Supporting Information Fig. S1 and Tables S1–S4

Species	Lineage					
Acanthamoeba castellanii	Amoebozoa					
Antonospora locustae	Microsporidians					
Aureococcus anophagefferens	Pelagophytes					
Batrachochytrium dendrobatidis	Chytrids					
Bigelowiella natans	Cercozoans					
Blastocystis hominis	Stramenopiles					
Brachionus plicatilis	Rotifers					
Capitella sp.	Segmented worms					
Capsaspora owczarzaki	Opisthokonta					
Chlorella sp.	Green algae					
Chlorella vulgaris	Green algae					
Cyanidioschyzon merolae	Red algae					
Cyanophora paradoxa	Glaucocystophyceae					
Daphnia pulex	Crustaceans					
Dictyostelium purpureum	Cellular slime molds					
Emiliania huxleyi	Haptophytes					
Euglena gracilis	Euglenoids					
Glaucocystis nostochinearum	Glaucocystophyceae					
Guillardia theta	Cryptomonads					
Hartmannella vermiformis	Amoebozoa					
Heterocapsa triquetra	Dinoflagellates					
<i>Hyperamoeba</i> sp.	Amoebozoa					
Isochrysis galbana	Haptophytes					
Karenia brevis	Dinoflagellates					
Karlodinium micrum	Dinoflagellates					

Table S1 List of the 50 eukaryotic complete genome sequences or ESTs used in thisstudy, in addition to the NCBI *nr* database

Lottia gigantea	Gastropods
Malawimonas jakobiformis	Malawimonadidae
Mastigamoeba balamuthi	Amoebozoa
Monosiga ovata	Choanoflagellates
Naegleria gruberi	Heterolobosea
Paracercomonas marina	Cercozoans
Pavlova lutheri	Haptophytes
Physarum polycephalum	Plasmodial slime molds
Phytophthora ramorum	Oomycetes
Phytophthora sojae	Oomycetes
Polysphondylium pallidum	Cellular slime molds
Polytomella parva	Green algae
Porphyra yezoensis	Red algae
Prototheca wickerhamii	Green algae
Reclinomonas americana	Jakobida
Rhizopus oryzae	Fungi
Sawyeria marylandensis	Heterolobosea
Scenedesmus obliquus	Green algae
Seculamonas ecuadoriensis	Jakobida
Sphaeroforma arctica	Opisthokonta
Spironucleus vortens	Diplomonads
Streblomastix strix	Oxymonadida
Thalassiosira pseudonana	Diatoms
Trimastix pyriformis	Unclassified eukaryotes

Lineage	Species	Name	Locus	Length	Intron	Chromosome	Location	
	Linum usitatissimum	LuTAL1	Lus10043136	436	6	scaffold25	1384528-1386813	
	Linum usitatissimum	LuTAL2	Lus10032613	436	6	scaffold140	1012925-1015257	
	Populus trichocarpa	PtTAL1	POPTR_0003s16030	436	6	scaffold_3	15654057-15657021	
	Populus trichocarpa	PtTAL2	POPTR_0001s12930	440	6	scaffold_1	10023678-10027179	
	Medicago truncatula	MtTAL	Medtr7g006100	443	6	7	845072-850479	
Dicots	Arabidopsis thaliana	AtTAL	AT5G13420	438	6	5	4301792-4304312	
	Capsella rubella	CrTAL	Carubv10000972m	441	6	scaffold_6	4298572-4301148	
	Thellungiella halophila	ThTAL	Thhalv10013572m	439	6	scaffold_2	4380727-4383435	
	Citrus sinensis	CsTAL	orange1.1g036665m	440	6	scaffold00081	111594-114983	
	Vitis vinifera	VvTAL	GSVIVG01001098001	441	6	1	22628856-22634048	
	Mimulus guttatus	MgTAL	mgv1a006041m	460	6	scaffold_39	1460196-1462967	
	Sorghum bicolor	SbTAL	Sb03g044500	429	5	chromosome_3	71853994–71856810	
	Zea mays	ZmTAL	GRMZM2G134256	429	5	8	160390396-160393378	
Monocots	Setaria italica	SiTAL	Si001538m	429	5	scaffold_5	45396389–45399497	
	Oryza sativa	OsTAL	LOC_Os01g70170	432	5	1	40610513-40613463	
	Brachypodium distachyon	B dTAL	Bradi2g59370	429	5	2	57090545-57093078	
Gymnosperm	Picea sitchensis	PsTAL	ABR16241	444				
Fern	Selaginella moellendorffii	SmTAL	74909	423	5	scaffold_0	1351640-1353058	
Moss	Moss <i>Physcomitrella patens PpTAL</i> Pp1s159_68V6		Pp1s159_68V6	438	7	scaffold_159	376836-382010	

 Table S2 List of TAL genes in 17 representative land plant genomes

Branch	Model	Log _e L	Parameters	PSS under NEB ^c	PSS under BEB ^d		
Land plants ^a	M0	-10086.8220	$\omega = 0.0608$	-	-		
	M3	-9778.1731**	$p_0 = 0.5461, p_1 = 0.3549, p_2 = 0.0990$	ΝΑΝ	NAN		
	M3		$\omega_0 = 0.0025, \omega_1 = 0.0949, \omega_2 = 0.3612$	INAIN	INAIN		
	M1a	-9973.4908	$p_0 = 0.9166, p_1 = 0.0834$				
			$\omega_0 = 0.0438, \omega_1 = 1.0000$	-	-		
	M2a	-9973.4908	$p_0 = 0.9166, p_1 = 0.0834, p_2 = 0.0000$				
			$\omega_0 = 0.0438, \omega_1 = 1.0000, \omega_2 = 9.7249$	NAN	NAN		
	M7	-9783.8626	$\beta(0.2728, 3.3243)$	-	-		
			$\beta(0.2728, 3.3247)$				
	M8	-9596.8567	$p_1 = 0.9999, \omega = 1.0000$	NAN	NAN		
Actinobacteria ^b	M0	-7869.1297	$\omega = 0.0022$	-	-		

 Table S3 The site-specific model parameters

M3 -7576.9542 **	-7576.9542 **	$p_0 = 0.2900, p_1 = 0.4343, p_2 = 0.2758$	NAN	NAN	
		$\omega_0 = 0.0001, \omega_1 = 0.0023, \omega_2 = 0.0087$			
M1a -773	7722 2402	$p_0 = 0.8041, p_1 = 0.1959$			
	-7752.2492	$\omega_0 = 0.0343, \omega_1 = 1.0000$	-	-	
M2a -7732.2	7722 2402	$p_0 = 0.8041, p_1 = 0.0086, p_2 = 0.1873$	NT A NT	NTANT	
	-7732.2492	$\omega_0 = 0.0343, \omega_1 = 1.0000, \omega_2 = 1.0000$	NAN	INAIN	
	M7	-7581.9788	$\beta(0.5597, 99.0000)$	-	-
M8 -7581.979		$\beta(0.5597, 99.0000)$		NT 4 NT	
	-/381.9/92	$p_1 = 0.0001, \omega = 3.2668$	NAN	INAN	

^aAll the *TAL* genes list in Table S2 were used in this analysis. ^bEight Actinobacteria *TAL* genes followed to the same branch of land plants on the phylogeny were used in this analysis. ^cPositively selected sites (PSS) under naive empirical Bayes (NEB) analysis; ^dpositively selected sites (PSS) under Bayes empirical Bayes (BEB) analysis. NAN, not a number.

Organ	Wild-type	TAL-Ri						
Leaf								
Flag leaf length (cm)	26.1 ± 4.9 (7)	$21.0 \pm 3.4 (9)^{*}$						
Flag leaf width (cm)	1.6 ± 0.1 (7)	$1.3 \pm 0.3 (9)^{**}$						
Number of large veins of flag leaf	13.6 ± 1.5 (7)	$11.9 \pm 3.6 (9)^*$						
Number of small veins of flag leaf	49.4 ± 3.6 (7)	34.9 ± 5.9 (9) ^{**}						
Stem								
Number of large vascular bundles of internode I	14.0 ± 0.8 (7)	10.0 ± 3.8 (9) ^{**}						
Number of small vascular bundles of internode I	30.0 ± 8.6 (7)	$22.0 \pm 4.3 (9)^{*}$						
Number of large vascular bundles of internode II	30.7 ± 1.4 (7)	$26.0 \pm 4.2 (9)^{**}$						
Number of small vascular bundles of internode II	30.9 ± 0.9 (7)	$25.8 \pm 4.3 (9)^{**}$						
The flag leaf, internode I and internode II morphometric analyses were carried out at								
heading stage Results represent means + SD of populations of the size indicated in								

Table S4 Morphometric analysis of wild-type and TAL-RNAi plants

The flag leaf, internode I and internode II morphometric analyses were carried out at heading stage. Results represent means \pm SD of populations of the size indicated in parentheses. Asterisks indicate the significance of differences between wild-type and *TAL*-RNAi as determined by Student's *t* test: **, *P* = 0.01 level; *, *P* = 0.05 level.

		· · · · · · · · · · · · · · · · · · ·	20	* 40	•	60	*	80	*	100	*	120		
LUTAL1	1	IKRLHDLYEEGQSPWY	DNLCRPVTDLI	PLIDSGVRGVTSNPAI	FORAISSSNAY	NDQFKELVGTD	IERAYWELVIP	DIQDACKLFE	PIYDQTDGA	DGYVSVEVSPR	LADDTEG	TVEAAKW	: 1	120
LUTAL2	:	IKRLHDLYEEGGSPWY	DNLCRPVTDLI	PLIDTGVRGVTSNPAI	FCKAISSSNAY	NDQFKELVGTD	IEKAYWELVIN	DIGDACKLEE	TIYDQTDGA	DGYVSVEVSPR	LADDTQG	TVEAAKW	: 1	120
PtTAL1	:	IKRLHDLYEEGGSPWY	DNLCRPVTDLI	LIESGVRGVTSNPAI	FORAISSSNAY	NDQFRELVGKD	IETAYWELVVE	DIGDACKLFE	SIYDQTDGG	DGYVSVEVSPR	LADDTQG	TVEAAKW	: 1	120
PTTAL2		IKRLHDLYEEGCSPWY	DNLCRPVTDLI	PLIESGVRGVTSNPAI	FORAISSSNAY	NDQFRELVGKD	IETAYWELVVF	DIQDACKLFE	PIYDQTDGG	DGYVSVEVSPR	LADDTCG	TVEAAKW	: 1	120
MTTAL	:	AKRLHDLYEQGQSPWY	DNLCRPVTDLI	PLIESGVRGVTSNPAI	FQKAISSSSAY	NDQFRELVGKD	IDSAYWELVVH	DIGDACKLFE	SIYDQTDGG	DGYVSVEVSPR	LAEDTEG	TIEAAKW	: 1	120
ATTAL	:	GKRLHDLYEEGQSPWY	DNLCRPVTDLL	PLIARGVRGVTSNPAI	FCKAISTSNAY	NDQFRTLVGKD	IESAYWELVVP	KDIQDACKLFE	PIYDQTEGA	DGYVSVEVSPR	LADDTQG	TVEAAKY	: 1	120
CrTAL	:	GKRLHDLYEEGQSPWY	DNLCRPVTDLL	PLIARGVRGVTSNPAI	FORAISTSNAY	NDQFRTLVGKD	IESAYWELVVE	KDIQDACKLFE	SIYDQTDGA	DGYVSVEVSPR	LADDTQG	TVEAAKY	: 1	20
THTAL	:	AKRLHDLYEEGGSPWY	DNLCRPVTDLL	PFIARGVRGVTSNPAI	FORAISTSNSY	NDQFRTLVGKD	IESAYWELVVF	KDIGDACKLFE	PIYDQTEGA	DGYVSVEVSPR	LADDTNG	TVEAAKF	: 1	20
CSTAL	-	AKRLHDLYEEGQSPWY	DNLCRPVTDLL	PLIASGVRGVTSNPAI	FCKAISSSNAL	NDQFRELVGKD	IEAAYWELVIP	KDIQDACKLFE	SIYDETNGG	DGYVSVEVSPR	LADDTQG	TVEAAKW	: 1	20
VUTAL	-	IKRLHDLYEGGQSPWY	DNLCRPVTDLL	PLIASGVRGVTSNPAI	FCKAISSSNAY	NEQFRELVGKD	IESAYWELVVE	CDIQDACRLFE	PIYDETDGG	DGYVSVEVSPK	LADDTVG	TVEAAKW	: :	20
MGTAL	3	VKKLHDLYEEGGSPWI	UNLERPVTULI	LIESGVRGVTSNPAL	EQFLECMNTES	SNINFKELVGKD	LESATWELVVF	DIQUACKLEE	AIYDETDGA	DGIVSVEVSPR	LAUDTEN	TIEAAKW		.20
SDIAL	:	TRALHOLIEGGLSPWI	DNLCRPVIELL	PLIASGVKGVTSNPTI	PORATOCCOAS	DDQFKQLIGKD	ACCEVEDUTE	DIGDACKLEE	DIVORTOGA	DGIVSVEVSPR	LANDIQG:	TUPAARW	: :	20
SITAL	-	TRACHDETEQUESPWE	DNLORPVIELL	DETASCURCUTSNPTI	FORATOGOGAY	DDOFROLIGED	AFCAVWFLUTE	DIQUACKLEE	DIVNETOCA	DCVUSUEUSPR	LANDTOG	TUPAARN		20
OFTAL.	2	TKRIHDLYDOGOSPWN	INT OR PUTOLI	PT.TGROVRGVTSNPT1	FORATSTSNAN	DDOFKOLIGKD	AFSAVWFLUTE	CDTODACKLEF	PTYDOTOGA	DGIVSVEVSPR	LANDTOG	TUFAAKW	: :	20
BOTAL	-	TKRLHDLYEOGOSPWY	INTORPUTCLE	PYTANGURGUTSNPTT	FCKAISSSNAY	DOFKOLIGKD	AFSAYWELVIE	DIODACKLEF	PIYDOTDGA	DGYVSVEVSPR	LANDTOG	TVEAAKW		20
SmTAL	-	EKLLHELYSHCCSPWY	DNLERPVTDLO	LIDSGVRGVTSNPTI	FCRAISSSDAY	DPOFRFLVGSK	VEDAYWOMVIE	DICDACDLEL	GVESSSKGE	DGYVSVEVSPL	LAHETDE	TLNAAKW	: 1	20
PDTAL	:	EKKLHDMYDQKCSPWY	DNLRRPVTMLE	FIRSGVRGVTSNPTI	FERAITGSAEY	DDQFRQCIGKN	VEEAYWELVIP	DIGDACDLFL	PLYEKSAGG	DGYISVEVSPL	LANETCA	TIDSAKY	: 1	120
PSTAL	1	EKKLHELYEQGQSPWY	DNLRRPVTDLI	PLIESGVRGITSNPTI	FERAIISSDAY	DDQFRQLIGKG	VEDTYWELVIP	DIGDACELFE	PIYDATEGA	DGYVSVEVSPR	LALETEG	TVEAAKW	: 1	120
226359490	:	ATVLHRLYRQGQSPWL	DNLTRPYLTLA	EFVAAGIRGVTANPTI	FARAIAGSDAY	DAQFAALIGRA	VEDAYWELAAA	ADVVDAAAVLR	PVYDTSGGT	DGFVSIEVAPE	LARDTDA	TIAAAGR	: 1	20
172040678	1	NTPICKLASAGTSVWL	DDLSRPRLELA	SLIDTKIVGVTTNPAI	FAAAMSQRDAY	DEQLHQLAGIA	ADEAVFAMAVE	KDVQDACDVLA	GVHEQTGGV	DGWVSLEVDPR	LAHDAAG	TVAGARE	: 1	120
333602391	:	TEATORTSDSGVSIWL	DELSETRISLO	DLIANKVVGVTTNPSI	FORALSOVGPY	DAQLKELGKVD	VETAIRELTTI	PDVRNATDIFR	EIAEKTDFV	DGRVSIEVDPR	LAHDTAN	TERQAEE	: 1	20
297625709	:	MNPLKALSDAGVSIWL	DELSRARIGLA	ELIKDSVVGVTTNPTI	FAGALSNGADY	AAQLTELGDVS	TAEAIKQLTAT	TOVRDACDLFA	PIYQSSEGY	DGRVSIEVEPG	LAHDTEA'	TTKQAAE	: 1	20
117928333	•	TDPLAELSAAGVSIWI	DEISRDRLNLA	ALIRDRVVGVTTNPTI	FGRAIEGSARY	QDQLRDLAGVD	VNEALRALTAY	DVRWACDVTR	PVFDATDGV	DGRVSIEVDPR	LAHDTEA	TIAEARA	: 1	20
386843658	-	PTPLKRLADEGVSIWL	DELERKRISLA	LVASGAVGVTTNPSI	FCAAIGSGEGY	EEQLTDLAGVT	VEEAVRMMTTA	ADVREAADILR	PVYDASGGR	DGRVSIEVDPR	LAHETEA	TIAEAKQ	: :	20
359///2/6	-	TNATAQLSDAGLSIWL	DELSKERESLQ	LIDCKVVGVTTNPSI	FCAAITSGTDY	DAKIAELAGAG	VEETIFEITTA	ADVADACDLFA	PIAAATNGV	DGRVSIEVDPR	LAWDTAG	TIAEAKN	1	20
374611133	-	QNPLAALSAAGVSVWL	DDISRERLNLQ	ELVDTRVVGVTTNPSI	FÇAALSKGNAS	DDQVKELAGAD	VEATIRTVIII	DVRNACDVLT	RGIEGSGGV	DGRVSIEVDPR	LAHDADK	TIAGAIE	: 1	.20
		•	140	* 160		180		200	*	220		240		
LUTAL1	:	LHKVVDRPNVYIKIPA	TAACVPSIKDT	ISLGISVNVTLIFSLA	RYEAVIDAYLD	GLEASGSDLSR	VISVASFEVSE	NUTLICKMLE	KIGALDLRG	KAAVAQAGLAY	CLYCKEF	SGSRWEA	: 2	240
LUTAL2	:	LHKVVDRPNVYIKIPA	TAACVPSIKDT	ISLGISVNVTLIFSLA	RYEAVIDAYLD	GLEASGSDLSR	VISVASFFVSF	RVDTEIDKMLE	RIGALDERG	KAAVAQAGLAY	QLYQKKF	SGPRWEA	: 2	140
PTTAL1	:	LHKVVDRPNVYIKIPA	TAPCIPSIKEV.	ISLGISVNVTLIFSLT	RYEAVIDAYLD	GLEASGSDLSR	VISVASFFVSF	RVDTLIDKMLE	KIGALDLRG	KAAVAQAALAY	KLYCKKF	SGPRWEA	: 2	140
PtTAL2	:	LHKVVDRPNVYIKIPA	TAPCIPSIKEV	ISLGISVNVTLIFSLT	RYEAVIDAYLD	GLEASGSDLSR	VISVASFFVSF	RVDTLIDKMLE	KIGALDLRG	KAAVAQAGLAY	KLYQKKF:	SGPRWEA	: 2	40
MTTAL		LHKVVSRPNVYIKIPA	TAACVPSIKEV.	IANGISVNVTLIFSLE	RYEAVIDAYLD	GLEASGNDLSR	VISVASFFVSF	RVDTEIDKMLE	KIGALDLRG	KAAVAQAALAY	QLYQRKF:	SGPRWEA	: 2	40
ATTAL	:	LSKVVNRRNVYIKIPA	TAPCIPSIRDV	IAAGISVNVTLIFSIA	RYEAVIDAYLD	GLEASGDDLSR	VISVASFFVSF	RVDTLMDKMLE	GIGALDLRG	KAAVAQAALAY	KLYQQKF:	SGPRWEA	: 2	40
CrTAL	:	LQKVVDRRNVYIKIPA	TAPCIPSIRDV	IASGISVNVTLIFSIA	RYEAVIDAYLD	GLEASGDDLSR	VISVASFFVSF	RVDTLMDKMLE	GIGALDLRG	KAAVAQAALAY	KLYCKKF	SGPRWEA	: 2	140
THTAL	-	THKAANBENAALIKI DA.	TAPCIPSIRDV	IASGISVNVTLIFSIA	RYEAVIDAYLD	GLEASGDDLSR	VISVASFFVSF	RVDTLMDKMLE	GIGALDERG	KAAVAQAALAY	KLYQKKF	SGPRWEA	: 2	40
CSTAL	-	LHKVVNRPNVYIKIPA	TAPCVPSIKEV	ISQGISVNVTLIFSLA	RYEEVIDAYLD	GLEASGSDLSR	VISVASFFVSF	RVDTLIDKMLE	KIGALDLRG	KAAVAQAALAY	QLYQKKF:	SGPRWDA	: :	40
VVTAL	1	LYKVVDRPNVYIKIPA	TAPCVPSIKEV.	ISLGISVNVTLIFSLP	RYEAVIDAYLL	GLEASGSDLSK	VISVASFFVSF	VOT DI DKLLE	RIGALDLRG	KAAVAQAALAY	QLYQKKF:	SGPRWEA		140
MGTAL	1	LHRWVNRSNVIIKIPA	TAPCIPSIREV.	IALGISVNVTLIFSLA	RIEAVIDATLE	GLEASGUDLSK	VISVASEEVSE	KVDSLVDKMLE	RIGALDERG	RAANAQAGLAI	GLIGREF:	SGPRWEA		140
SOTAL	1	LHRVVNRPNVIIRIPA	TAECVPSIGEV.	IANGISVNVTLIFSIA	RIEAVIDAILL	GLEASUSDLSR	VISVASEEVSE	CVUSEL DRMLE	RIGALALAG	CARVAQABUAN	QLIQARE:	SGPRWEA	1	140
CHIPL	1	LARVYNEPAVIIE IPA	TAECVPSIGEV	TONCTOUNUEL TEOTA	RIEAVIDAILL	CT PACCOLOR	VIOVAGEEVOE	VOTELONALE	RIGHLALRG	NAAVAVADDAA	VP I AVVE	SCORNER		140
ORTAL	2	THEAABBAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	TARCUDSTREV	TANGISUNUTITESTA	RYFAUTDAYT	GLEASGSDLSR	UTSVASFFUSI	VDTLTDKMLF	RIGALALRG	KAAVACARLAN	CLYCKKF.	SCORWEA	: :	40
BriTAL	-	LHKUUNRPNUYTKTPA	TAECUPSIREV	TANGISVNVTLIFSIA	RYFAVIDAYLD	GLEASGSDLSR	UTSVASFFUSF	RVDSDTDKMLF	ETGALALRG	KAAVACANLAN	OLYLKKF.	SCPRWEA		40
SmTAL	-	LHKEVNRPNVYVKIPA	TAECVPSIRSA	ISLGISVNVTLIFSLP	RYEAVIDAYLE	GLEAREGDLSG	VSSVASFFVSF	NUTLYDERLN	EIGALCLEG	KAAVACAALAF	CLYEKKE	SGPRWEA		40
PDTAL	-	LHERVNRPNVLIKIPA	TLECIESIKOV	IASSISVNVTLIFSLA	RYEKVIDAYIA	GLEAVOGDLSK	LASVASFEVSE	NUDSLUDKKLN	AIGALELKG	KAANACAALAF	RLYCERF	SGPRWEA	- 1	240
PSTAL		LHKRVNRRNVYIKIPA	TAECIPSIKOV	ISLGISVNVTLIFSLP	RYEAVIDAYME	GLESFKDDLSK	ITSVASFFVSF	NUTLVDKKLE	KIGALALRG	KAATACAVLAY	KLYGEKF	SGPRWEA	: 2	140
226359490	1	LHERIARPNVFVKIPA	TAEGIPAIADM.	IGKGVSINITLIFSLA	RYEGVIEAYLO	GLEARAADLAA	VRSVASFFVSF	RVDTEVDKRLE	HSGAPALRG	RAAIACARLAY	RIFODRF	TGTRWET	: 2	240
172040678	:	LAAQVNRANLMIKIPA	TTECLPAISEV:	LAAGISVNVTLIFSVE	RYEQVMEAFIE	GIAAAEQDISK	IHSVASFFVSF	RVDSDIDPQLA	EKGAAALQG	KAALANARLAY	ASYLDKL	ANPRWCE	: 2	40
333602391	:	LWAKVDRPNVMIKIPA	TLEGLPAITAT	LAKGISVNVTLIFSLE	RYEQVIDAFIE	GIAGAAHDLKH	IGSVASFFVSF	RVDTAVDKLLE	ANGAKALEG	KAAVANARLAY	ELFEKKF;	AAPRWAA	: 2	140
297625709	-	LYKLVDRDNVLIKIPA	TLAGLPAIEAT.	IAAGISVNVTLIFSVE	RYRKVMDAYMA	AGLEKAAKDLSK	IHSVASFFISF	RVDSEIDKRLG	ALNHPELAG	KAGVANGLVAF	GAYQEVE?	ASERFOR	: 2	40
117928333	-	LWWLVDRPNLFIKIPA	TVEGLPAIAQC	LAEGISVNVTLIFSVK	RYEQVIDAFFE	GVERAIHDLSR	LASVASFFVSF	RVDTEVDKRLE	KIGALQWKA	KAAVANARLAY	RTYEEKF.	ATPRWQA	: 2	40
386843658	1	LAWLVERPNVMIKIPA	TRAGLPAITEV	IGLGISVNVTLIFSLE	RYREVMAAYLA	GLEKARVDLST	INSVASFFVSF	RVDSEIDKRLT	ALGALALKG	RAALANARLAY	EAYEEVE.	ASDRWLA		140
339///2/9		LIKKVDRDNVLIKIPA	TIEGLEATTAV.	LAEGISVNVTLIFSLE	RIRAVINALGA	GLAGALHDLSA	THEVASEEVSE	VUTEIUKRLU	ALGARALRO	RAGVANARLAI	VILLE	STERWAY		140
3/4011133	-80	TMUTADKENDTETUTEN	MEEGIPALIOV.	TWEGTONMAITTEOAE	NUNAVADATES	GREVAUDION	THONADELADI	(VDIELDKRDE	ATCHTHTMC	CAG VARABLAL	ANILLVE	AGOULTA	* *	140
			260	* 290		200		320		240				
LUTAL1		LVERGAKKORLLWAST	SVKNPAYPDTT	YVAPLIGPDTVSTMPD	CALCAFVDEGE	VGRTIDSNVSF	AEGVYSALEKT	GIEWSEVGDO	LEAEGVDSF	KKSFDSLLDTL	CEKANS	: 352		
LUTAL2	:	LVKKGAKKCRLLWAST	SVKNPAYPDTL	YVAPLIGPDTVSTMPD	GALGAFVDHGA	VGRTIDANVSE	AEGVYSALEKI	LGIEWSQVGDO	LEAEGVDSF	KKSFDSLLDTL	QEKANS	: 352		
PtTAL1	:	LVKKGAKKCRLLWAST	SVKNPAYPDTL	YVAPLIGPDTVSTMPD	CALQAEVDHGI	VARTIDSNVSE	AEGIYNALEKI	LGIDWGYVGNC	LEVEGVDSE	KKSFDSLLDTL	QEKANS	: 352		
PtTAL2	1	LVKKGAKKCRLLWAST	SVKNPAYPDTL	YVAPLIGPDTVSTMPD	QALQAFVDHGS	SVARTIDSNVSE	AEGIYNALEKI	LGIDWGYVGDQ	LEVEGVDSF	KKSFDSLLDTL	CEKANS	: 352		
MTTAL	=	LVKKGAKKCRLLWAST	SVKNPAYPDTL	YVAPLIGPDTVSTMPD	GALGAFIDHG	AVARTIDSNASE	AEGIYNAIQKI	LGIDWSYVGSC	LELEGVDSF	KKAFDSLLDSL	GEKAKS	: 352		
AtTAL	:	LVKKGAKKCRLLWAST	SVKNPAYSDTL	YVAPLIGPDTVSTMPD	CALEAFADHGI	IVERTIDANVSE	AEGIYSALEKI	LGIDWNKVGEQ	LEDEGVDSF	KKSFESLLGTL	QDRANT	: 352		
CrTAL	:	LVERGAREQRILWAST	SVKNPAYSDTL	YVAPLIGPDTVSTMPD	CALEAFADHGI	IVERTIDANVSE	AEGIYSALEKI	LGIDWNKVGDQ	LEDEGVDSF	KKSFESLLGTL	QEKANT	: 352		
THTAL	:	LVKKGAKKORLLWAST	SVKNPAYSDTL	YVAPLIGPDTVSTMPD	GALEAFVDHGI	IVERTIDANVSE	AEGIYSALEKN	MGIDWNKVGEQ	LEEEGVDSF	KKSFESLLGTI	QDKANS	: 352		
CSTAL	1	LVREGAREQUELWAST	SVENPAYPDTL	YVAPLIGPDTVSTMPD	CALCAFVEHGA	AVSRTIDLNVSE	AEGIYSALEKI	LGIDWNYVGTQ	LELEGVDSF	KKSEDSLLDTL	QEKANS	: 352		
VUTAL	3	LVKKGAKKCRLLWAST	SVKNPAYPDTL	YVSPLIGPDTVSTMPD	QALQAFVEHG	VSRTIDSNVSE	AEGITSALEKI	LGIDWGYVGSQ	LELEGVESF	KKSFDSLLDSL	QERANS	: 352		
ChERT	1	LVARGARACRELWAST	SVENPAIPDTL CURNES VEDAI	VUDGI ICODOUNOMOD	CALLAFLUNG	SVARTIDSNVSE	AEGITEALENI	LGIDWGIVGSQ	LELEGVDSF	WYCEDet TVet	GERANT	: 352		
ZMTAL	:	LARKCAKKORI, LALOW	UKNDAVED T.	VUNST.TGENTUNTMEN	CALOAFTONCE	TUSETUDANUOS	APUVSALEN	CIDWFFUCE	LELEGYDSE	KKSPhst.Luer	OFFGNG	. 352		
SITAL	-	LAREGAERCRIIMAST	CUKNPAYPDET	VUDSLIGPDTVNTMPD	CALCAFIDHCS	VSRTVDANUSE	AFGUYSALEKI	GIDWDEVCKC	LELECVDES	KKSFDSLLVSL	CEKGNG	: 352		
CSTAL	-	LVKKGAKKCRLLWAST	SVKNPAYPDTT	YVDPLIGPDTVSTMPD	CALLAFIDHC	VSBTIDANVSD	AEGVYSALEKT	LGIDWDEVGKC	LELEGVDSF	KKAFDSLLGST	EEKGNS	: 352		
BOTAL	-	LVERGARKCRLLWAST	SVKNPAYADTL	YVDPLIGPDTVSTMPD	CALEAFIDHGT	VSRTIDANVSE	AEGIYSALGKI	LGINWDEVGTO	LELEGYDSF	KGSFDSLLTSL	QERGNA	: 352		
SWIAL		LKERGARKORLLWAST	SVKNPAYSDTL	YIDTLIGPDTVNTMPG	NALEAFVEHGT	LARTLDSDVDG	ACKIYDRIEAL	LGIRWDDVGSI	LEIEGVDSF	KKSFEDLLVSL	KLKAEL	: 352		
PPTAL		LAKRGAQKORVLWAST	GVKDPSYPDTL	YVNPLIGPDTVTTMPD	GALNAFVDHG	VARTIDADLPG	AERIYDKVEEL	LGIRWEDVGNO	LEHEGVASE	KKSFTDLVCNL	TAKADA	: 352		
PSTAL	:	LEKRGARKORVLWAST	SVENPAYPDTL	YVNPLIGPDSVTTMPD	CALCAFMONG	VSRTIDANFEE	AKNAYNAIEKI	IGIDWAEVGSI	LELEGVESE	KKSFDSLLVSL	DGKADL	: 352		
226359490	:	LAARGARVCRPLWAST	STENPOYPOTR	YVDSLIGPDTVNTLPE	ATITAFEDHGT	TL/TRSIDTVPAG	AAAVLDELAAJ	GIDMDDVGRT	LEDQGVAAF	HOSFADLLTEL	RAKAHQ	: 352		
172040678		FVGRGANTCRPLWAST	SVKNPGYPDTL	YVTELAGPNTVNTMPE	ATLDATIDHGH	TGDQLSGRASE	SLEVESALTS!	AGIDLPEVWGF	LETEGVOKE	EGAWNELLATL	REQLAR	: 352		
333602391	:	LEAKGAKKORPLWAST	GTKNAAYSDCK	YVDELVAEHVVNTMPE	RTLNALACHGN	GAASIKGTYEE	SHAVMNKLAEI	LGINIKDVTDR	LEADGVAAF	IKSWDSVIADV	QSGIDR	: 352		
297625709	:	LAAKGANLCRPLWAST	GTKNAAYPDTL	YVSELVARGVVNTMPE	RTMQAFADHGE	ELGEPIDGRAAE	GQATIDKIAAA	AGVPLAEVFDQ	LETEGVDKE	VASWAELVESV	ASAMKR	: 352		
117928333	:	LAAKGARPORPLWAST	STKDPSLPDTL	YVTELVAPGTVNTMPE	STLQAVYDHG	IGDTIRGYYAD	AQATLDALATI	LGIDYDDVTDT	LEREGVERF	EASWTELAAAV	TRSLER	: 352		
386843658	:	LAGDKANKCRPLWAST	GVKDPAYKDTL	YVDELVAPGTVNTMPE	ATLNAVADHGE	EIGDTVTGGYAC	ARADLAAVERI	LGIAYDEVVRO	LENEGVAKE	EVANQULLDAV	AKSLKS	: 352		
359777274		LAEAGARFORPLWAST	GVKDPAYFDTL	IVTELVAAGIVNTMPE	KTLDATFDHG	VGDTITGTYRE	ANTVINALENI	LGISYNNVVAL	LESEGLDKF	VASWRELLADV	NGALST	: 352		
3/4011133		LIGHBORK VQKPLWAST	SAMPDISUTL	AVAE AVEPNIVNIMPE	A T T T T T T T T T T T T T T T T T T T	TODIALOUGUE	NARVECKLEA	OT DIFDALKA	JELEGVER?	LASTUCLLUAT	REATERS	. 336		

Fig. S1 An alignment of the selected TAL protein sequences in land plants and Actinobacteria, showing the positively selected sites in land plants. The positively selected sites are indicated by deckling.