


Table 4. Alignment of *Arabidopsis thaliana* type I MADS domain proteins

	← MADS domain					
	5	15	25	35	45	55
AGL43	-----	-----	-----	-----	---MTMRS-	-----SLPS
AGL75	-----	-----	-----	-----	---MTMRS-	-----SSPS
AGL76	-----	-----	-----	-----	---MTMR-	-----SLPF
AGL81	-----	-----	-----	-----	---MAIRSL	PSSSRCSSSS
AGL98	-----	-----	-----	-----	---MAIRSL	PSSSGCSNSS
AGL77	-----	-----	-----	-----	---MTTIRSS	PSSSRCSNSS
AGL78	-----	-----	-----	-----	---MK--	-----QASS
AGL52	-----	-----	-----	-----	---MK--	-----QASS
AGL51	-----	-----	-----	-----	---MK--	-----QSSF
AGL103	-----	-----	-----	-----	---MASSSSSL	SFSTSKKNKT
AGL93	-----	-----	---MDSS	MSTKKKTKLS	VRNQTCFK--	-----KSSL
AGL53	-----	-----	-----	-----	---NQTCFK--	-----KSSL
AGL54	-----	-----	-----	-----	---NQTCFK--	-----KSSL
AGL89	-----	-----	---MDSS	MSTKKKTKLS	VRNQTCFK--	-----KSSL
AGL26	-----	-----	-----	-----	-----	-----
AGL101	-----	-----	-----	-----	-----	-----
AGL50	-----	-----	-----	-----	---APRQ--	-----KKPN
AGL49	-----	-----	-----	-----	---APRQ--	-----KKPN
AGL36	-----	-----	-----	-----	---MGMKK--	-----VKLS
AGL90	-----	-----	-----	-----	---MGMKK--	-----VKLS
AGL34	-----	-----	-----	-----	---MGMKK--	-----VKLS
AGL37	-----	-----	-----	-----	---MRGK--	-----MKLS
AGL38	-----	-----	-----	-----	-----	-----MKLS
AGL86	-----	-----	-----	-----	---MRS--	-----KIKLS
AGL92	-----	-----	-----	-----	---MRT--	-----KTKLV
AGL35	-----	-----	-----	-----	-----	-----MT
AGL80	-----	-----	-----	-----	---MTRK--	-----KVKLA
AGL46	-----	-----	-----	-----	---MARK--	-----KLNLT
AGL45	-----	-----	-----	-----	---MTRK--	-----KLNLS
AGL48	-----	-----	-----	-----	---MTRK--	-----KVKLV
AGL41	-----	-----	-----	-----	---MTRK--	-----KVKLA
AGL96	-----	-----	-----	-----	---MARK--	-----KVRAA
AGL87	-----	-----	-----	-----	---MGRR--	-----KVTHQ
AGL82	-----	-----	-----	-----	---MVPK--	-----VVDLQ
AGL47	-----	-----	-----	-----	---MG--	---RKMVKMT
AGL40	-----	-----	-----	-----	---MVRSTKG--	---RQKIEMK
AGL62	-----	-----	-----	-----	---MVKKSKG--	---RQKIEMV
AGL23	-----	-----	-----	-----	---MVKKTLG--	---RRKVEIV
AGL28	-----	-----	-----	-----	---MARKNLG--	---RRKIELV
AGL61	-----	-----	-----	-----	---IG--	---RQKIPMV
AGL91	-----	-----	-----	-----	---MG--	---RRKIKME
AGL29	-----	-----	-----	-----	---MG--	---RRKIKME
AGL102	-----	-----	-----	-----	---MG--	---RRKIEIK
AGL58	-----	-----	-----	-----	---KG--	---KQKINIK
AGL59	-----	-----	-----	-----	---KG--	---KQKINIK
AGL85	-----	-----	-----	-----	---MKTDW--	---SHYLSVE
AGL88	-----	-----	-----	-----	-----	-----
AGL57	-----	-----	-----	-----	---KGRKTKG--	---KQKIEMK
AGL84	-----	-----	-----	-----	---MVKKGGT--	---KRKIAIE
AGL73	-----	-----	-----	-----	---GT--	---KRKIAIE
AGL83	---MRFVPPYL	YEIERLWLSL	VNYLSRPNK	NRRCGEIDKI	RMVKKGGT--	---KRKIAIE
AGL56	-----	-----	-----	-----	---MGGK--	---KTKIEIK
AGL55	-----	-----	-----	-----	---GT--	---KRKIEMK
AGL99	-----	-----	-----	-----	---MGGV--	---KRKISIE
AGL39	-----	-----	-----	-----	---GT--	---KRKIEIK
AGL60	---MEDGEA	STITFLPTTE	PKPLQNPPLL	AK-PKKETKQ	KKPKTTKG--	---RQKIEIK
AGL100	MKDLFMEGER	ETSSMTCLTP	KDSVQSPNML	VRQPKKETT	QTPKTTRG--	---RQKIEIK
AGL33	-----	-----	-----	MKRTIKNKNK	QIVKENMG--	---RKLLKLL

	MADS domain					
	65	75	85	95	105	115
AGL43	SSSAYS----	-LASTSLSNR	LETIFKKASE	LCTLCDIEA	CVIYYGPDGE	-----LKT
AGL75	SSSSYS----	-LAFSLSNR	LETIFKKASE	LCTLCDIEA	CVIYYGPDGE	-----LKT
AGL76	SSSSYS----	-LASTSLSNR	LETIFKKASE	LCTLCDIEA	CVIYYGPDGE	-----LKT
AGL81	SSSSYS----	-LASTSLSNR	LETIFKKASE	LCTLCDIEA	CVIYYGPDGE	-----LKT
AGL98	SSSSYS----	-LASTSLSNR	LETIFRKASE	LCTLCDIEA	CVIYYGPDGE	-----LKT
AGL77	SSSSYS----	-LASTSLSNR	LETIFKKASE	LCTLCDIEA	CVIYYGPDGE	-----LKT
AGL78	SSSS-----	-RNSTSLTNR	LKTIFKKAEE	LSILCAIEV	CVIYYGPDGE	-----LRT

AGL52	SSS-----	-CNPTSLTNR	LKTIFKKAEE	LSILC-AIDV	CVIYYGPDGD	-----LRT
AGL51	SSSSS----	-RNSTSLTNR	LKTIFKKAEE	LSILC-AIDV	CVIYYGPDGE	-----LRT
AGL103	FFKKPNSAFS	SSRATSLIKR	QQTVFKKAKE	LSILC-DIDV	CVICYGSNGE	-----LKT
AGL93	SSSSTA----	-KKTNTLSMR	EQTMFKKALE	LSTLC-NIDV	CVIYYGRDGG	-----LIKT
AGL53	SSSSTA----	-KKTNTLSMR	EQTMFKKALE	LSTLC-NIDV	CVIYYGRDGG	-----LIKT
AGL54	SSS-NA----	-KKTNTLSMR	EQTMFKKALE	LSTLC-DIEV	CVIYYGRDGG	-----LIKT
AGL89	SSSSTA----	-KKTNTLSMR	EETMFKKALE	LSTLC-DIEV	CVIYYGRDGE	-----LIKT
AGL26	-----	-----MR	EDTMFKKALE	LSTLC-DIEV	CVILYSRDGE	-----LIKT
AGL101	-----	-----	---MFKKALE	LSTLC-NIEV	CVIYYGRDGE	-----LFKT
AGL50	KSDDDD-DLR	RKKQSFFKQR	FPGFKKKASE	LSVLC-GNSV	GFICYGPDSD	-----DLHV
AGL49	KSDDDDGDLH	RKKQSFFKQR	FPGFKKKASE	LSVLC-GNSV	GFICYGPDN	-----DLHV
AGL36	LIANER----	-SRKTSFIKR	KDGFIFKKLHE	LSTLC-GVQA	CALIYSPFIP	-----VPES
AGL90	LIANER----	-SRKTSFMKR	KNGIFKKLHE	LSTLC-GVQA	CALIYSPFIP	-----VPES
AGL34	LIANEI----	-SRETSFMKR	KNGIMKKLYE	LSTLC-GVQA	CTLIYSPFIP	-----VPE
AGL37	FIENDS----	-VRKTTFTKR	KKGMLKKFNE	LVTLC-GVDA	CAVIRSPYNS	-----IQEP
AGL38	LIENSV----	-SRKTTFTKR	KKGMTKKLTE	LVTLC-GVEA	CAVVYSPFNS	-----IPEA
AGL86	LIANKT----	-SRRTTFRKR	KGGITNKLHE	LTTLC-GVKA	CAVISSPYEN	-----PVV
AGL92	LIPDRH----	-FRRTTFRKR	NAGIRKKLHE	LTTLC-DIKA	CAVIYSPFEN	-----PTV
AGL35	FIENET----	-ARKSTFKKR	KKGLLKKQAE	LGILC-GVPI	FAVVNSPYEL	-----NPEV
AGL80	YISNDS----	-SRKATFKKR	KKGLMKKVHE	LSTLC-GITA	CAIISPYDT	-----NPEV
AGL46	YIFNDR----	-MRKRSFKQR	REGFLKKLND	LKVLC-DVNA	CAVVYNPFNS	-----NPDV
AGL45	YITNES----	-MRKATFNKR	KKGLVKKLHE	LSVLC-GIEA	CAVIYSPFNS	-----NPEV
AGL48	WIENDK----	-SRATSLQKM	RVGLLKKVKE	LTILC-AVRA	IVIIFSPDKV	-----GPLV
AGL41	WIENDN----	-TRAI SLRKR	RVGLVKKVRE	LSILC-DIKA	CTIVFSPNEA	-----ELMV
AGL96	WIRDDR----	-MRRASLKRR	LTGLIKKVNE	LSILC-DMRA	SVVVFNREEE	-----QLTA
AGL87	LISDNA----	-TRRVTFRRK	KDGLLKKIYE	LTVLC-GLPA	CAIYSEYKD	-----GPEL
AGL82	RIANDK----	-TRITTYKQR	KASLYKKQAE	FSTLC-GVET	CLIVYGPTKA	TDVVI SEPEI
AGL47	RITNEK----	-TRITTYKQR	KACLYKKASE	FSTLC-GVDT	CVIVYGPSRA	GDEMMEPEL
AGL40	KMENES----	-NLQVTFSKR	RFGLFKKASE	LCTLS-GAEI	LLIVFSPGGK	-----VFS
AGL62	KMKNES----	-NLQVTFSKR	RSGLFKKASE	LCTLC-GAEV	AIVVFSPPGRK	-----VFS
AGL23	KMTKES----	-NLQVTFSKR	KAGLFKKASE	FCTLC-DAKI	AMIVFSPAGK	-----VFS
AGL28	KMTNES----	-NLQVTFSKR	RSGLFKKASE	LCTLC-DAEI	AIVVFSPPSGK	-----AYS
AGL61	KIKKES----	-HRQVTFSKR	RAGLFKKASE	LCTLC-GAEI	GIVVFSPAKK	-----PFS
AGL91	KVQDTN----	-TKQVTFSKR	RLGLFKKASE	LATLC-NAEV	GIVVFSPPGK	-----PYS
AGL29	MVQDMN----	-TRQVTFSKR	RTGLFKKASE	LATLC-NAEL	GIVVFSPPGK	-----PFS
AGL102	FIEDSI----	-ERKATFSRR	RNGIFKKADE	LAKLC-NVEI	AVLVI SPTNI	-----PYT
AGL58	KIEKDE----	-DRSVTFSKR	LNAIYTMIE	LSILC-GVEV	AFIGYSCSGK	-----PYT
AGL59	KIEKDE----	-GRSVTFSKR	LNGIYTKISE	LSILC-GVEV	AFIGYSCSGK	-----PYT
AGL85	MES-----	-----TISN-	-----E	LSILC-GAEV	AFLGYSCSGK	-----PYT
AGL88	-----	-----	-----MNE	LVAMC-DVEV	AFLIFSOPKK	-----PYT
AGL57	KVENYG----	-DRMITFSKR	KTGIFKKMNE	LVAMC-DVEV	AFLIFSOPKK	-----PYT
AGL84	TIQKRD----	-SLRVTCTKR	REGLYSKASQ	LCLLS-DAQI	AILATPPSSE	S---NVSFYS
AGL73	TIQKRD----	-SLRVTCTKR	RKGLYSKASQ	LCLLS-DAQI	AILATPPSSE	S---DVSFYS
AGL83	TIQKSD----	-YLRVTCTKR	REGLFKSKASQ	LCLLS-DAQI	AILATPPTSE	S---NISFYS
AGL56	KIINKP----	-AKTVAFTKR	REGLFKSKASQ	LCLLSPATQI	AILAAPMTSK	S---HASFYS
AGL55	RIEDKN----	-VRAVAFTRK	KSGLFHKASE	LCLLSPGTQI	AILATPLSSH	S---HASFYS
AGL99	LIEKKD----	-SRAVAFSKR	SRGLYSKASD	LCLLS-DAQI	AI IATPVSSK	S---NVSFYS
AGL39	KRETKE----	-QRAVTCFSKR	RQTVFSKAAD	LCLIS-GANI	AVFVTSPPSDS	S---DVSFYS
AGL60	EIMLET----	-RRQVTFSKR	RSGLFKKAAE	LSVLC-GAQI	GIITFSRCDR	-----IYS
AGL100	KIEEET----	-KRQVTFSKR	RRGLFKKSAE	LSVLT-GAKI	AVITFSKCDR	-----IYR
AGL33	RIESLK----	-ERSKFSKR	KKGLFKKAAE	VALLC-DSDI	MLIVVSPTEK	-----PTV

MADS domain 

	125	135	145	155	165	175
AGL43	WPPEE----	E KVRDIALRYS	Q-LNEALRRK	KSVNLHGFLN	KKKK-----N	KGLKNTDK-K
AGL75	WPKEK----	E KVRDIALRYS	L-LNEALRRK	KSVNLHGFLN	KKK-----N	KGLKNPNK-K
AGL76	WPKEK----	E KVRDIALRYS	Q-LNEALRSK	KSVNLHGFLN	KKKKK--KK	KGLKNPNN-K
AGL81	WPPEE----	E KVEDIALRYS	Q-LNEALRRK	KSVTLYDFLN	KKKDKTNLEK	KAKITDND-D
AGL98	WPPEE----	E KVEDIALRYS	Q-LNEALRRK	KSVTLYDFLN	KKKKNTNLEK	KAKIKDND-L
AGL77	WPKER----	E KVRDIALRFN	Q-LNEALRHK	KSVNLHGFLN	KKK-----KN	KGLKNPNK-K
AGL78	WPKER----	E TVKDMALRYK	-----EARKRK	KSRNLHEFLE	KE-----	---KDKD--K
AGL52	WPKDR----	E TVKNMALRYK	-----EDRKRK	KCLNLHEFLE	KEK-----	--VKDKDKYK
AGL51	WPKER----	N TVKDMASRYK	-----EATKRK	K-----	-----	-----
AGL103	WPEER----	E KVKA IARRYG	E-LSETKRRK	GSVDLHEFLE	KMNKD-----	DPEKEEKKKI
AGL93	WPPDQ----	S KVRDMAERFS	R-LHERERCK	KRTNLSLFLR	KK-----	-----
AGL53	WPEDQ----	S KVRDMAERFS	R-LHERERCK	KRTNLSLFLR	KK-----	-----
AGL54	WPEDQ----	S KVRDMAERFS	R-LHERERCK	KRTNLSLFLR	KQ-----	-----
AGL89	WPEDQ----	S KVRDMAERFS	K-LHERERRK	KRTNLSLFLR	KK-----	-----
AGL26	WPEDQ----	S KVRDMAERFS	K-LHERERRK	KRTNLSLFLR	KK-----	-----
AGL101	WPEDE----	S KVRDMAERFT	K-LNERERRK	KRTNLSLFLR	KK-----	-----
AGL50	WPQSDHNPQ	ALHEIVAKFN	A-LSDERRKN	HACDLNDFP-	-----	-----

AGL49	WPQSQDHPQ	ALHEIVAKFN	A-LSDERRKN	HACDLNDFP-	-----	-----
AGL36	WPSR-----E	GAKKVASRFL	E-MPPTARTK	KMMDQETYLM	ER-----	-----
AGL90	WPSR-----E	GAKKVASRFL	E-MPRTARTR	KMMDQETHLM	ER-----	-----
AGL34	-----	-----FL	E-MSPTARTR	KMMNQETYLM	ER-----	-----
AGL37	WPSR-----E	GVEEVMSKFM	E-FSVLDRTK	KMVDQETFLR	QR-----	-----
AGL38	WPSR-----E	GVEDVVSXFM	E-LSVLDRTK	KMVDQETFLR	QR-----	-----
AGL86	WPST-----E	GVQEAUSMFM	E-RPATEQSK	LMMSHETYLQ	DK-----	-----
AGL92	WPST-----E	GVQEVISEFM	E-KPATERSK	TMMSHETFLR	DQ-----	-----
AGL35	WPSR-----E	AANQVVSQWK	T-MSVMDKTK	KMVNQETFLQ	QR-----	-----
AGL80	WPSN-----S	GVQRVVSFR	T-LPEMDQHK	KMVDQEGFLK	QR-----	-----
AGL46	WPSK-----S	EVNNIIKKFE	M-LPETQKKV	KSVNHEEFLN	-----	-----
AGL45	WPSN-----S	EVKNVMENFE	M-LTKLEQEK	KMVSHEGFIR	QN-----	-----
AGL48	WPSP-----Q	ATHGLLDEFF	A-LPKSVQKK	KESNVESYLK	EK-----	-----
AGL41	WPS-----	-----VE	RLMDIELFLN	EK-----	-----	-----
AGL96	WPSP-----E	AANSLIDNFY	S-LTDHERTM	KAVDPES---	-----	-----
AGL87	WPNL-----N	EVRSILNRLS	E-LPVEKQTK	YMMDQKDLMN	KM-----	-----
AGL82	WPKDE---T	KVRAIRKYK	DTVSTSCRKE	TNVETFVNDV	GK-----	-----
AGL47	WPKDG---S	KVREILTKYR	DTASSSCTKT	YTVQECLEKN	-----	-----
AGL40	FGHP-----	SVQELIHRFS	N-PNHNSAIV	HHQNNN----	-----	-----
AGL62	FGHP-----	NVDSVIDRFI	N---NNPLP	PHQHNN----	-----	-----
AGL23	FGHP-----	NVDVLLDHRF	G---CVVG	HNN-----	-----	-----
AGL28	FGHP-----	NVNKLLDHSL	G---RVIR	HNN-----	-----	-----
AGL61	FGHP-----	SVESVLDRVV	S-RN-NMSLA	QSQ-----	-----	-----
AGL91	FGKP-----	NFDVIAERFK	N-EFEEEEEG	DSCET-----	-----	-----
AGL29	YGKP-----	NLDSVAERFM	R-EYDSDSDG	D-----	-----	-----
AGL102	YGYP-----	CFNDVVERIQ	N---P-----	-----	-----	-----
AGL58	FGSP-----	SFQAVVERFL	N-G--EASSS	SSSSLQ----	-----	-----
AGL59	FGSP-----	SFQAVAERFL	N-G--DASSS	SSS-----	-----	-----
AGL85	FGSP-----	SFQAVAERFL	N-R--EASSS	LQR-----	-----	-----
AGL88	FAHP-----	SMKEVADRLK	N---PSRQEP	LEKDN-----	-----	-----
AGL57	FAHP-----	SMKKVADRLK	N---PSRQEP	LERDD-----	-----	-----
AGL84	FGHS-----	SVDAVVSAFL	S---GQR--P	VPKDNKETRE	DV-----	-----
AGL73	FGHS-----	SVDAVVSAFL	S---GKRQVS	APKDNKETRE	DV-----	-----
AGL83	FGHS-----	SVDAVVSSFL	S---GQRQVP	LQEDTKEMRE	DV-----	-----
AGL56	FGHS-----	SVDNVVSSLL	Y---DHPPLT	ANQDN-----	-----	-----
AGL55	FGHS-----	SVDHVSSLL	H-N-QHPSLP	TNQDN-----	-----	-----
AGL99	FGHS-----	SVDNVVA AFL	T-N---QRP	RE-----	-----	-----
AGL39	FSGYS-----	SAYEADCYL	NRKPPPKIVN	PA-----	-----	-----
AGL60	FGN-----	-VNSLIDKYL	R-KAPVMLRS	HPGGN-----	-----	-----
AGL100	FGH-----	-VDALIDKYL	R-KSPVKLEG	YSGDN-----	-----	-----
AGL33	FNTRSRSFHT	I-----	-----LER	FCMLSLQERE	ERCDSLZYFYI	IIT-----

	185	195	205	215	225	235
AGL43	RKTSLKK-VN	VLKYPLADHY	PPDQVSPL--	-IQSLELHVS	KFHE-RLEFL	ESR-KQNETQ
AGL75	MKTSLKN-VN	ILKYPLADHY	PPDQVSPL--	-IQSLELHVS	KFQE-RLRFL	ESQ-KQNQTK
AGL76	RKTKLKNVN	VLKYPLADHY	PPDQVSPL--	-TQSLKLHVS	KFQE-RLRFL	ESQ-KQ--TK
AGL81	LKTKLKN-VN	ILKYPLADHY	SPDQVSQVL--	-IQSLEPHVS	KVRE-RIRFV	ESQ-KHKETK
AGL98	KRL-----	-----	-----	---SLEPHVS	KVRE-RIRFV	ESQ-KHKETK
AGL77	KKTSLKN-VN	VLKYPLADHY	SPDQVSQVL--	-TQSLELNVS	KFQE-RLRFL	ESQ-KQNETK
AGL78	GKTNLKK---	-NWYPNFDHY	SPQQLSQL--	-IQSLERTLS	TLQE-RLRIV	EAQ-KLQNTN
AGL52	GKTNVVK--N	PNWYPNFDHY	SPQQLSQL--	-IQSLERTLS	TLQK-RLRIV	ESQ-KKQNTN
AGL51	-----	-----KR	-----	-----TLS	TLQE-RLRIV	ESQ-KQONKN
AGL103	KVRRVPKVKY	PVWDPFRFDNY	SVEQLMGL--	-VQSLERNLT	RIQH-RTCAV	VEA-QGQRRV
AGL93	-----	----ILDDTK	LSEKVLEM--	-EDSLESGLR	VLQD-KLLLL	QPE-KNQTEF
AGL53	-----	----ILDDTK	LSEKVLEM--	-EDSLESGLR	VLQD-KLLLL	QPE-KNQTEF
AGL54	-----	----ILHDKK	LSEKVLEM--	-EDSLESGLR	VLQD-KLLLL	QPE-KNQTEL
AGL89	-----	----ILDDNK	LSEKVLEM--	-KDSLESGLR	VLQD-KLLLL	QPE--NQTEL
AGL26	-----	----ILDNSK	LSEKVLEM--	-KDSLESGLR	VLQD-KLLLL	QPE-KNQTEL
AGL101	-----	----ILDNDK	LSGKVLNEM--	-KDSLERGLR	VLQD-KLLLL	QPE--NQTKS
AGL50	-----	-----HHL	KGLSREELR-	-KHLHLDSQ	LLGV-REQKI	EIL-KKTLTG
AGL49	-----	-----HHL	KGLSREELR-	-KHLHLDSQ	LLGV-REQKI	EIL-KKTLTG
AGL36	-----	-----ITK	AKEQLKNLA-	-AENRELQVR	RFMF-DCVEG	KMS-QYHYDA
AGL90	-----	-----ITK	AKEQLKNLA-	-AENRELQVR	RFMF-DCVEG	KMS-QYRYDA
AGL34	-----	-----ITK	AKEQLQNLV-	-GANQELQYR	-----	-----YDA
AGL37	-----	-----IAK	ETERLQKLR-	-DENRNSQIR	DLMF-GCLKG	EVD-VSHLHG
AGL38	-----	-----IAK	EKEQLQKLR-	-DENHNSQIR	ELMF-GCLKG	ETN-VYNLDG
AGL86	-----	-----ITK	ETKKLESRL-	-RENRESQLR	QFMF-DCVEG	KMS-EHQYGA
AGL92	-----	-----ITK	EQNKLESRL-	-RENRETQLK	HFMF-DCVGG	KMS-EQQYGA
AGL35	-----	-----ITK	ATESWKKLR-	-KENKELEMK	NIMF-DCLSG	KTL-VSSIEK
AGL80	-----	-----IAK	ATETLRQR-	-KDSRELEMT	EVMF-QCLIG	NME-MFHLNI
AGL46	-----	-----LYISK	VEKQSKKLI-	-VENKETCLK	EVMF-KCLGG	NMG-DFVMND

AGL45	-----	-----	ISK	TMESNNKMK	-IDNAERTMK	EAMF-QLLSG	KGE-KLNLTD
AGL48	-----	-----	THK	FQEQLKSKS	-KKNKEHVID	ELMM-QLQSG	R-E-IADLNQ
AGL41	-----	-----	TNK	VNEKLIKSC	-KKNKEYVSN	ELMM-QLQRG	R-R-IHDLNL
AGL96	-----	-----	YVQT	VIEKIEKKR	-ADTRKVITE	FEMDELMFQV	QNGRELADLS
AGL87	-----	-----	IQD	AEKKLEK	-----	EKMHT	RAMK-LGLMA
AGL82	-----	-----	GNEV	VTKKRVKREN	KYSSWEEKLD	KCSREQLHGI	FCAVDSKLINE
AGL47	-----	-----	NTK	VEKPTIAT	---KYPTWDK	KLDQCSSLNDL	YAVFMAVENK
AGL40	-----	-----	LQ	LVETRPDR	---NIQYLNN	ILTE-VLANQ	EKE-KQKRMV
AGL62	-----	-----	MQ	LRRETRNS	---IVQDLNN	HLTQ-VLSQL	ETE-KKKYDE
AGL23	-----	-----	TN	LDESYTKL	---HVQMLNK	SYTE-VKAEV	EKE-QKNKQS
AGL28	-----	-----	TN	FAESRTKL	---RIQMLNE	SLTE-VMAEK	EKE-QETKQS
AGL61	-----	-----	GIC	LQGS--PA	---ASCELNM	QLTH-ILSEV	EEE-KKKGQA
AGL91	-----	-----	SG	YSRGNRAR	---QEKKICK	RLNS-ITEEA	EAE-KKHGED
AGL29	-----	-----	EE	KS-GNYRP	---KLKRLSE	RIDL-LNQEY	EAE-KERGEK
AGL102	-----	-----			-----	SASS-KLRSL	MKELEQIKEF
AGL58	-----	-----	RS	VKNAHQQA	---KIQELCK	RYNR-LVEEL	KVD-EVKVKK
AGL59	-----	-----	SL	VMNAHQQA	---KIQELCK	KYNR-LVEEL	KVD-EVKVKK
AGL85	-----	-----	S	VMNAHQQA	---KIQELCK	VYNR-MVEEA	KTE-EAKVKK
AGL88	-----	-----	TRP	LVEAYKKQ	---RFHDLIK	KMEA-LEEEL	AMDLEKLLKLL
AGL57	-----	-----	TRP	LVEAYKKR	---RLHDLVK	KMEA-LEEEL	AMDLEKLLKLL
AGL84	-----	-----	GIC	LTRNNLGL	---GFWWNDE	SLAR-SENPO	EIS-EAIDSM
AGL73	-----	-----	GIC	LTRKNLGL	---GFWWNDE	SLVR-SENPO	EIS-EAIGSM
AGL83	-----	-----	AIC	LSRTNLGL	---GFWWNNE	SLNK-SENPO	EIS-DAINSM
AGL56	-----	-----			---RS--GL	RFDV-SENVE	ELK-EAVDAV
AGL55	-----	-----			---RS--GL	AFDR-LENVD	ELK-EAVDAV
AGL99	-----	-----			---GL--GL	DYWWEDE	RLSK-SEdle
AGL39	-----	-----			---GS--KL	DLYHSCDDL	ELS-IIEDRL
AGL60	-----	-----	VA	NGEEDNDG	---LMWVERA	VESV-PE--E	HME-EYKNAL
AGL100	-----	-----	AA	DEESRRP	---WWERP	VESV-PE--E	ELE-EYMAAL
AGL33	-----	-----			-----		

	245	255	265	275	285	295
AGL43	PDHHS----	LASSSLNHQT	QSLNPSQFSL	FMYNHGD-NT	LSQIPVS---	-----
AGL75	PDHQS----	LTPSSLNHYT	QSLNPSQFSL	FMYNHGD-NT	LSQIPVS---	-----
AGL76	PDHQS----	LTPSSLNHQT	QSLNPRQFSL	FMYNHGD-NT	LSQISVS---	-----
AGL81	PDHQS----	LASSSLNHQT	QSLNPSQFSL	FMYNHGD-NT	LSQIPVS---	-----
AGL98	PDHQS----	LASSSLNNQT	QSLNPSQFSL	FMYNHGD-NI	LSQIPVS---	-----
AGL77	PDHQS----	LTS--ISSLN	QSLNPSQFSL	FMYNHGY-NT	LSQIPVS---	-----
AGL78	LVHQS----	LTP-SYLNQT	QHLNPSKFSL	FMYNHGD-AT	LSQLPLS---	-----
AGL52	LVHQS----	LTP-SYLNQT	QHLNPSKFSL	FMYNHGD-AT	LSQLPLS---	-----
AGL51	LVHQS----	LTP-SYLNQI	QHLNPSNFSP	FMYNHGDAAT	LSQLPLS---	-----
AGL103	QYTNNMANQEL	MMA-NTMNQL	QQHSN-QVSM	YLWNHNGA-	FSQIPVS---	-----
AGL93	GQTRA----	VSS----TTN	PLSPPPS---	LIEDHRHQQR	TEPLMSG---	-----
AGL53	GQTRA----	VSS----TTN	PLSPPPS---	LIEDHRHQQR	TEPLMSG---	-----
AGL54	GQSCA----	VYS----TTY	PLSSPSL---	IEDHQHQQQW	TEPLSNT---	-----
AGL89	GQSRA----	VSS----TTN	PLSSP---	EDHHHQQQW	TEPLVTG---	-----
AGL26	GQIPV----	INN----GQN	HW-----			-----
AGL101	-LTRS----	VSS----LDY	LRTGNMKKKR	CILSSQIKLI	VENEFCS---	-----
AGL50	SSEKD----	GARVS-ENSA	ISDHKLIKIEP	HLKDILSEDH	LIRVSDK---	-----
AGL49	SSEKD----	GARVS-ENSA	ISDHKLIKIEP	NLTDILSEDH	LIRVSDK---	-----
AGL36	KDLQD----	LQSCINLYLD	QLNGRIESIK	ENGESLL-SS	VSPFPTRIGV	DEIGDESFS
AGL90	KDLQD----	LLSCMNLYLD	QLNGRIESIK	ENGESLL-SS	VSPFPTRIGV	DEIGDESFS
AGL34	KDLQD----	LLSCINLYLD	QLNGRIEILK	EHGDSLP--S	VSPFPTRIGV	EETGDESSD
AGL37	RDLLD----	LNFLNKYLN	GVIRRVIEILK	ENGESSSSVP	PPIGVA----	-----
AGL38	RDLQD----	LSLYIDKYLN	GLTRRIEILI	ENGESSSSLP		-----
AGL86	RDLQD----	LSLYIDHYLN	QLNSSVMLLT	NNGASSSSFP	PPLHT-----	S
AGL92	RDLQD----	LSLFTDQYLN	QLNARKKFLT	EYGESSSSVP	PLFDVAGANP	PVVADQAAVT
AGL35	TELRD----	FGYVIEQQLK	DVNRRIEILK	RNNEPSSALV	--PVAAP---	-----
AGL80	VDLND----	LGYMIEQYLN	DVNRRIEILR	NSGTEI-GES	SSVAVAASEG	NIPM-----
AGL46	NDRLD----	LCKFIDHYLR	NLYHHKNVTL	NNPNFEIGES	SSLMDMAP---	-----
AGL45	NRRED----	LCKYIDQYLN	ELYHHKNKTI	NQSHIE----	--PGESS---	-----
AGL48	SEMYA----	LLSFSRDTIL	LCKRKKLAFMQ	FPPLRDP--P	VFPFIEQVEE	FKTTTNDGFV
AGL41	SEIYT----	LLSYSRETIM	SFRKKKDFMQ	HSPLRDP--P	VLPFVEQVEQ	FKSTTKDAFL
AGL96	PTEAD----	KLIPYADKKL	MWLSKRMGST	GVDALRASNV	ASGSGGN---	-----
AGL87	DCSEE----	LARAADVVDK	KLKAIRERIK	AVEAGA----	--PIIKR---	-----
AGL82	AVTRQ----	ERS--MFRVN	HQAMDTFPFQ	NLMDQQFMPQ	YFHEQPQ---	-----
AGL47	IQEAT----	NRN-QTFPDT	SCWSNDQLGL	CGYNRQCFEQ	YQLFPLP---	-----
AGL40	LDLLK----	ES---REQVG	NWYEKDV---	KDLDMN----	--ETN-----	-----
AGL62	LKKIR----	EK---TKALG	NWVEDPV---	EELALS----	--OLE-----	-----
AGL23	RAQNE----	RE---NENAE	EWSKSP---	LELNLS----	--QST-----	-----

AGL28	IVQNE----	RE---NKDAE	KWWRNSP---	TELNLA----	--QST-----	-----
AGL61	MEEMR-----	KES-VRRSMI	NWWEKPV---	EEMNMV----	--QLQ-----	-----
AGL91	LHKWL-----	ES-----AEQ	DKFNKPI---	EELTLE-----	--ELK-----	-----
AGL29	SQEKL-----	ES-----AGD	ERFKESI---	ETLTLD-----	--ELN-----	-----
AGL102	QEDLR-----	KKQQRN-LEK	SNMK-ENVDL	KLEDLV-----	-----	-----
AGL58	AAALA-----	ET--RAVNKD	AWWKADPN--	DVKDHE-----	--KAK-----	-----
AGL59	AAALA-----	ET--RVVNKD	VWVKVDPN--	DVKDHE-----	--KAK-----	-----
AGL85	AAALA-----	ET--MPVDED	AWWKVDPK--	EVEDHE-----	--EAK-----	-----
AGL88	KESRN-----	EKK----LDK	MWWNFPSEGL	SVKELQ-----	--ERH-----	-----
AGL57	KESRN-----	EKK----LDK	MWWNFPSEGL	SAKELQ-----	-----	-----
AGL84	RTLLR-----	NLK-ELRADE	ALACNQAFVN	DREDLK-----	--NNDKC---	-----
AGL73	WTLLS-----	NLK-ELRADE	ACVN-----	DHKDLK-----	--KNEKS---	-----
AGL83	LTLLS-----	NLK-ELSGEE	ALVN-----	DHKDLK-----	--KNERS---	-----
AGL56	SRMLN-----	NVR--CRLND	AVK-S-----	TQRDGGLEIL	HHQE-----	----EVLQ T
AGL55	NVR--LRLDD	AVK-S-----	NQRDGS L-VI	HQED-----	----EVLQ L	-----
AGL99	SKMLK-----	DLK-DLQNR	DCEEDVKKKG	VLHGTHQKQT	FNPE-----	----SCSVNF
AGL39	QRMKK-----	HVMACLEKEE	KSQLV-----	SSFDQNPNST	CSLDVEDCDG	SSYSQIASTF
AGL60	SVLRE-----	NLL--TRIYQ	MSGD-----	RTVEN-----	-----	-----
AGL100	SMLRE-----	NIG--KKIVA	MGND-----	RTVDM-----	-----	-----
AGL33	-----	-----	-----	-----	-----	-----

	305	315	325	335	345	355
AGL43	-----	-----ASNF	NQDYFSALLE	QSELKN-----	---QLMKQEI	CGNDQONQMW
AGL75	-----	-----ASNF	NQDYFSALLE	ESELKN-----	---QLMKPEI	CGYDQONQMS
AGL76	-----	-----ASNF	NQNYFSALLE	QSELKN-----	---QLMKQD-	-GYDQONQMR
AGL81	-----	-----ASNF	NQDYFSALLE	QSELKS-----	---QIMKQDL	CGYEQONCMMS
AGL98	-----	-----ASNF	NQDYFSALLE	QSELKS-----	---QIMKQEV	CGYEQONCMMS
AGL77	-----	-----ASNF	NQDYISALLE	QSELKS-----	---QIMKQEV	CGYEQONCMMS
AGL78	-----	-----APHS	NQLINYQNHL	MQHGFQ-----	---QNMCSDN	ITNNN-FEHP
AGL52	-----	-----ASQS	NQLINYQ---	MQHGFQ-----	---QNMCLDN	ITNNNNFQHP
AGL51	-----	-----ASLS	NQLQLPES--	-----	-----	-----
AGL103	-----	-----ALASNQ	TQSLAPIPPE	LMIYPN-----	---SDAGNYS	GSLGVQGTGI
AGL93	-----	-----VSNT	EQDLSTSSLS	QNQSKF-----	---SVFLYN-	-----
AGL53	-----	-----VSNT	EQDLSTSSLS	QNQSRI-----	---SVFLYN-	-----
AGL54	-----	-----E---	-----	-----	-----	-----
AGL89	-----	-----VSNT	EQDLSTSPLS	NHQSKY-----	---SVFVYN-	-----
AGL26	-----	-----	-----	-----	-----	-----
AGL101	-----	-----KQNL	TKKKSTKIFE	KQNFLK-----	---CFFIYG-	-----
AGL50	-----	-----KLG	SCDVFDELAY	VVRGS-----	---RNLNENV	SKYE-----
AGL49	-----	-----KLG	SCDVFDELAY	VVRGS-----	---RNLNENV	SNYE-----
AGL36	SPIHATTGVV	DTLNATNPHV	LTGDMTPFLD	ADATAVTASS	RFFDHLIYEN	MNMSQNLHEP
AGL90	SPIHSTTRVV	DTPNATNPHV	LAGDMTPFLD	ADANAVTAPS	RFSDHIQYEN	MNMSQNLHEP
AGL34	SPILATTVVV	DTPNATNPRV	LVADTTHFLD	ANATAVTAPF	GF'SNHIQYKN	MNMSQDLHRP
AGL37	-----	-----PTV	VDSVPIGFD	G-----	---RMIQDQN	QNQ-----
AGL38	-----	-----LP IV	ANAAAPVGFD	G-----	---PMFQYHN	QNQ-----
AGL86	VAGAGAGAGA	APLVVAGAGA	APLAVAGAGA	S-----	-----	-----
AGL92	VPPLFAVAGA	NLPVVADQAA	VTVPPLFAVA	G--ANLPVVA	DQAAVNVPTG	FHNMMNVQNG
AGL35	-----	-----	TTSSVMPVVE	MGSSS-----	-----	-----
AGL80	-----	-----PNLVA	TTAPTPTIYE	VGSSSS-----	---FAAVANF	VNP-----
AGL46	-----	-----TAT	TGNMATTVVD	EG-----	-----	-----
AGL45	-----	-----GAT	NAMTPTS VVE	NPNFN-----	-----	-----
AGL48	GGGQD-----	-----NKRAG	RTDEATRFIN	TDIFK-----	---QSKSYFF	FDEWVFPSP
AGL41	GGDL D-----	-----VERAR	NTNEATRIIN	IDSLR-----	---ENKSYLL	IDQWFPTPEP
AGL96	-----	-----GL	NMMETGRSFY	YVDK-----	-----	-----
AGL87	-----	-----D---	-----	-----	-----	-----
AGL82	-----	-----FQGF	PNNFNMMGFS	LISPHDG---	-----	-----
AGL47	-----	-----TMDY	NGLSFFPFNN	QMTS-----	-----	-----
AGL40	-----	-----	QLISALQDVK	KK-----	-----	-----
AGL62	-----	-----	GFKGNLENLK	KV-----	-----	-----
AGL23	-----	-----	CMIRVLKDLK	KI-----	-----	-----
AGL28	-----	-----	SMKCDLEALK	KE-----	-----	-----
AGL61	-----	-----	EMKYALEELR	KT-----	-----	-----
AGL91	-----	-----	EFEAKIKKIS	CG-----	-----	-----
AGL29	-----	-----	EYKDR LQTVH	GR-----	-----	-----
AGL102	-----	-----	AFKAKLEAYQ	AG-----	-----	-----
AGL58	-----	-----	KMMEKYQELK	EK-----	-----	-----
AGL59	-----	-----	KMMEKYQELY	DK-----	-----	-----
AGL85	-----	-----	KIMEKCEGLY	EK-----	-----	-----
AGL88	-----	-----	---QAMLELR	DN-----	-----	-----
AGL57	-----	-----	QRYQAMLELR	DN-----	-----	-----

AGL84	-----	-----DFVS	DHETHDQTLI	LQSASPICCI	PENLNEITQE	PNQTLNIQSS
AGL73	-----	-----D---	VHGTQDQTLI	FQSASAVCCI	PENLNLDITQE	PNQTLDIQSS
AGL83	-----	-----DVVL	QHGTQYETLN	-----	-----	PN-----SN
AGL56	RN-----	-----	-----	-----	-----	-----
AGL55	GY-----	-----	-----	-----	-----	-----
AGL99	DG-----	FN KNTTEFDLDE	IFDYVSTAEA	LSMNLDMDDV	SVVTTN----	-----
AGL39	TP-----	NSVN EYCSDQTFSS	FH--GDQNP	NLSSPSFDQD	CY--SS----	-----
AGL60	-----	-----	LPAPFNEMAM	AD-----	-----	-----
AGL100	-----	-----	VPAWPINVMG	WK-----	-----	-----
AGL33	-----	-----	-----	-----	-----	-----

	365	375	385	395	405	415
AGL43	-MG-----	-----NITNNN	FQLPCVSNKE	-VQESVNNFG	-----	-----
AGL75	-MG-----	-----DITNNK	FQDPCVSNKE	AVQESVNNFG	L-----	-----
AGL76	-MG-----	-----DITNNN	FQLPYFSKKE	AVQESVNYFG	M-----	-----
AGL81	NHG-----	-----DATLSQ	IPLSASNLNQ	DFSALLQDES	-----	-----
AGL98	NNG-----	-----DATLSQ	IPLSASNFNQ	EFSALLQEES	-----	-----
AGL77	NHG-----	-----DATLSQ	IPFSASNFNQ	DFSANNNFQH	SFVSNTQDYD	SVQKSVNNNY
AGL78	-GV-----	-----SNTQDY	SPLLSVQASA	VNNYGLNHL	M-----	-----
AGL52	-GV-----	-----SNTQDY	SPLLS-----	ANNYGLNHL	M-----	-----
AGL51	-----	-----LDA	AWFWS-----	--EHVFGQHH	Q-----	-----
AGL103	-NG-----	-----LQNMNM	LTYNINSVN	DFSKQFDQ-N	S-----	-----
AGL93	-----	-----HDNCS	FYQVP-----	---DSVSSFD	S-----	-----
AGL53	-----	-----HDNRS	FYQVP-----	---DSVSSFD	-----	-----
AGL54	-----	-----	-----	-----	-----	-----
AGL89	-----	-----HDSGS	FYQVP-----	---DSICF--	-----	-----
AGL26	-----	-----	-----	-----	-----	-----
AGL101	-----	-----VIFS	EIKPT-----	--AQFVSLG	-----	-----
AGL50	-----	-----SKD	ADNTG-----	--LDHLVTLG	G-----	-----
AGL49	-----	-----SKD	AAVTG-----	--MDHLGTFG	G-----	-----
AGL36	FQHLVPTNVC	DFQONQNMNQ	VQYQAP-----	--NNLNFQIQ	R-----	-----
AGL90	FQHLVPTNVC	DFYQONQNMNQ	VQYQAP-----	--NNLNFQIQ	R-----	-----
AGL34	FQHLVPTNFC	DFQONQNMNQ	VQYQAPP-----	--NDMFNQIQ	R-----	-----
AGL37	-----	-----QEPVQ	FQYQAL-----	--YDFYDQIP	K-----	-----
AGL38	-----	-----QKPVQ	FQYQAL-----	--YDFYDQIP	K-----	-----
AGL86	-----	-----	-----	---PLAVAG	VGA-----	-----
AGL92	YEPVQPYVPT	GFSDHQYQN	MNFNQNQEP	VHYQALAVAG	AGLPMTQN--	-----
AGL35	-----	-----	-----	--VGFYDKVR	-----	-----
AGL80	-----	-----IDLQ	FRHPAAQH--	--VGLNEQPQ	N-----	-----
AGL46	-----	-----MTPLL	IAEGSSSS-F	LNSPLFNSPQ	-----	-----
AGL45	-----	-----HLSHNQ	YQYQQQFG--	--YPILVQDG	-----	-----
AGL48	PKY-----	-----EIPQQ	MENGNPN--	--PKSYRLYQ	G-----	-----
AGL41	PKP-----	-----VTYQQ	IGYETSN--	--RRGYNPYQ	G-----	-----
AGL96	-----	-----WVFD	PQVQNP-----	--CDVETHLP	T-----	-----
AGL87	-----	-----	-----	-----	-----	-----
AGL82	-----	-----QIQMD	PNLMEKWTDL	ALTQSLMMSK	G-----	-----
AGL47	-----	-----NTAEV	SSFSNVT--	--EPMIANGQ	S-----	-----
AGL40	-----	-----LVREM	SQYSQVN--	--VSQNYFGQ	SS-----	-----
AGL62	-----	-----VTVEA	SRFFQAN--	--VPNFYVGS	SSNNAAF--	-----
AGL23	-----	-----VDEKA	IQLIHQT--	--NPNFYVGS	SSNAAAP--	-----
AGL28	-----	-----VDEKV	AQLHHR--	--NLNFYVGS	SSNVAAP--	-----
AGL61	-----	-----VVTNM	ASFNEAK--	--DDVFGFLD	NK-----	-----
AGL91	-----	-----IQSNI	SHMQASS--	--SLMFLSND	N-----	-----
AGL29	-----	-----IEGQV	NHLQASS--	--CLMLLSRK	-----	-----
AGL102	-----	-----LKRKH	VEMEDLS--	--SPSILSK-	-----	-----
AGL58	-----	-----LREEV	ALRIKRG--	--HDENNNK-	-----	-----
AGL59	-----	-----LCEQA	ASRIKRG--	--HDENNNK-	-----	-----
AGL85	-----	-----LCNEA	AARIQRG--	--DAENNNK-	-----	-----
AGL88	-----	-----LS	-----	-----	-----	-----
AGL57	-----	-----LCDNM	AHLRLGK--	--DCGGSSS-	-----	-----
AGL84	TSA-----	-----ICCP	DNSPENF--	--NEITEEQD	QIRSICTFC	VMDNN----
AGL73	SSA-----	-----ICCP	DKSPEIF--	--NEITEEQD	QILSICTFC	VTDNNNNNNN
AGL83	TTT-----	-----ICCP	DELPAANS--	--NEIVGISP	-----	-----N-----
AGL56	-----	-----D---	---ETKT--	--NQTHEFEG	G-----	-----
AGL55	-----	-----	---KDT--	--NQITKLEG	-----	-----
AGL99	-----	-----QNPVS	ASETVED--	--RELVVHKN	MD-----	-----
AGL39	-----	-----LYQIC	GESSSQV--	--ASFDQNP	SE-----	-----
AGL60	-----	-----	---WKL--	--NENLMARN	-----	-----

AGL100 ----- --PTMD-- --MQKLENTL-----
 AGL33 -----

	425	435	445	455	465	475
AGL43	----LMHKE	FYGCDHNMSV	GNINSNSCEH	-----	PCVSSTQHYS	AVEESVNNPW
AGL75	---NQLMYKE	FYGCDQNMSM	GNINSNSFQN	-----	PCVSNTQHYS	AVEESVKNPW
AGL76	---NQLMLKE	LYGCDQNMCM	GNINSNSFQH	-----	PCVSKAQHYS	AVEGVSNNQR
AGL81	---GLMQQE	LCGYDQNMFM	NNN-NFQHSF	-----	VSNTQDHSAP	VVQESVNNN-
AGL98	---GLMQQE	LCNYDQNMFM	NNN-NFQHSF	-----	VSNTQDHSAP	AVQESVNNN-
AGL77	GLKNQLMKHD	LCGYEHNMCM	SNHGDATAFSQ	-----	IPLSASFNFQ	DFSVSIQEE-
AGL78	----QQDQ	LHGFDQNMCM	VSE----I--	-----	INNNGLQHP	NLSNTVPHEF
AGL52	----QQDQ	LHGFDQNLCM	MSE----I--	-----	INNNGLQHP	NLSNTVPHEF
AGL51	----QQ--	-----	-----	-----	LSTSWRVKHT	RIL-----
AGL103	---RAESY	SSLLGVHEDG	NNEFE----	-----	NPNMSSRNNF	NVQDCAGLLG
AGL93	----LTSTG	LLGEQGSGLG	SSFDLP-MVF	-----	PPQMQTQTP	VFPDQFAPWN
AGL53	-----QSA	LLGEQGSGLG	SNFDLPPMVF	-----	PPQMQTQTP	VFPDQFAAWN
AGL54	-----	-----	-----	-----	-----	-----
AGL89	-----	-----	-----	-----	-----	-----
AGL26	-----	-----	-----	-----	-----	-----
AGL101	-----	LVKSISN-II	WKYKNFTILY	-----	NPEPCKKTKL	SVR-----
AGL50	-----D	YLQEAAAELY	QTYNLGNFCD	-----	-DHVWDLLEFA	SRLPLLHTFS
AGL49	-----N	YLQEAAAELY	QTYNLGNFCD	-----	-DHVWDLLEFA	SRLPLLHTFS
AGL36	-----E	FYNINLNLNL	NLNSNQYLNQ	QSF---MN	PMVEQHMNHV	GGRESIPFVD
AGL90	-----E	FYNINLNLNL	NLNSNQYLNQ	QSF---MN	PMVEQHMNHV	GGRESIPFVD
AGL34	-----E	FYNINLNQ--	--KSNQYMNQ	QPF---MN	PMVEQHMSHV	GGRESIPFMD
AGL37	-----K	LHDFNMKMN-	-IDPNQ----	-----	-SMNLDLNDG	ED-EGIPCMD
AGL38	-----K	IHGFMNMN-	-KDSNQSMVL	-----	-DLNQLNDG	ED-EGIPCMD
AGL86	-----	---APLAVAG	AGPPMAQNQY	EPIQPYIPTA	FSDNIQYQAP	VDFNHQIQHG
AGL92	-----QYEP	VHYQSLAVAG	GGLPMSQLQY	EPVQPYIPTV	FSDNVQYQHM	NLYQNQQEPV
AGL35	-----	-----	-----	-----	-----	-----
AGL80	-----L	NLNLNQNYN-	--QNQE-WFM	EMM-----	-NHPEQMRYQ	TEQMGYQFMD
AGL46	-----	LTN-----	-----	-----E	LQLIVSQNHR	LENSLASANLF
AGL45	-----	IYN-----	-----	-----	PSQIQNQHEE	WLDDHMMNHS
AGL48	-----S	SSNGNPHLEM	DPFRLQMMTS	QGLAGSVSQP	LQHHSMINNP	TMAMNQPSQD
AGL41	-----S	SSNGNPNFEM	MSVSPK----	-----	-----	-----
AGL96	-----	-----	-----	-----	MVSGLDLME	PSDEDLGTYK
AGL87	-----	-----	-----	-----	-----	-----
AGL82	-----ND	GTQFMQRQEQ	PYYNREQVVS	-----	RSAGFVNVPF	MGYQVPFNIP
AGL47	-----L	FYGSCSDGPGY	GPMVQR----	-----	TAYMEPIHWG	LGNSMFNNVK
AGL40	-----GV	IGG--GNVGI	DLFDQR----	-----R	NAFNYNPNMV	FPNHTPPMFG
AGL62	-----GI	DDGSHINPDM	DLFSQRRMMD	-----I	NAFNYNQNI	HPNHALPPFG
AGL23	-----AT	VSG-----	-----	-----	--GNISTNQG	FFDQNGMTTN
AGL28	-----AA	VSG-----	-----	-----	--GNISTNHG	FFDQNGNSTS
AGL61	-----	-----	-----	-----	---VT---	VPPYVNMPSG
AGL91	-----	-----	-----	-----	-----	-----
AGL29	-----	-----	-----	-----	-----	-----
AGL102	-----	-----	-----	-----	--NTKNKMMR	TEYSSGQSKG
AGL58	-----	-----	-----	-----	-----	-----
AGL59	-----	-----	-----	-----	-----	-----
AGL85	-----	-----	-----	-----	-----	-----
AGL88	-----	-----	-----	-----	-----	-----
AGL57	-----	-----	-----	-----	--VRVGRRVS	GGVRLFDREA
AGL84	-----AA	LPEMNLDY--	---DQDIGF	-----D	TPFESALNDW	FSDNTTHQEI
AGL73	N-----AA	LPEVNLYYNQ	DMAIDQLIDF	-----N	TPFESSIDDW	FSDNTTHQET
AGL83	-----	-PLIMLEK--	-----KKS	-----Q	IEEK-FEKEW	QVSVTRIENE
AGL56	-----	-----	-----	-----	--ETSGSASW	LENEDDILHF
AGL55	-----	-----	-----	-----	--ETSASASL	LKNVVDNLHI
AGL99	-----EDN	IHVSDMDDKD	TMLMISDKNN	-----VLP	ENLDE-FDQE	LDLDQLLDFE
AGL39	-----	-----	-----IQG	-----	FETEEEINQI	NLLLQETQTE
AGL60	-----	-----	-----	-----	-----DRG	YGGNNGDLEF
AGL100	-----	-----	-----	-----	-----DGV	NRCRVG----
AGL33	-----	-----	-----	-----	-----	-----

	485	495	505	515	525	535
AGL43	L-----	-----N	QLMQNELYGY	GRKVLDAASF	TSFESSWIIG	GLLIT-----
AGL75	L-----	-----N	QLMQNELYGY	G-----YAGF	C-----	-----
AGL76	Q-----	-----S	ELMQQELCGY	EQNMCFTNNN	FQVSNKEAVQ	ESVTN-----
AGL81	-----	-----Y	GLMPHVPCGY	DQN--LFTSD	ITNNNLLINN	SMFL-----
AGL98	-----	-----Y	GLMPHVPCGY	DQN--LFTSD	ITNNNLLIDN	SMFL-----
AGL77	-----	-----S	GLMQQELCGY	DQNQNMSMGD	ITNNNFQVTC	ASVLESVNNF
AGL78	-----	-----S	SDFNQNPYGN	A-----VG-N	LSFSQDMFSS	YDASS-----
AGL52	-----	-----P	-----	-----YG-N	TSFSQDMFSS	YDGSS-----
AGL51	-----	-----	-----	-----T	VSFGTSICSE	-----
AGL103	-----	-----	MQGAGTNGLQ	-----SM-N	MHDYSNNNSI	NSNGLSHQYV
AGL93	-----	-----	-----	-----QA	PSFADPMMPF	YN-----
AGL53	-----	-----	-----	-----QA	PSFADPMMPF	YN-----
AGL54	-----	-----	-----	-----	-----	-----
AGL89	-----	-----	-----	-----	-----	-----
AGL26	-----	-----	-----	-----	-----	-----
AGL101	-----	-----	-----	-----	-----	-----
AGL50	-----	-----	-----	-----DPL	MTTNTCQTMS	TDMISI-----
AGL49	-----	-----	-----	-----DPL	MTTNTCQTMS	SDMISI-----
AGL36	-----	-----	GNCYNYHQLP	SNQLPAVDHA	STSYMPSTTG	VYDPY-----
AGL90	-----	-----	RNYNYNQPLP	-----AVDLA	STSYMPSTTD	VYDPY-----
AGL34	-----	-----	GNYNYNQPLP	-----VVDHG	STSYMPSTTG	VYDPY-----
AGL37	-----	-----	-----NNNYHP	-----EIDCL	ATVTT-APT	VCAPN-----
AGL38	-----	-----	-----NNNYHP	-----EIDCL	ATVTT-APTD	VCAPN-----
AGL86	IYDNLSLDPN	-----	-----HQY	PFQDDPFMEM	LMEYPYEQVG	YAAEHAHIPF
AGL92	HYQALGVAGA	GLPMNQNYE	PVQPYVPTGF	SDHFQFENMN	LNQNOQEPVQ	YQAPVDFNHQ
AGL35	-----	-----	-----DQIQI	TLNMQTTND	LDLNK-----	-----
AGL80	-----	-----	DNHHNH1HHQ	-----PQEHQ	HQIHDESSNA	LDAANSS----
AGL46	FS-----	-----	-----	-----EG	QDICIPDMNQ	VCML-----
AGL45	-----	-----	-----	-----KE	ISHPLMDDNN	FYYQQP-----
AGL48	PFDYMRSELG	INEGININNS	QFYMSNNTIT	ANDGVRQEPY	PNVTTAGENN	GDATTS-----
AGL41	-----	-----	-----	-----GE	SSMAGGAEDD	AE-----
AGL96	-----	-----	-----	-----	-----	-----
AGL87	-----	-----	-----	-----	-----	-----
AGL82	N-----	-----	-----	-----WRLSG	NQVENWELSG	KKTI-----
AGL47	-----	-----	-----	-----QFQD	YPFRFAQVND	LEDSSKLSM-
AGL40	-----	-----	-----	YNNQDGLVPI	SNMNYMSSYN	FNQS-----
AGL62	NNA-----	-----	-----	YGINEGFVPE	YNVNFRPEYN	PNQIQIQNQN
AGL23	P-----	-----	-----	-----TQT	LLFGFDIMNR	TPGV-----
AGL28	-----	-----	-----	-----APT	LPPGFNVMMNR	TPAGYNSYQL
AGL61	-----	-----	-----	-----PS	NIYNFANGNG	CF-----
AGL91	-----	-----	-----	-----	-----	-----
AGL29	-----	-----	-----	-----	-----	-----
AGL102	MYEFRAFPG	FLGTI-----	-----	-----	-----	-----
AGL58	-----	-----	-----	-----	-----	-----
AGL59	-----	-----	-----	-----	-----	-----
AGL85	-----	-----	-----	-----	-----	-----
AGL88	-----	-----	-----	-----	-----	-----
AGL57	-----	-----	-----	-----	-----	-----
AGL84	-----	-----	-----	-----SAS	ILN--AVVDD	QVSVDLTPFS
AGL73	-----	-----	-----	-----TSA	SILNDVGVD	QVSDVTPNPF
AGL83	-----	-----	-----	-----ATS	SYAK-----R	RRSI-----
AGL56	-----	-----	-----	-----DDD	FYTG----ID	PLF-----
AGL55	-----	-----	-----	-----DDR	YY-----	-----
AGL99	TNYESLLKSC	EMEDYASM--	-----	-----VTT	KQNLCSNPEA	VEDG-----
AGL39	ANVNLDEIC	FWNDLSND--	-----	-----DVF	GLN-----S	-----
AGL60	-----	-----	-----	-----AFM	PQNG-----R	Q-----
AGL100	-----	-----	-----	-----QNG	-----D	-----
AGL33	-----	-----	-----	-----	-----	-----

	545	555	565	575	585	595
AGL43	--SQYLLVSV	WYILQSQVME	IYPEEITVVF	FYNLCGMLIS	PPVCRKRLDL	LAA-----
AGL75	-----	-----	-----	-----	-----	-----
AGL76	--FGLMQHEL	YGCDQNMSG	NIINNSFQQR	LKHRTRICE-	-----	-----
AGL81	-----	-----	-----	-----	-----	-----
AGL98	-----	-----	-----	-----	-----	-----
AGL77	GLNQLMHKEF	YGCHQNMSG	NINNSFQHP	WVSNADHTRR	YKNL-----	-----
AGL78	--LQTSLSL	PLHNIPSSYC	FPGNSRLL--	-----	-----	-----

AGL52	-----	--LLQTSSLP	PLHNIPNSYC	FSDNSRLLC-	-----	-----
AGL51	-----				-----	-----
AGL103	QF-----	-----	PTYNS	QHQDRVFNLD	QNGNTRSL-	-----
AGL93	-----					-----
AGL53	-----					-----
AGL54	-----					-----
AGL89	-----					-----
AGL26	-----					-----
AGL101	-----					-----
AGL50	-----					-----
AGL49	-----					-----
AGL36	-----			-INNLL-		-----
AGL90	-----			-INNLL-		-----
AGL34	-----			-FNLL-		-----
AGL37	-----			-IINDL-		-----
AGL38	-----			-ITNDL-		-----
AGL86	MNGNYNYHQ	PPTVGLTTTG	HMPSNNA---	-----	-----	-----
AGL92	IQQGNYDMNL	NQNMKHAHIP	FMDGNYNYH	QPPTVGLTST	GHMPSTTTT	TNNNNNNNV-
AGL35	-----		-KQW-			-----
AGL80	-----	--SIIPVTSS	SITNKTWFH-			-----
AGL46	-----					-----
AGL45	-----					-----
AGL48	-----			-NTNMVWPGF	NNHFF-	-----
AGL41	-----					-----
AGL96	-----					-----
AGL87	-----					-----
AGL82	-----					-----
AGL47	-----					-----
AGL40	-----					-----
AGL62	QVQIQIQNS	FKRENISEYE	HHHGYPQSR	SDYY-----		-----
AGL23	-----					-----
AGL28	QNQEVKQVHP	QYWARYY---				-----
AGL61	-----					-----
AGL91	-----					-----
AGL29	-----					-----
AGL102	-----					-----
AGL58	-----					-----
AGL59	-----					-----
AGL85	-----					-----
AGL88	-----					-----
AGL57	-----					-----
AGL84	YFQRCLDGDN	LRFSDFSSPN	SCDENMTKAT	KPLEPQKDEK	QLVPEEALIV	LAGPLTRSKS
AGL73	YFQSLEDADL	VFQRCLDGDN	-----			-----
AGL83	-----					-----
AGL56	-----					-----
AGL55	-----					-----
AGL99	-----	-GLMIQKDLP	EDNLCFSDYF	SDLHC-----		-----
AGL39	-----	-YFGLDNTNA	MINFGDSDFR	RHV-----		-----
AGL60	-----					-----
AGL100	-----					-----
AGL33	-----					-----

	605	615	625	635
AGL43	-----	-----	-----	-----*
AGL75	-----	-----	-----	-----*
AGL76	-----	-----	-----	-----*
AGL81	-----	-----	-----	-----*
AGL98	-----	-----	-----	-----*
AGL77	-----	-----	-----	-----*
AGL78	-----	-----	-----	-----*
AGL52	-----	-----	-----	-----*
AGL51	-----	-----	-----	-----*
AGL103	-----	-----	-----	-----*
AGL93	-----	-----	-----	-----*
AGL53	-----	-----	-----	-----*
AGL54	-----	-----	-----	-----*
AGL89	-----	-----	-----	-----*
AGL26	-----	-----	-----	-----*
AGL101	-----	-----	-----	-----*
AGL50	-----	-----	-----	-----*

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AGL49      -----*
AGL36      -----*
AGL90      -----*
AGL34      -----*
AGL37      -----*
AGL38      -----*
AGL86      -----*
AGL92      -----*
AGL35      -----*
AGL80      -----*
AGL46      -----*
AGL45      -----*
AGL48      -----*
AGL41      -----*
AGL96      -----*
AGL87      -----*
AGL82      -----*
AGL47      -----*
AGL40      -----*
AGL62      -----*
AGL23      -----*
AGL28      -----*
AGL61      -----*
AGL91      -----*
AGL29      -----*
AGL102     -----*
AGL58      -----*
AGL59      -----*
AGL85      -----*
AGL88      -----*
AGL57      -----*
AGL84      KKFNQAINGL LKELKKNQED VTQSSFIVIT AQEAR*
AGL73      LRFSDCFNDF ANTIAAV--- -----*
AGL83      -----*
AGL56      -----*
AGL55      -----*
AGL99      -----*
AGL39      -----*
AGL60      -----*
AGL100     -----*
AGL33      -----*

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Detection of positive selection analyses refer to positions in this alignment.