Nterminus

	<u>Nterminus</u>																	
#	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
							1										1	
Es.c	MAIDENKOKALAAA	GOTEKOEGKG	SIMPLGEDESMD-	-VETTSTGSLSL	TAT.GAGGT.DI	MGRIVETYG	DESSCRTTI.TI	OUTABAORE	CKTCAFIDA	EHAT.DDTVAE	KT.GVDTDNT.I	.CSOPDTGEOALE	TCDALARSGI	VPUVTVVNSV	AAT.TDKAETI	CETCDSHMG	MACSMMSAA.	RKT.AGNT.KOS
Sh.f	MAIDENKOKALAAA																	
En.a	MAIDENKQKALAAA																	
Se.m	MAIDENKOKALAAA																	
Pr.v	MAIDENKOKALAAA																	
Ye.p	MAIDENKOKALAAA																	
Pr.m	MAIDENKQKALAAA																	
Er.c	MAIDENKOKALAAA																	
Vi.a	KVMDENKQKALAAA	LGQIEKQFGKG	SIMRLGDNRTMD-	-VETISTGSLSLI	DIALGAGGLPI	MGRIVEVYG	PESSGKTTLTI	LELIAAAQRV	/GKTCAFIDA	EHALDPIYAK	KLGVNIDELI	VSQPDTGEQALE	ICDALARSGA	AIDVIVIDSV	AALTPKAEII	GEMGDSHMG	LQARMLSQAM	RKLTGNLKQS
Vi.c	MDENKQKALAAA	LGQIEKQFGKG	SIMRLGDNRAMD-	-VETISTGSLSLI	DIALGAGGLPI	MGRIVEIFG	PESSGKTTLTI	LELIAAAQRE	EGKTCAFIDA	EHALDPVYAK	KLGVNIDELI	VSQPDTGEQALE	ICDALARSGA	AVDVIVVDSV	AALTPKAEII	GEMGDSHMG	LQARMLSQAM	RKLTGNLKQS
He.i	MATQEEKQKALAAA	LGQIEKQFGKG:	SIMKLGDTKTLD-	-VESISTGSLGLI	OVALGIGGLPI	MGRIVEIFG	PESSGKTTLTI	LSVIAQAQKA	AGKTCAFIDA	EHALDPIYAA	KLGVDVKELF	VSQPDNGEQALE	ICDALVRSGA	AIDVIIVDSV	AALTPKAEII	GDMGDSHMG	LQARLMSQAL	RKLTGQIKNA
Ps.f	MDDNKKKALAAA	LGQIERQFGKG	AVMRMGDHDRQA-	-IPAISTGSLGLI	DIALGIGGLP	KGRIVEIYG	PESSGKTTLTI	LSVIAQAQKM	MGATCAFVDA	EHALDPEYAG	KLGVNVDDLI	VSQPDTGEQALE	ITDMLVRSNA	AIDVIVVDSV	AALVPKAEII	EGEMGDMHVG	LQARLMSQAL	RKITGNIKNA
Ps.p	MDDNKKRALAAA	LGQIERQFGKG	AVMRMGDHERQA-	-IPAISTGSLGLI	DIALGIGGLP	KGRIVEIYG	PESSGKTTLTI	LSVIAEAQKN	NGATCAFVDA	EHALDPEYAG	KLGVNVDDLI	VSQPDTGEQALE	ITDMLVRSNA	AVDVIIVDSV	AALVPKAEII	EGEMGDMHVG	LQARLMSQAL	RKITGNIKNA
Ps.a	MDENKKRALAAA	LGQIERQFGKG	AVMRMGDHERQA-	-IPAISTGSLGLI	DIALGIGGLP	KGRIVEIYG	PESSGKTTLTI	LSVIAEAQKÇ	QGATCAFVDA	EHALDPDYAG	KLGVNVDDLI	LVSQPDTGEQALE	ITDMLVRSN	AVDVIIVDSV	AALVPKAEII	EGEMGDAHVG	LQARLMSQAL	RKITGNIKNA
Az.v	MDENKKRALAAA	LGQIEKQFGKG	AVMRMGDHERQA-	-IPAISTGSLGLI	DIALGIGGLP	KGRIVEIYG	PESSGKTTLTI	LSTIAEAQKQ	QGATCAFVDA	EHALDPDYA	KLGVNVDDLI	JVSQPDTGEQALE	ITDMLVRSN	AVDVIIVDSV	AALVPKAEII	EGEMGDQHVG	LQARLMSQAL	RKITGNIQNA
Le.p	MEENKQKALSAA	VSQIERQFGKG:	SVMRMGDSTVSRD	-IEAISTGSLGLI	DIALGIGGLP	KGRIVEIYG	PESSGKTTLTI	LQVIAECQKM	MGGTAAFIDA	EHALDPSYAC	KLGVKVDELI	LVSQPDTGEQALE	ITDMLVRSA	AVDVVIIDSV	AALTPKAEII	EGEMGDSHVG	LQARLMSQAL	RKLTANIKRS
Acn.c	MDDNKSKALQAA																	
Bd.p	MDDKTSKAAAAEKAKALAAA																	
Bu.p	MTAEKSKALAAA																	
Mm.c	MDDNKSKALAAA																	
Mb.f	MDENRSKALAAA																	
Tb.f	MDEQRSKGLSAA																	
Acd.f	MDEPGGKIEFSPA																	
Ne.g Rz.p	MSONSLRLVEDKSV-DKSKALEAA																	
		~						~			~	~ ~					~ ~	
Rz.v Rz.m	MAONSLRLVEDKSVMDKSKALEAA																	
	MAQNSLRLVEDKSVMDKSKALEAAI																	
Ag.t Br.a	MSQNSLRLVEDNSV-DKTKALDAA	-									-	-					-	
Ma.m	MSQNSLKLVEDNSV-DKIKALDAA																	
Act.p	MAQAPGIDKSKALEGA																	
Rh.s	MDKAKALESAI																	
Rh.c	MATTGLFEMNDKGKADKQKALECA																	
Ri.p	MSNIDKERAIAAA																	
Mx.xl	MSKLAEKLKAVAAA																	
Mx.x2	MAVNQEKEKAIELAI																	
He.p	MAIDEDKO-KAISLA	IKOIDKVFGKG	ALVRLGDKQVEK-	-IDAISTGSLGLI	DLALGIGGVP	KGRIIEIYG	PESSGKTTLSI	LHIIAECOKN	NGGVCAFIDA	EHALDVHYAK	RLGVDTONLI	VSOPDTGEOALE	ILETITRSG	GIDLVVVDSV	AALTPKAEII	GDMGDQHVG	LOARLMSHAL	RKITGVLHKM
Ca.j	MDDNKR-KSLDAA	LKSLDKTFGKG	TILRLGDKEVEQ-	-IDSIGTGSVGLI	DLALGIGGVPI	KGRIIEIYG	PESSGKTTLTI	LHIIAECQKA	AGGVCAFIDA	EHALDVKYAK	NLGVNTDDLY	VSQPDFGEQALE	IVETIARSG	AVDLIVVDSV	AALTPKAEII	GDMGDQHVG	LQARLMSQAL	RKLTGIVHKM
An.v	MAINTDTSGKQKALTMV	LNQIERSFGKG	AIMRLGDATRMR-	-VETISTGALTLI	DLALG-GGLPI	RGRVIEIYG	PESSGKTTVAI	LHAIAEVQKE	EGGIAAFVDA	EQALDPTYAS	ALGVDIQNLI	VSQPDTGESALE	IVDQLVPSA	AVDIVVIDSV	AALVPRAEII	EGDMGDAHVG	LQARLMSQAL	RKITGNIGKS
Sy.70	MSAISNNPDKEKALNLV	LNQIERNFGKG	AIMRLGDAAQMK-	-VATIPSGALTLI	QAMG-GGFPI	RGRIVEIYG	PESSGKTTVAI	LHAIAEVQKA	AGGVAAFIDA	EHALDPTYSA	ALGVDIENLI	VAQPDNGESALE	IADQLVRSA	AVDLIVIDSV	AALVPRAEII	EGEMGDVQVG	LQARLMSKAL	RKIAGNMGRS
Ar.t	SSEFDDRINGALSPDADSRFLDRQKALEAAI	MNDINSSFGKG	SVTRLGSAGGAL-	-VETFSSGILTLI	DLALG-GGLPI	KGRVVEIYG	PESSGKTTLAI	LHAIAEVQKI	LGGNAMLVDA	EHAFDPAYSK	ALGVDVENLI	VCQPDNGEMALE	TADRMCRSGA	AVDLICVDSV	SALTPRAEI	EGEIGMQQMG	LQARLMSQAL	RKMSGNASKA
Myp.m	MSTELQNTIENNDIRESQMWNSKELKEA	IKEIEKMFGKG:	SIMVLGQSDNLN-	-IETFSSGSLLLI	ONALGIGGYPI	KGRIIEIYG	PESSGKTTLSI	LHAICEVQKI	LGGIAAFIDA	EHSLEPKYCC	TLGIDTNKLI	LVSQPDNGEQALI	ILEMLINSNS	SIDLIVVDSV	AALVPKTELI	GEMSDQSIG	LQARMMSKAL	RKLNWLIAKS
Myp.p	MSENNQSNQNNQINKIIKST																	
Ba.s	MSDRQAALDMA																	
Sta.a	MDNDRQKALDTV																	
Stc.p	MAKKPKKLEEISKKFGAEREKALNDA		-	-								-					-	
La.la	MATKKKTNFDDITKKYGAERDKALADA																~ ~	
Ac.1	MSDNKKQQALELA																	
Stm.l	MAGTDREKALDAAI																	
Stm.a Stm.v	MAGTDREKALDAA																	
	MHPKKTATKATAAKGNDRQKALDAA																	
Co.g Mvb.t	MHPKKIAIKAIAAKGNDRQKALDAAI																	
Myb.t Myb.l	MAQVPDREKALELAI																	
Ch.t	MSVPDRKRALEAA																	
Bot. f	MASSEKLKALQAAI																	
Tq.m	MPEEKOKKSVLEKAL																	
De.r	MSKDATKEISAPTDAKERSKAIETAI																	
Th.a	MEENKR-KSLENA																	
Th.t	MDESKR-KALENA																	
Aq.p	MARVSENLSEKMKALEVA																	
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M1-	0000000000000000000000000111111		· ·															1111111111
Mask	000000000000000000000000000000000000000			0111111111111														

																		Ctermi nus
#	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	
Es.c								-IAAPFKQAEFQILYG										
Sh.f																		
En.a Se.m								-IAAPFKQAEFQILIG -IAAPFKQAEFQIMYG										
Pr.v								-IAAPFKQAEFQIMYG										
Ye.p																		
Pr.m	NTLLIFINQI	RMKIGVM-FG	NPETTTGGNA	LKFYASVRLI	DIRRIGSV-KN	GDEVIGSETRV	KVVKNK	-VAAPFKQAEFQIMYG	EGINTYGELI	DLGVKHKLVE	EKAGAWYSYNGEK	IGQGKANATN	YLKEHPEN	MYNELNTKLRE	MLLNHAGEF-T-	SAADFAGEES	DSDADDTKE	
Er.c	NTLLIFINGI	RMKIGVM-FG	NPETTTGGNA	LKFYASVRLI	DIRRTGAI-KD	GEEVVGSETRV	KVVKNK	-VAAPFKQAEFQILYG	EGINIHGELV	DLGVKHKLIE	KAGAWYSYNGDK	IGQGKANACN	FLKENSLV	VKATKNFNGC-		TIMBERTION	DOD DDI	
Vi.a Vi.c																		
He.i	NCLVVFINQI	RMKIGVM-FG	NPETTTGGNA	LKFYSSVRLI	DIRRTGSV-KD	GENIIGNETRV	KVVKNK	-LAAPFROVDFOILYG	EGISKAGELL	LELGVKHKLVE	KSGAWYSYNGEK	IGOGKANSMK	WLNENIE	KSDELEARLRA	ELVANPE	OALMADIEOS	ENNTESESDFE	
Ps.f	NCLVIFINQI	RMKIGVM-FG	SPETTTGGNA	LKFYASVRLI	DIRRTGAV-KE	GDEVVGSETRV	KVVKNK	-VAPPFRQAEFQILYG	KGIYLNGEMI	DLGVLHGFVE	KSGAWYAYNGSK	IGQGKANSAK	FLADNPD:	IVATLEKQIRD	KLLTPAPD-	VKAAANREPV	EEVEEADTDI-	
Ps.p																		
Ps.a																		
Az.v Le.p	NCLVIFINGI	RMKIGVM-FG	NPETTTGANA	LKFYASVRLI	DIRRTGAV-KE	SDEVIGSETRV	KVVKNK	-VAPPFRQAEFQILYG	KGIYRNGEII ECTERECETI	DLGVQLGLLE	KSGAWYSYQGSK	IGQGKANAAK	FLEDNPE\	VAAAVEKSIRD	QLLAAP	ASARPAALA	DEPADADLDY-	
Acn.c	NCMVIFINGI	RMKTGVM-FG	SPETTTGGNA	LKFYASVRLI	OTRRIGOV-KE	GDEIIGSEIKV	KVVKNK	-MAPPEREATECTLYG	KGVNOLGELV	TOTAVOONTVO	KAGAWYSYOGNK	IGQGKENVKL	ALEENDO.	TSTETEAVIRE	OLITKAS	DOTABHDETE	EEPDIJES	
Bd.p	NCMVIFINOI	RMKIGVM-FG	NPETTTGGNA	LKFYSSVRLI	DIRRIGAI-KK	GDEVVGNETRV	KVVKNK	-VAPPFKQAEFDIMYG	SGISREGEII	DLGVQANVVI	KSGAWYSYSGNR	IGOGKDNVRE	YLKEHKEN	MAIEIENKVRE	NOGIVSRAATF-	PASE	-AEDGE	
Bu.p	NCLVIFINQI	RMKIGVM-FG-	NPETTTGGNA	LKFYSSVRLI	DIRRIGSI-KK	NDEVIGNETRV	KVVKNK	-VSPPFREAIFDILYG	EGISRQGEII	DLGVQAKIVI	KAGAWYSYNGEK-	IGQGKDNARE	FLRENPE:	IAREIENRIRE	SLGVVAMPDGA-	GNEA	-EAMDEEE	
Mm.c	NTLVIFINQI	RMKIGVM-FG	NPETTTGGNA	LKFYSSVRLI	DIRRTGAI-KK	GDEVIGSETKV	KVIKNK	-VAPPFKQAEFDIMYG	EGISRLGEII	ELGTNLKLVE	EKSGAWYSYNGEK	IGQGKENAKE	FLRENPA:	IAAEIEAKIRD	NSNVLADSMTA-	ARSE	-DD	
Mb.f	NTLVIFINQI	RMKIGVM-FG	NPETTTGGNA	LKFYASVRLI	DIRRTGAI-KK	GDEVTGSETRV	KVVKNK	-VAPPFKLAEFDILYG	EGISREGEII	ELGVNLKLIE	KAGAWYSYKGEK	IGQGKDNARE	FLREHPE:	IANEIDAKIRE	HSNLANAAMTT-	APDE	-ESDE	
Tb.f Acd.f	NTLVIFINQI	RMKIGVM-YG	SPETTTGGNA	LKFYASVRLI	DIRRIGAI-KK	SDEVVGNDTRV	KVVKNK	-VAPPFREAEFALYYG	EGISRLSELV	DICUKT PARE	KSGAWYSYQGHR	IGQGKDNARQ	YLKVHPEI	LAANIEQRIR	AAAAGHPLAFA-	EEVESPQRSA	S	
Ne.g																		
Rz.p	NTMVIFINOI	RMKIGVM-FG	SPETTTGGNA	LKFYASVRLI	OIRRIGSV-KE	REEVIGNOTRV	KVVKNK	-MAPPFKQVEFDIMYG	EGVSKTGELV	DLGVKAGIVE	KSGAWFSYNSOR-	LGOGGENAKT	FLRDNPDI	LAREIELALRE	NAGLIADRFLO-	NGGPDADDGD	 GADM	
Rz.v	NTMVIFINOI	RMKIGVM-FG	SPETTTGGNA	LKFYASVRLI	DIRRIGAV-KE	REEVIGNOTRV	KVVKNK	-MAPPFKQVEFDIMYG	EGVSKTGELV	DLGVKAGIVE	KSGAWFSYNSOR-	LGOGRENAKT	FLRDNPDI	LAREIELSLRO	NAGLIADRFLO-	NGGPDPDDGD	GDATAEM	
Rz.m	NCMVIFINQI	RMKIGVM-FG	SPETTTGGNA	LKFYASVRLI	DIRRIGSV-KE	REEVVGNQTRV	KVVKNK	-MAPPFKQVEFDIMYG	EGVSKTGELI	DLGVKAGIVE	EKSGAWFSYNSQR	LGQGRENAKL	FLRENPE	LLREIETALRQ	NAGLIADRFLE-	NGGPES-DGD	EAADM	
Ag.t	KCMVIFINQI	RMKIGVM-FG	SPETTTGGNA	LKFYASVRLI	DIRRIGAV-KE	REEVVGNQTRV	KVVKNK	-MAPPFKQVEFDIMYG	EGVSKTGELV	DLGVKAGIVE	KSGAWFSYNSQR	LGQGRENAKT	FLRDNPD'	TANEIELALRQ	NAGLIADRFLQ-	NGGPDAGEGD	DGSDEG	
Br.a Ma.m	NCMVIFINGI	RMKIGVM-FG	SPETTTGGNAL	LKFYASVRLI	DIRRIGSI-KE	RDEVVGNQTRV	KVVKNK	-LAPPFKQVEFDIMYG	AGVSKVGELV	DI CUN ANTUN	KSGAWFSYNSQR	LGQGRENAKQ	YLKDNPE\	VAREIETTLRQ	NAGLIAEQFLD-	DGGPEED.	AAGAAEM	
Act.p	NTMLTFINGI	RIKIGVM-FG	SPESTTGGNA	LKFYASVRMI	OTRRIGST-KD	KDEVTGNOTRV	KVVKNK	-MAPPEROVEEDIMIG	EGISKWGELI EGISKVGELI	DLGVKANVVK	KSGAWFSCDSOR	IGOGRENAKO	FLRDHPE	MAADTERRVRE	NAGUUSEALAA- NAGUVAEAMI.V-	GPDEDGAEH-		
Rh.s	NCMVIFINQI	RMKIGVM-FG-	NPETTTGGNA	LKFYASVRLI	DIRRTGAI-KD	RDNVIGNTTKV	KVVKNK	-VAPPFREVEFDIMYG	EGISKTGELV	DLGVKAGVVE	KSGSWYSYGDER-	IGQGRENAKA	FLRANPTV	VAGDIEDRIRA	SHGLDFSTGED-	GKGDDLVDM-		
Rh.c	NCMVIFINQI	RMKIGVM-FG-	SPETTSGGNA	LKFYASVRLI	DIRRTGAI-KD	RDEVIGNQTRV	KVVKNK	-VAPPFREVEFDILYG	EGISKVGELV	DLGVKAGVVA	KSGAWYSYGDER-	IGQGRENAKQ	FLRDNPD:	IAYEIEDKIRA	SHGLEFGVD-	PTAEDLTEED		
Ri.p	NCITVFINQI	RMKIGVM-FG	SPETTTGGNA	LKFYASVRII	DIRRIGSI-KD	KEEVIGSQTKV	KVVKNK	-VSPPFKTADFDIMYG	SGISKEGEII	DLGVKLEIIE	KSGSWFSYNKIR	IGQGRENVKQ	YLKEHPQ:	ISNEIEKIIRE	KSSAITNINLD-	QTEE		
Mx.xl	GTCIIFINQI	RMKIGVM-FG	NPETTTGGNA	LKFYASVRMI	EIRRTGNI-KD	GDAVVGSKARV	KVVKNK	-VAPPFQEAEFDLMYG	SGIHRVGEVL	DLGVATGLIE	KSGSYFSLRGER	IGQGRERAAE	WLREHPDV	VLEALGKEITG	TSALPS-	SPAPVEV	AA	
Mx.x2 He.p	NTTI.TEINOI	RMKIGVM-FG	NPETTTGGNA SDETTTGGNA	LKEVASVRTI	JIRRIGAI-KN JIRRIGAI-KN	GDNVVGSRIKV NEOHTGNRAKA	KWWKNK	-VAPPFREVEFDIMIG	EGISKEGDLI	DVGVKIDIVE	KSGSWFSFNGER	IGQGRENVKE I.GOGRENAKA	I.I.KEDKAI	I.ADETTI.KTKE	KIGIGKSGAPSF STGSNEETM	KKKISPKKPKV. DI.DDEDI.EEM	AAKSAAV E	
Ca.j	NTTVIFINOI	RMKIGAMGYG	TPETTTGGNA	LKFYASVRLI	OVRKVATL-KO	NEEPIGNRVKV	KVVKNK	-VAPPFROAEFDVMFG	EGLSREGELI	DYGVKLDIVE	KSGAWESTODKK KSGAWFSYKDKK	LGOGRENSKA	FLKENPE:	IADEITKAION	SMGIEGMIS	GSEDDEGEE-	- 	
An.v	GCTVIFINQI	RQKIGVT-YG-	SPETTTGGNA	LKFYASVRLI	DIRRIQTL-KK	GTDEFGNRVKV	KVAKNK	-VAPPFRIAEFDIIFG	KGVSTLGCLV	DLAEETGILI	RKGAWYSYNGDN-	ISQGRDNAIK	YLEEKPEI	FAEQIKQQVRE	KLDKGAVVSAN-	SVAKANEEDE	EDVDLDEEE	
Sy.70	GCTVIFLNQI	RQKIGIS-YG	NPEVTTGGTA	LKFYASVRLI	DIRRIQTL-KK	GSEGEFGIRAKV	KVAKNK	-VAPPFRIAEFDIIFG	KGISRVGCML	DLAEQTGVIT	RKGAWYSYEGDN	IAQGRDNAVK	YLEENPDV	VAAIVTQKVRE	NLDMSSMGFGD-	EHHTTEEE		
Ar.t	GCTLIFLNQI	RYKIGVY-YG	NPEVTSGGIA	LKFFASVRLI	EIRSAGKI-KS	SKGDEDIGLRARV	RVQKSK	-VSRPYKQAEFEIMFG	EGVSKLGCVL	DCAEIMEVVV	KKGSWYSYEDQR	LGQGREKALQ	HLRENPAI	LQDEIEKKVRL	LMLDGEVHRST-	PLMSSSSSSA	SHREEEEEDSI	DDFQ
Myp.m Myp.p	NTTVIFINGL	REKIGVI-FG	NPETTTGGKA	LKFFSSIRLI	EVRKAENI-LN	NYEIIGNKIKI	KVVKNK	TAIPFKTTTISLLYN	KGIDKLGELV	DLLVSYEIIE	KSGVWYSYQNEK	IGQGRTSVIQ	OL ECHNEL	RINELTEQVKK	LIKQD			
Ba.s	KTTATFINOT	REKVGVM-FG	NPETTPGGRA	LKFYSSVRLI	EVRRAEOL-KO	GNDISGNQIK GNDVMGNKTKI	KVVKNK	-VAPPFRTAEVDIMYG	EGISKEGETI	DIGTELDIVE	KSGSWYSYEEER	IAQGRQRLIA I.GOGRENAKO	EPKENKD.	TMIMIOEOIRE	HYGLDNNGV	VOOOAEETO	EELEFEE	
Sta.a																		
Stc.p																		EEVPLDLGDELEIEIEE
La.la																		
Ac.1																		APTTAKATKSKAAAAKS
Stm.1																		APATAKVTKAKAAAAKS
Stm.v																		APASKTAKATKATAVKS
Co.g	GTTAIFINQL	REKIGVM-FG	SPETTTGGKA	LKFYASVRCI	DIRRIQTL-KD	GQDAIGNRTRI	KVVKNK	-VSPPFKIAEFDIMYG	EGISRESSVI	DLAVDNGIVK	KSGSWFTYEGEQ	LGQGKEKVRL	SLKENPEI	LTDELEDKIFK	KLGVGKYAAAS-	DELTDDPVELVP	NVDFDDEADTE	ADAED
Myb.t	GTTAIFINQI	RDKIGVM-FG	SPETTTGGKA	LKFYASVRMI	OVRRVETL-KD	GTNAVGNRTRV	KVVKNK•	<ul> <li>CSPPFKQAEFDILYG</li> </ul>	KGISREGSLI	DMGVDQGLIF	RKSGAWFTYEGEQ	LGQGKENARN	FLVENADV	VADEIEKKIKE	KLGIGAVVTD	DPSND-GVLPAP	VDF	
Myb.1	GTTAIFINQI	REKIGVM-FG	SPETTTGGKAI	LKFYASVRMI	OVRRIETL-KD	GVDAVGNRTRV	KIVKNK	-VSPPFKQAEFDILYG	KGISREGSLI	DMGVEQGFVF	RKSGSWFTYEGEQ	LGQGKENARN	FLLENADY	VANEIEKKIKE	KLGIG	AVVTDDDILPTP	-VDF	
Ch.t Bct.f	NTCAIFINGI	KEKIGVS-FG	NPETTTGGRA	LKFYSSIRII	JIKRIGSI-KG	GENFDIGNRIKV	KVAKNK	-LAPPFRTAEFDILFN	EGISSAGCII	DLAVEKNIII	KKGSWFNYQDRK	LGQGREAVRE	ELKRNKE	LFHELERRIYE	SVQASQAPA	AACVDSESR	EVAEAAK	
Tg.m	KAVVIFTNOI	RMKTGVM-FG	-SPETTTGGNA	L'KEAVLWEWI	SAKK-GEDIKE	GKDVIGNVISV	KINKNK	-VAPPEKTAOTYTTVG	KGIDREYEI.F	NTAVNEGIVE	RKGSWYYYTT.K	• • LGOGSSNAVO	EL'KDNDE.	TAGETERRIPE	KYGLLSVEKEE-	ORKEKKSSG	EEAS	
De.r	GTAAIFINQV	REKIGVM-YG-	NPETTTGGRAI	LKFYASVRLI	OVRKIGQPTKV	GNEAVANAVKI	KTVKNK-	-VAAPFKEVELALVYG	KGFDQLSDLV	GLAADMDIIK	KAGSFYSYGDER-	IGQGKEKTIA	YIAERPEN	MEQEIRDRVMA	AIRAGNAGEAPA	A-LAPAPAAPEAA	EA	
Th.a	NTAAIFINQV	REKVGVM-YG-	NPETTPGGRAI	LKFYSSVRLI	OVRKSGQPIKV	GNEAVGIKVKV	KVVKNK	-LAPPFREAELEIYFG	RGLDPVMDLV	NVAVAAGVIE	KAGSWFSYGEHR-	LGQGKEKAAE	YLRERPEI	LLEEIRAKVLE	RADKVV	-LAAGEEEGE		
Th.t	NTAAIFINQV	REKVGVT-YG-	NPETTPGGRAI	LKFYASVRLI	OVRKSGQPIKV	GNEAVGVKVRV	KVVKNK	-LAPPFREAELEIYFG	RGLDPVADLV	NVAVAAGVIE	KAGSWFSYGELR-	LGQGKEKAAE	ALRERPEI	LLEEIRAKVLE	RSDQVV	-LAAGEDEGE		
Aq.p						GGEKKGYRVKV				DTAANLGVII	KSGSWYSYGEKR		YLLEHPEN	MLEEIERKVRE	VSGLVF	R-PDTENSVGEKS	E	
Ml-	.* *.	** *	** * * *	*** * .	*	000000111111111	. *	*	*		*	. **	1111111		000000000000		0000000000	00000000000000

Figure 1. Alignment of complete RecA sequences.

The alignment was generated using the *clustalw* multiple sequence alignment program. Dashes (-) represent alignment gaps. Three insertions that are present in only one sequence each (Myb.t, Myb.l, and Tg.m) and the first 80 as of the A. thaliana protein are left out for space reasons and are indicated by  $\bullet$ . Conservation of alignment positions as determined by the *clustalw* program is indicated by  $\bullet$  (identical as in all). The alignment positions used in phylogenetic analysis are indicated by the sequence mask (1=used, 0=not used). Sequence abbreviations are described in Table 1.