : -
LwAqp3ap1 : ----- : -
LwAqp3ap2 : ----- : -
LwAqp3b : ----- : -
LwAqp4b : ESAGEVLSSV- : 331
LwAqp8aa : ----- : -
LwAqp9a : ----- : -
LwAqp15 : ----- : -
LwAqp8ab : ----- : -
DrAqp0a : ----- : -
DrAqp0b : ----- : -
DrAqp1aa : ----- : -
DrAqp1ab : ----- : -
DrAqp7 : ----- : -
DrAqp10a : ----- : -
DrAqp10b : ----- : -
DrAqp11b : ----- : -
DrAqp12 : ----- : -
DrAqp15 : ----- : -
DrAqp3b : ----- : -
DrAqp4b : GEVLSSV----- : 320
DrAqp8aa : ----- : -
DrAqp8ab : ----- : -
DrAqp8bb-1 : ----- : -
DrAqp8bb-2 : ----- : -
DrAqp9b : ----- : -
DrAqp3a : ----- : -
DrAqp14 : ----- : -
DrAqp9a : ----- : -
XtAqp0 : ----- : -
XtAqp11 : ----- : -
XtAqp12 : ----- : -
XtAqp4 : V----- : 295
XtAqp6 : ----- : -
XtAqp1 : ----- : -
XtAqp13 : ----- : -
XtAqp16 : ----- : -
XtAqp3 : ----- : -
XtAqp5 : ----- : -
CcAqp0a-1 : ----- : -
CcAqp3a-2 : ----- : -
CcAqp3b-1 : ----- : -
CcAqp3b-2 : ----- : -
CcAqp4b-1 : ESAGEVLSSV- : 331
CcAqp4b-2 : ELAGEVLSSV- : 331
CcAqp7-1 : ----- : -
CcAqp7-2 : ----- : -
CcAqp8aa-1 : ----- : -
CcAqp8aa-2 : ----- : -

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CcAqp8ab-1 : ----- : -
CcAqp0a-2 : ----- : -
CcAqp8ab-2 : ----- : -
CcAqp8bb : ----- : -
CcAqp9a-1 : ----- : -
CcAqp9a-2 : ----- : -
CcAqp9b-1 : ----- : -
CcAqp9b-2 : ----- : -
CcAqp10a-1 : ----- : -
CcAqp10a-2 : ----- : -
CcAqp10b-1 : ----- : -
CcAqp10b-2 : ----- : -
CcAqp0b-1 : ----- : -
CcAqp11b-1 : ----- : -
CcAqp11b-2 : ----- : -
CcAqp12-1 : ----- : -
CcAqp12-2 : ----- : -
CcAqp14-1 : ----- : -
CcAqp14-2 : ----- : -
CcAqp15-1 : ----- : -
CcAqp15-2 : ----- : -
CcAqp0b-2 : ----- : -
CcAqp1aa-1 : ----- : -
CcAqp1aa-2 : ----- : -
CcAqp1ab-1 : ----- : -
CcAqp1ab-2 : ----- : -
CcAqp3a-1 : ----- : -
HsAqp0 : ----- : -
HsAqp10 : ----- : -
HsAqp11 : ----- : -
HsAqp12A : ----- : -
HsAqp12B : ----- : -
HsAqp1 : ----- : -
HsAqp2 : ----- : -
HsAqp3 : ----- : -
HsAqp4 : KDSSGEVLSSV : 323
HsAqp5 : ----- : -
HsAqp6 : ----- : -
HsAqp8 : ----- : -
HsAqp9 : ----- : -
HsAqp7 : PLHESMALEHF : 347
MuAqp11 : ----- : -
MuAqp12 : ----- : -
MuAqp1 : ----- : -
MuAqp2 : ----- : -
MuAqp3 : ----- : -
MuAqp4 : KDSSGEVLSSV : 323
MuAqp6 : FTLGLC----- : 293
MuAqp7 : ----- : -
MuAqp8 : ----- : -
MuAqp9 : ----- : -
MuAQP0 : ----- : -
MuAqp5 : ----- : -

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