

Figure S1. Histochemical staining of *CFB* promoter induction by cytokinin in two independent transgenic lines carrying a *ProCFB:GFP-GUS* reporter gene. 6-day-old seedlings were treated with 5 μM of the synthetic cytokinin 6-benzyladenine (BA) or a solvent control for the times indicated. Subsequently, the seedlings were stained according to Jefferson et al. (1987) for the times indicated, inspected and photographed as described in Materials and methods. The insets show magnifications of root tips. Scale bar = 5 mm.

CFB [Arabidopsis thaliana]	MLS	SSSSS-TVEQ	PSR-GGSPGI	NAVSSDVLR	NILTRLDGSS	LAALSCTCSN	LNSFCS-DES	LWRQCCSATW								
Arabidopsis lyrata	MLS	SSSSL-TVEQ	PSR-TGSSGI	NAVSSDVLR	NILTRLDGAS	LAALSCTCSN	LNSFCS-DES	LWMQQCSATW								
Capsella rubella	MILSS	SSSST-MMEQ	PSSYLESSGI	NAVSSDVLR	NILTRLDGAS	LAALSCTCSN	LHSFSS-EES	LWKQQCSVTW								
Camelina sativa	M	LSSSS-MVEQ	PSR-IKISGI	HAVSSDVLR	NILTRLDGAS	LAALSCTCSN	LHSFSS-EDS	LWKQCCSLTW								
Tarenaya hassleriana	MLSSS	YSHPLPTAEH	PPRGGVGTI	SAVPHDVRS	HIPCLDGAS	VAALSSASVE	LHSLCT-DEH	IWRDKCIATW								
Arabis alpina		MLPSTAEQ	PSH-TGSCDI	NAVSSDVILT	HILTRLDGAS	LAAVSCTCSH	LHSFSS-EES	LWKKCTCTATW								
AT2G27310		MA	TVDVINGDSI	STLHSDIIQT	QILTRLDGPT	LASTATTSSY	LQTLCCT-EEK	LWQELSIDTW								
Ziziphus jujuba	MPSP	HPTDS---TA	NVDDDGAISI	SAVHPDIIQA	HILTRLDGPT	SASAGCASSH	LHALST-QDK	LWRDICTSTW								
Morus notabilis	MA	TSDNM---AV	GGGSGGGTTI	SAIHPDIIQA	HILARLDGPT	LAAAGCASSE	LHALSA-DEN	LWRDICTATMW								
Eucalyptus grandis	MPSP	STPLAGADAA	PATAHAATVL	TSIHPDVIRT	HILTRLDGPA	LVAATSASSQ	LHSLSSSNDK	LWRDVICIAAW								
Vitis vinifera			MDSPTTTI	TSVHPDIIQT	HILTRLDGPT	LAAAGAASSQ	LHALAT-VDK	LWRDICTSTW								
Gossypium hirsutum			MNSTTSLPLH	QGG---NTPI	SALHPDIFQS	HILALLDGSP	LASLACVSSQ	LHALST-HDI	LWFNICSSTW							
Theobroma cacao			MKTITSTTVD	QGGYASNETI	STVHPDIIHLS	HILTRLDGSP	LAALACSSSH	LHALSS-EEN	LWQNICSSTW							
Fragaria vesca	MEAVVDSLPP	KTKDHLQPE	YYITKPLQPS	LCHHSHPHFK	LQLDLRLTNV	QLELELEEEEE	QYFDREMASF	LVEQGGDASI	SALHSDIITS	HILTRLDGPT	LASAACSSQ	LRAFAA-DQT	LWKDICATTW			
Malus domestica				MSFSAVTTL	AVDQGDPRS	SVVHPDIIITA	HILTRLDGQT	LAAASCASSE	LHSFSA-KEK	LWRDASIAATW						
Prunus persica				MGFSA-TSP	TVDQGDGASI	SAVHPDIIMA	HILTRLDGQT	LASASCASSQ	LHAFST-EGK	LWRDICSATW						
Ricinus communis				MVPSS	TLHHHNGTI	STVHHDILQT	HILTRLDGPT	LASLSCASSD	FHTLSS-QDK	LWQNICSFVW						
Jatropha curcas	MV	AFPSSTPPP	TVDPDGDGTI	SAVHHDIHQN	HILNRLDGPT	LAAVACASSE	LHGLST-EDK	LWQKICIDTW								
Manihot esculenta				MAPP	NVD--GTVSI	SSLHLDVLHH	HILSRLDGSP	LAALSCTSSSE	LNALSS-YDK	LWQQICTSTW						
Populus trichocarpa	MV	ALSTPPPQP	SSTTTQDGTI	STLHPDIIQT	HILTLLDGPT	LAATACASSE	LYALST-EDK	LWRNICSSSW								
Nelumbo nucifera	MAISAC	KSSAKTMTTD	EKECGATTTI	SALHPDVVQA	HILTRLDGSP	LASVCCASSQ	LHALSN-DES	LWRDMCHSTW								
Citrus clementina				MQMAP	PSFDQNTARI	SAVHPDIIET	HILTRLDGPT	LASACVSSQ	LHSLAS-DES	LWTNICIDTW						
Cucumis melo				MPSPPPSFSF	HHRSSAEDA	AALHSDIIQT	HILTRLDGAA	LTSTASTSSR	FRRLLS-EDQ	LWRRVCSSTW						
Daucus carota	MLSLHKD	SNMVSHISDH	QQERNSSSI	LDIHSDFSN	HILTRLDGSS	LVSTGSASSE	LNKFKC-DEN	LWKNICNSTW								
Dorcoceras hygrometricum				MSSYTSAAA	AEDHGGGTP	TAIHSDIVRS	HILNRLDGPT	LASTSCASSR	LFSLCN-DDH	LWREICSSVW						
Arachis duranensis					MDIDMI	TNLHSDIINS	HILTRLDGPT	LASAAAASSH	LRRLCT-QHH	LWTICTSTW						
Vigna radiata					MPPM	DATSSSSSDI	TTLHPDIIIRS	HILNRLDGPT	LASASSSTLH	LRRLCS-DHN	LWRICAATW					
Phaseolus vulgaris					MDTTFSSS	SSSSSSSSSI	TTLHPDIIQS	HILNRLDAPT	LASASSSTLH	LRRLCT-DQH	LWRNICAAATW					
Glycine max					MTPA	MDKTSSSSDI	TTVHPDIFQS	HILNRLDGPT	LASAAATSH	LRGLCT-EHH	LWRNICAAATW					
Cynara cardunculus						MAI	ADIQDIIKT	HILTRLDGQT	LSAAACVSLQ	LQSLCS-DDK	LWSGICSANW					
Sesamum indicum						MEFKS	SSKGVCAFTH	SPLITTASTE	PKNENEMPLA	TADQGGANGL	SALHPDIVRS	HVLSRLDGPA	LGSAAACSTT	LRQLSS-DEN	LWSNICHSW	
Erythranthe guttata									MQHGATAT	TTEHGGAAGF	SALHPDIIKS	HVLTTRLDGPA	LGSAAACSAT	LRHISD-DGK	LWSDICHSTW	
Beta vulgaris									MSSSPPMST	TTTTLLTAF	SLLPDDVIRA	HILPRLDGCS	LDAVGCATPE	LSSLSS-DHQ	LWSHICHSTW	
Medicago truncatula									MICISG	ESEAEETTTI	AAVHSDIIQT	HILTRLDGPA	LASAASTCSQ	FNSLCT-NEH	LWANMCHSTW	
Cicer arietinum									M	PKATMSNISG	NPITAEETTTI	SAFHSDIIQT	NILTRLDGSA	LASVASTCSR	PHYLCS-TEH	LWENACYSTW
Cajanus cajan									MVCTTD	EASCG-ASAI	SAVHPDVIIQT	HILTRLHGPA	LACVASTCSE	LNALSA-HEP	LWAEICRATW	
Nicotiana tabacum									MSSCSTTTT	TSDDGGRTAI	TAVHPDIIQI	LILTKLDGPT	LISTSSASSQ	LKNLCS-DDI	LWQKICNSYW	
AT2G36090									MANSSSF	SPSTTVTDLI	STVHDDIIES	HILTRLDGAT	LASVSCASSH	LHHLAS-NEI	LWSKICRSTW	
Consensus																
Conserved regions																

Figure S2. Multiple sequence alignment of Arabidopsis CFB, AT2G27310, and AT2G36090 and orthologs of other dicotyledoneous plant species. The alignment was carried out using MultAlin (<http://multalin.toulouse.inra.fr/multalin/>) with the standard settings (Corpet, 1988). The colored lines correspond to the conserved regions shown in Fig. 2A. Red and blue amino acid symbols denote highly (≥ 90 %), and less (≥ 50 % and < 90%) conserved residues, respectively. Symbols for amino acids other than letters in the consensus sequence: ! = I or V; \$ = L or M; % = F or Y; # = N, D, Q, E, B, or Z.

CFB [Arabidopsis thaliana]	PST-SDTRVQ	SIISTFPDG-	HRTFFSDSFP	FLEH-----	---DVGIN-L	PPSVDTSELI	SAVD-----	---IFYKDDV	IFSRVHVTTET	V---SGWFLC	SPMRVDLVEP	-KELIPTRVL	VTDQCKD-DT	
Arabidopsis lyrata	PST-LDTRVQ	SIISTFPAG-	HRQFFSDSFP	FLEH-----	---DGVIN-L	PPSVDMTELI	SAVDMTELIS	AVDIFYKDKV	IFSRVHVTTET	V---SGWFLC	SPMRVDLVEP	-KELISTKVS	VVNQWED-DT	
Capsella rubella	PST-LDARVQ	SIISTFPAG-	HRTFFSDSFP	FLGQ-----	---DGVIN-L	PPSVDTELEI	SAVD-----	---IFYKDEV	IFSKVHVTTET	V---SGWFLC	SPMRVDLVEP	-KEMVSTKVS	VVEQWED-DT	
Camelina sativa	PST-LDARVQ	SIATFPVVG-	HRTFFSDSFP	FLER-----	---NGVMNML	PSSVDTELEI	SAVD-----	---IFYKDVQ	IFSKVHVTTET	V---SGWFLC	SPMRIDLVEP	-KELISTRVS	LVNQWED-DT	
Tarenaya hassleriana	RSF-LDPRVQ	RVISTLPSG-	HRSFFSDSYT	HLGL-----	---RRGLVDL	PPSVATKELI	SAVD-----	---IYYKGEV	IFSKVQETET	V---SGWFLC	SPFRVDLLDP	-KESVSTRIP	YNDQWDE-ET	
Arabidopsis alpina	PST-SDTRVQ	SIISTFPDG-	HRSFFSDSFP	FLG-----	---GEIDLT	PPSVDTELEI	SAVD-----	---IHYKDEV	IFSKVQATET	I---SGWFLC	SPMRVDLVEP	-KELITTRVS	LIDQWEN-DT	
AT2G27310	PSI-NDPRVQ	QAISFPDG-	YRSFFADSYF	FTEH-----	-----TWQS	EKHDPPTGLI	SAVD-----	---LYYRGEI	IYSKVQEMET	EKGKSGWFLS	SPFRVDILDP	-KESVQTRIR	YPPGDYE--A	
Ziziphus jujuba	PSI-NDPRVQ	RLISSFPDG-	HRSFFSDSFP	LLDP-----S	SFCRFGHG--	RPLSSTSELI	SAVD-----	---IFYKDSL	IFSKVQEIET	L---SGWFLC	SPFRVDLLDP	-KESAPTIQ	HVAGEDD-GA	
Morus notabilis	PSV-ANPALR	RLISTFPAG-	HRSFFSDSFP	VLDL-----V	PPQTFNPD--	PPFLS-SGLI	SAVD-----	---IFYKDKL	IFSKVKETET	L---TEWFHC	SPFLVDLLDP	-KDSVQTIQ	RAA-VDD-GA	
Eucalyptus grandis	PSV-RDPRVA	EAIATFPDG-	HRSFFSDSFP	VLHH-----H	KLRRRRSP--	PPPMA-ECLI	SAVD-----	---VHYEGEA	IFSKVHETET	V---SGWFEC	SPFRVDLLDP	-KESVPTRIQ	KPGGTPD-EA	
Vitis vinifera	PSV-NDPTLQ	ALVSAFPDG-	HRSFFSDSFP	LLDH-----S	ACSSDTSS--	RLVIPASELI	SAVD-----	---IFYKDEL	VFSKVHETET	E---TGWILC	SPFRVDLLDP	-KDTVPTPVQ	YSV-DGD-YK	
Gossypium hirsutum	PSL-NHPRLQ	QIISTFPDG-	HRSFFSDSFP	FPDL-----	-QPLKLDV--	NSCTLPTLEI	FAVD-----	---VYYQNGI	IYSKVEELDT	S---SSWFLC	SPFRVDLLDP	-KDSASTPVR	YLGGSQD-EA	
Theobroma cacao	PSV-NHPRLQ	KIISAFPDG-	HRSFFSDAEP	FLDL-----	-QPLKLN--	NSLTLPTLEI	SAVD-----	---ISYRNKI	IYTKVEEMET	S---SSWFLC	SPFRVDLLDP	-KDSAPTIQ	YFGGSKNVDT	
Fragaria vesca	PSV-SDKRVH	DIISTFPDG-	HRSFFSDSFP	LLDH-----S	ACSSDTSS--	RLVIPASELI	SAVD-----	---IFYKDEL	VFSKVHETET	E---TGWILC	SPFRVDLLDP	-KDTVPTPIR	HIGETN---E	
Malus domestica	PSI-TDPRVN	DLISTFPDG-	HRFFSDSFP	LLDH-----S	PSQFNFS---	PSSP-TAELI	SAVD-----	---IFYKQDL	IFSKVQESET	E---SGWFLC	SPFRVDLLDP	-KETVPTPIQ	HVGEDQ---K	
Prunus persica	PSV-ADPRVD	DLISTFPAG-	HRSFFSDSFP	LLDN-----F	PSRFDLRS--	PSSPPTTELEI	SAVD-----	---IFYKQDL	IFSKVQESET	E---SGWFLC	SPFRVDLLDP	-KETVPTPIR	HVGEDQ---A	
Ricinus communis	PST-NDPLLS	SVISSFPDG-	HRSFFSDSFP	LLRH-----H	RPTCRTLP--	TPFPSTTELEI	SAVD-----	---IYYRNVP	IFSKVEKTET	V---SRWFCL	SPFRVDLLDP	-KEFVPTWIQ	-KAGEKD--S	
Jatropha curcas	PSI-NDPLTS	SIISTFPDG-	HRSFFSDSFP	LLHH-----H	RHSSHILE--	RPSPETTELEI	SAVD-----	---IFYKGEF	IFSKVEETET	E---SGWFMS	SPFRVDLLDP	-NKDFVPSGIP	-QASEND--S	
Manihot esculenta	PSV-NHPLVT	HAVSTFDSA-	HRSFFSDSFP	LLLH-----	RHSCHDL--	RFPFPATRELI	SAVD-----	---IYYQNGV	IFSTVEATET	V---TGWFSL	SPFRVDLVGP	-EEFIPTRIQ	-QIGEN--S	
Populus trichocarpa	PSI-NDPTVS	SIISTFPDG-	HRSFFSDSFP	LLHH-----H	HHSSSFLT--	T---STEYLV	SAVD-----	---IYYKQVA	IFSKVEKNET	L---TDWFKC	SPFRVDMLDP	-KEFVQTLIQ	YQGEK--S	
Nelumbo nucifera	PST-DTPRIR	DIVSSFPDG-	ARSFFSDSFP	LLVSP---HD	QAPPSNLN--	PPVS-PPEII	SAVD-----	---IHYRGNL	LFSKAHETET	L---SGWFRC	SPFRVDLLDP	-KEVVPTPII	ISDG-----	
Citrus clemantina	PST-NTPLRL	HVISSFPDG-	PRSFSDSFP	N--PD---QT	PASTSSSS--	PSLNRPSSEII	SAVD-----	---VYYKKNL	IFSRVVEETET	A---SGWFNC	SPFRVDLLDP	-KDSVPTPIR	HPDNED----	
Cucumis melo	PSI-THPKLQ	QLISTFPDG-	HRSFFSDVFP	VLDL-----	CSLRCDL--	YRYSSTAELI	SAVD-----	---IHYKKNL	LFSKVHSIET	E---TNWFCL	SPFRVDLLDP	-KDSIPSPIR	RSEKYED---	
Daucus carota	PST-DDRRLQ	DIIAAFPAG-	YRSFFSDCYP	SLDHSAPKV	QLVDREIEGR	QSLSKISELI	SAVD-----	---IRYDNNL	IYSKVQSTET	S---TDWFSL	SPFRVDLLDP	-KETIPTPVP	VLEGNK--L	
Dorcoceras hygrometricum	PST-TDPRVR	AVISGFSSG-	YRSLYSDAEP	SVAH-----Q	RSAGRRTKKR	SLPSGTELEI	SAVD-----	---IYCDLKL	IYSKVMVTTET	H---SGWFMC	SPFRVDLLDP	-KETVPTPLI	FDGEDG---	
Arachis duranensis	PSL-THPLAA	HLISTLFPDG-	HRSFFSDSFP	SLHP-----	-SALHN-NQK	PPSPSPPELEI	SAVD-----	---IYYNGKP	VFSRVHRTET	Q---KGWFLC	SPLWIDLDP	-NETVPTPLK	FAKSEDD-DD	
Vigna radiata	PSL-NQPHAS	ALIDTFPAA-	HRSVFSDSFP	SIQY-----	-SPP---PNP	IPRRLSPEFV	SAVD-----	---LYYKGRP	VFSRVITTTET	H---KGWFLS	SPLWVDLLDP	-NEVVPTPLI	FAKDEE--SS	
Phaseolus vulgaris	PSL-NQPRAA	DLIATFPAA-	HRSVFSDSFP	SIHH-----	-SPS---PHP	TPTRPPPELV	SAVD-----	---LYYKGRP	VFSRVITTTET	Q---KGWFLS	SPLWVDLLDP	-NEVVPTPLI	FAKCEE--SS	
Glycine max	PSL-NDPLAA	ATIATFPAT-	HRSIFSDSFP	SLHH-----	-SPNPIPTQ	PPTPPPELEI	SAVD-----	---IYYKGRP	VFSRVITTTET	H---KGWFLC	SPLWVDLLDP	-TEVVPTPLK	FAQTNDE-IE	
Cynara cardunculus	PST-DDPLVR	QAISNFPDG-	HRSFFSDSFP	FPSH-----	---RLTTT	SPSAPTSQII	SAVD-----	---LRYHDEL	VFSKVESTNI	TH--SDWFRS	SPFRIDLDP	-KELVPSAVK	FSGDDH---V	
Sesamum indicum	PST-TSPQLS	HLISTFPDG-	PRAFSSHAEP	VLA-----	-ADRNLTRSS	S--NPPSELI	SAVD-----	---IRYKDNL	IFTKVQETET	V---SGWFRC	SPFRIDLDP	-KDVVPTP--	-----	
Erythranthe guttata	PSTASSPRLS	HLISNFPDG-	ARAFSSHAEP	VVA-----	-ADGGSVRPP	S--NPPAELI	SAVD-----	---IFYKGNL	IFSKVQETET	V---TGWFRC	SPFRIDLDP	-KDVVPTRVK	HPEGDG---	
Beta vulgaris	PSTAT-PRIR	HLISSFPDG-	ARSFFSMEFP	LLS-----	-PNDPPLPS	SCCSLPDQLI	SAVD-----	---IFYKGNL	IFSKVQETET	V---TGWFRC	SPFRIDLDP	-KESVPTPIK	RPSHDD----	
Medicago truncatula	PST-NTERVQ	QVISNFPDG-	FRSFFADSF	SHHQ-----	-RDMTLT---	NHDETSLI	SAVD-----	---IFHREGL	VFSKVVEETET	V---TGWFRC	SPFRVDLLDP	-KDVIKYVTV	GDENNV----	
Cicer arietinum	PST-NTPCVR	HAISTFPDG-	SRSFFADCF	SHYL-----	-ATTTIETAS	MNLDRTPRLI	SAVD-----	---IFHRKRL	VFSKVVEETET	V---TGWFRC	SPFRVDMLDP	-KDVIKCPVQ	D-----	
Cajanus cajan	PST-SAPVRV	HVISTFPDG-	SRSFFVSDSLA	SFSA-----	-RGWREA---	SADRAPLEI	SAVD-----	---VFFEGRA	VLSRVVEETET	E---SGWFRC	SPFRVDVLP	-KEAATAVE	YPRSEE----	
Nicotiana tabacum	PSS-SNPLVQ	NAISTFPDG-	HRSFFSDSFP	ALLH-----	HNNPNICRTE	YRNFLTSELI	SAVD-----	---IHFENL	LYSKVQETET	K---SGWFMT	SPFRVDLGH	-KETVPTPIK	FDGDDG---I	
AT2G36090	PSC-----	-----SGG	SRSFFSDAYS	MVE-----	---TAGTVS	DLDRPPELEI	SAVD-----	---LHYRGNL	IFSRVVKETET	T---TAWFKS	SPLRIDLVDT	-KDTVATPIK	RRQRTED---	
Consensus	PS .dprv.	...!stFP.g	hRsfFSDs%p	.l...eli	SAVD	i.%....1	i%SkV..tET	.	sgWfLc	SPfr!D\$1#p	k#.vptp..
Conserved regions	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Figure S2. (continued)

CFB [Arabidopsis thaliana]	WKS	DLEENLS	LSWILIDPTC	KRA-ADVSTR	KPVSVHRHWL	TGEVHVKFSS	IFVVGNNKR-	S-EQVEFTVT	VVLAVFNRR	EETAVMQIRE	VSLVAEDKDG	RNLGGKVSLE	ILVAAMGMKR	R-----FRA
Arabidopsis lyrata	WKS	DLEKDL	LSWILIDQTG	KRA-ADVSTR	KPVSVQRHHL	TGEVHVKFST	IFVVGNNKR-	S-EQVEFTVT	VVLAAFNRR	EETAVMQIRE	VSLVAEDKDG	RNLGGKVSLE	ILVAAMGMKR	R-----FRA
Capsella rubella	WKS	LEENLS	LSWILIDPTR	KRA-ADVSTR	RPVSVRHHWL	TGEIHVRFNS	IFLVS	EEVEFTVT	VVMAAFSRK	EEKAEVQIRE	VSLVAEDAEG	RNLGGKVSLE	ILASAMGMDR	RR-----FRV
Camelina sativa	WKS	DLEENLS	LSWILIDPIR	KRA-ADISTR	RPVSVRHHWL	TGELHVKFST	VFVGGDKKKS	Q-EEVEFTVT	VVLAAFNRR	EEKAEVQIRE	VSLVAEDMEG	RNLGGKVSLE	ILSSAMGMKR	RR-----FRA
Tarenaya hassleriana	WVR	NAEENLS	LSWILIDPTR	KRA-ANVSSR	RPVSVRHHWL	TGEVHVRFST	VLAGNRKRS	S-SSSEL---	VEFATEMVMA	PEASAVEVRE	VSLVAEDMEG	RNLGGEGSLV	ILTAAMGGGR	R-----RG
Arabis alpina	WKD	DLEENLS	LSWILIDPTC	KRA-ADVSTR	KPVSVQRHHL	TGEVHVRFST	ILVVG----	E-EQVEFTVT	VVLAAFNRR	EDTATMQIRE	RSVGGGG			
AT2G27310	WVK	DMEESMK	LNWILIDPIK	KRA-ANISSR	KAVSARRNWL	TGDLEIRFST	VVTAEEAEVA	A--VVSCGSA	EAWKEVDEEV	GGEI--HVRD	VRLQVEDIEG	KCMKGRDSLV	ILQGLLDGKR	SC----KDDE
Ziziphus jujuba	WLK	HLEENLT	LSWIVIDPTR	KRA-ANLSSR	KAVSVQRHHL	TGDVQLRYTT	IMARGPGRD-	D-DHVECAMV	VTC--GGKE-	GGKL--HVRE	VSLQVEDMEG	KHLSGRDSLG	ILESIAEGGK	RK----KLAG
Morus notabilis	WLK	HLEENLK	LSWILIDPTR	KRA-ANLSSR	GAVSVRHHWL	TGEIQLRYAT	IMDGPASTPA	T-EHVQCGMM	VTC--GGEE-	GDEV--RVRE	VGLHVEDTEG	RHLSGQESLV	VFRNAIEGGK	RK----KENG
Eucalyptus grandis	WLR	HLEESLS	LSWIVIDPAR	KRA-ANFSTR	RPVSVQRHHL	TGDVQVQYVT	VVAGGPPGSA	A-EHVQCTAT	VTC--GGKE-	GGGL--HVRE	VSLQVEDMEG	KSLSGKDSLA	ILGEAMESGE	RK----KAKR
Vitis vinifera	WLS	HLEDLT	LSWILIDPTR	KRA-ANLSSR	KPVSVRHHWL	TGEVQVRYAT	VV-GGDRTVG	S-EVVQCGIV	VTC--AGKE-	GGEM--QVRE	VNLQVEDMEG	RHLNGKESLV	ILQGAIEGGK	RK----KAKG
Gossypium hirsutum	WLQ	HLEENLS	LSWIVINPTR	KKA-VNVSSR	RAVSVQRHHL	TGDVQVRFGT	VTAGDEGRGS	SRELVECGVV	VTC--CGKE-	GGEM--HVRE	VCMVMEDMEG	KGLNGKDSLV	ILEGVIEQGR	RK----GGEG
Theobroma cacao	WLK	HLEENLT	LSWIVIDPSR	KKA-VNMSSR	RAVSVRHHWL	TGDVQVRFGM	VMGGGRRGS	SRELVECGVV	VTC--VGKE-	GGEM--HVRE	VSMVMEDMEG	KGLNGKDSLV	ILEGMENGR	RK----KNGG
Fragaria vesca	SLK	HLEENLT	LSWIVIDPAQ	KRA-ANLSSR	KPVSVRHHWL	TGEVQLRFAM	IMPGNRRG--	--EFVQCGMV	LTC--KGS-	GGKL--HVRE	VSMQMEAMEG	RHLNGKESLV	ILQGAIEGGK	RK----R-ES
Malus domestica	SLK	HLEDNLS	LSWIVIDPTR	KRA-ANLSSR	TAVTVQRHHL	TGEIQLRFAT	ILAGEKKG--	--EYVQCGMV	VTCRSGSE-	GREL--HVRE	VSMQMEAMEG	NHLNGRESLV	ILQRAIEGGK	RR----K-EV
Prunus persica	SLK	QLEENLS	LSWIVIDPTR	KRA-ANFSSR	RAVTVQRHHL	TGEIQLRFAT	ILAGEKKG--	--EFVQCGMV	VTC--NWSE-	GGEL--HVRE	VSMQVEGMEG	NHLNGKESLV	ILERAIEGGK	RR----K-EV
Ricinus communis	WLK	QLEEDVT	LSWILIDPEQ	KRA-VNISSK	RPVSVQRHHL	TGEVQAKFAT	IFAGDRGKGS	ETEYVECEVV	VTC--GGKE-	GGEV--RVRD	VSMGMEDMEG	KALTGEDSLV	ILKEATERGE	RR----RGE-
Jatropha curcas	RLK	QVEQNLT	LSWILIDPKQ	KRA-VNISSH	RAVSVQRHHL	TGEVQAKFAT	ILAGDEEKGS	EREYVQFEVV	VTC--GGKE-	GGEI--HVRD	VSMVMEDMEG	KTLTGKESLV	ILQEAEMERGE	RR----KGS-
Manihot esculenta	WLR	QIQENIT	LSWILIDPQK	KRA-MNMSSQ	RAVSVRHHWL	TGEVQVKFAS	ILAGDGGMGS	ERESVQCEIM	VTC--GGEE-	GGEV--HVRD	VSMVMEDMEG	KVLSGKESLV	IVDGAMERGE	RR----KEKS
Populus trichocarpa	FVK	QLEENMT	LSWILIDPKR	RRA-MNLSSG	RPVSVQRHHL	TGEVVVKFAT	IMAGD---GG	EKEFVECGVM	VCC--GKKE-	GGEM--EVRE	ISMGMEDMEG	RNLTGKESLV	VIQEAEMERGE	RR----KGC
Nelumbo nucifera	TCQ	DLAENLK	LSWIVIDATG	RRA-ANLSSW	RPVSVQRHHL	SREIHARFAT	ILAG-DR-GS	T-EFVQCGIV	VTC--GGCE-	GGEM--QMRE	VSLQVEDMDG	TNLSGKDSLV	IMQRAMORGE	RK----KGR
Citrus clementina	TCR	EAEDLT	LSWILIDPIG	RRA-MNLSSY	KPVTVQRHHL	SGEAHRFSL	VLSGGDK-GS	SSEFVQCGIV	VTC--GGSQ-	GGEM--HVRE	VNLQVEDMDG	TNLSGKDSLV	ILQRLGEGKR	RN----VRGR
Cucumis melo	WLG	HLEENLT	VSWIIDPIN	NRA-ANISSR	QPVKVRHHWL	SGEIQVQYTT	VMGGDRRAGS	AVEMVECAVV	VSCGEKEE-	GMEM--SVTE	VSMQMLDMEG	KHLNGKESLG	ILREAMEKKG	RI----RGRK
Daucus carota	FRS	QLDQNL	LSWILIDPVS	QRA-ANLSTL	TPVSVRHHWL	DEDIAHAYVT	SLPG-LFAGE	SSEVQCSIL	VVC---GGT-	GGDL--QIKE	VSLLVQDMGD	KSLNGRESVA	ILHEAMEGQR	KR----KGRK
Dorcoceras hygrometricum	CMQ	IASDRLR	VSWILIDPAK	SRA-VSVASL	KAVEARRHHL	TGEVLLRFAT	VASGGDD---	--ELFQCAVM	ITF--GGRE-	GKQM--HARE	VYLQVEDVEG	KIVRGMSL	ILREAMEGPR	CI----SSQR
Arachis duranensis	WLR	HVQENLE	LSWILIDPSL	KRA-ANLSSR	RAVSARRHHL	TGEAEVVYAV	GVVEEG---	----AQCAVK	VTC---CGKS	GGEM--QVRE	VSLTMEIDL	RHVMGRDSMV	ILQRAMESSK	RK----KVDV
Vigna radiata	WLA	HLEENLG	LSWIVIDPTR	KRA-ANLSSR	RPVAARRHHL	TGDLEVI FAV	TMET-----	----VQWVIR	VTC---CGKA	GGAM--HVRE	ASLTMEDETEG	RHVTGRDSFV	ILQDAVENGE	RR----KDPD
Phaseolus vulgaris	RLA	HLEQNLE	LSWIVIDPTG	KRA-ANLSSR	RPVAARRHHL	TGDLEVS FAV	TMES-----	----VQCVIR	VTC---FGKA	GGAM--HVRE	VGLMMEDETEG	RHVIGRDSFV	ILQDAMANGE	RR----KDPD
Glycine max	LLN	HLENLA	LSWIIDPTR	KRA-ANLSSR	RPVSARRHHL	TAELEVL YAV	PMET-----	----VQCVVK	VTC---CGKV	GGAM--HVRE	VSLTMEDETEG	RHVMGRDSMV	ILQDAMANGE	RE----KLDA
Cynara cardunculus	MQS	NLEKHT	LSWILIDPIQ	HRA-VNLSSI	KPVSVHRNWL	TDDIELTFAV	VTAT-----	----YVKCNIE	MTC--GVKEG	SSEV--YVSG	VSLTVQDVGD	KCLNGKDSLV	ILQGLAVAQR	RS-----RKHS
Sesamum indicum	--SD	MVDDMM	LSWILIDPIG	RR-AVNLSH	KPVSVRHHWL	TGEVQVRYAS	ILAVDQR---	---QVQCGIV	IRC--GGSEC	GDEM--QVRE	VSLIEIDMDG	THLNGKESLV	FLQGALEGKK	GT-----GK
Erythranthe guttata	ACA	EMIDDMV	LSWILIDPTG	RRRANVLSH	KPVAVQRHHL	SGEVQVRYAS	ILAADQG---	---HVQCGIV	VTC--AASE-	GGEM--QVRE	VSVEMEDMDG	NHLTGKDSLV	FLHGALEGKK	GT-----GK
Beta vulgaris	TKC	LDYADLE	LSWIVMDPTG	GR-AVNVSS	RPVSVRHHWL	SSEVHVRYAA	VV---EG---	---HVMCSVE	VTC--VGGGP	GGGLVHLHTE	ACLKMEVDG	AHLNGKDSLV	ILQRLGEGKR	GSCLCRKGME
Medicago truncatula	TCH	DLEELR	LSWILIDPAS	HRA-VNVSSR	KAVAVQRHHL	SGEVKARFTT	VVYG-ET-AT	ALEVALCSVV	VML-----	-AESMEVRE	VSLQVEDMDG	KHVNGRDSLV	ILQKALEGGR	KW----KGVGE
Cicer arietinum	TCR	NLEELR	LSWILIDPVS	RRA-VNVSSG	KAVTVQRHHL	SGEVNLQFAT	VVYG-EI-AT	ALEVALCSVV	VTL-----	-VESMEVRE	VSLQVEDMDG	KHVNGRDSLV	ILKRALEGGR	NW---KGDE
Cajanus cajan	ECA	EIGEKLR	LSWIVDPEG	RRA-VEVSGG	RAVSVRHHWL	SGEVRVRLAT	VVGGGER-GS	ATEAALCSVT	VTF-----	-GGE-MQVRE	ACLEMEDLDG	MQLNGKESLG	ILQRALEGKR	GKLLSEGHG
Nicotiana tabacum	CKS	RLKENMK	LSWILIDPKK	NRA-VNMSL	KPVSVRHHWL	TGELKVRYS	VMASGADAG	GGGLVQCGIV	VTC---EGKE	GGEL--HVRE	VSMQMEAMEG	KVLSGKDSLV	ILQEAEMERGE	KKRKEGKKE
AT2G36090	TCR	DLKDLT	LSWIVIDPIG	KRA-ANISSH	RPVSVQRNWI	SGEVEAQFAT	VVGA-----	----VECVIT	VVT-----	CGEEMHVRE	VSLKVEKMEG	THLNGRDSLV	ILRSVMEGKR	VN-----GS
Consensus	....	leen\$.	LSWILIDP..	kRA.a.#.Ssr	rpVsv.RhWL	tg#v.vr%at	...g.....	...e.v.c...	vtc.....	gge....!r#	vs\$.#dm#G	..l.Gkdslv	!l..a.eggr	r.
Conserved regions														

Figure S2. (continued)

391 461

CFB [Arabidopsis thaliana] GGEEE**GKEKY** IEYMERKTAK AEMKWRRGKE TAMETAACWI A---VLLLG F LLCFYLFMHK NLVAIMKKLI K

Arabidopsis lyrata GGEGGG**GKEKY** LEFMERKSEK AEMKWRRGKE TAMETAACWI A---VLLLG F LLCFYLFH K NMVAIMKKLI K

Capsella rubella GREEEG**GKEKY** REFKERKTAK SEMKWRRPEKE AAMETAACWI A---VFLLG F LLCFYLFH K NMMAIMNKL K

Camelina sativa GGEE**DGKEKY** REFMERKTGK AV---RREKE TAIETAACWI A---VLLLG F LLCFYLFH K NMIAIMNKL K

Tarenaya hassleriana GGE---ERY RELEQRKREA REERGRSS KAVDTAACV AGGAAVVSF WLC**LYLCIRQ** KLVVIVNKLK

Arabis alpina

AT2G27310 ERR--AKERY EEYVRMKIQW RENKERREKA QDTICMIFGF S---MFVLLW SFILLR

Ziziphus jujuba KGRE**FQQR** EEYLEMQQR KEKKARRELA LDMACIVCGI S---MVFVW TFLVFR

Morus notabilis VGE--GKERF EEFLVRRREM REKKQRRELA LDLACILTVG S---IFVAFW SFVLF

Eucalyptus grandis ASE--GKERF EEYEARKRER REKQRAERA LDLLCIVVGV T---AFVGFW SFILFR

Vitis vinifera EE---GKARY ERYLEMMGER RERLRREKT LDMVCIALGV T---IFLSFW SYFLFT

Gossypium hirsutum NE---GKVKF EE**FQRR** KEENQRKERV LDLVCIITVGV V---GFVSFW SAILFK

Theobroma cacao NE---GKERY EE**FGR** KERRQRKERA LDLVCSISIGV A---GFVTFW SAMLFR

Fragaria vesca EEGEG**GKARF** GEFLEMKRER KERTQRRELA LDMVCIAAGV T---LFMAFW SFVLF

Malus domestica K---GKAKY EEYLEMKRER REKERREKA LDMICIAAGV T---IFMAFW SFVLF

Prunus persica K---GKGRF EEYLEMKRER REKERREKT LDMICIATG

Ricinus communis --D---GKERY KEFLKRREW KERKERRESV LDWVCITAGV T---SFLAFW SFILFR

Jatropha curcas GKE--GKERF KEFLERKRE KERQRREKI LDWVCIASGI S---SFMAFW SYILFQ

Manihot esculenta GEE--GKERY NEFVGRRRDR REKRRREKI WDLVCIASGF S---SLMAFC SFLLLS

Populus trichocarpa GTE--GKGRY EE**FVRR** KARQKMEKV LDMVCIVTGI T---IFVSSW SFILFR

Nelumbo nucifera KGE--GKERY EELLRRKAER KERKLRRRGR LDSMCMFVSV L---FFASVW MLCFLR

Citrus clementina EDE--GKRKY EDYVEKKRER REKLRTEGA LDMLCVAFGV F---TFSSG LYLLWR

Cucumis melo GD---GKLRY EEYEEMKRER KARKERIENG LDMLCRSSG

Daucus carota EEE---RERY QELMEMRREM GERQRRERM MDMVCMLTGV S---IFMAFC GFLWLR

Doroceras hygrometricum ME---KEKY EMLVKMKIEC LERKQRRELA LDMAFVAIAV S---IFLAIL IYFLNR

Arachis duranensis VE---AKERY EKFCDTKIER REMRIKREKT MDTVAMFVAF T---VFVTLF CFLRFYVCV

Vigna radiata EE---AKARF DKFCRLKREI REKLRRRDSA MDTVAMLVSF T---IFVSLF WFMVFGF

Phaseolus vulgaris EE---ARARF EKFCRLKDI REKVRRRDNA MDMVAMLVSF T---VFVSLF WFMVFGF

Glycine max EK---AKERF EKFSIVKREI REKMRDRRA MDMVAMLI AF A---VFALLF CFMAFGV

Cynara cardunculus GGEEERDRY KEYIQRRRER DEKTERRERR LDMACVVSGV A---FVAFW SFALF

Sesamum indicum NRVEEGQRRY KAYVEMKRER KERKLRTEGA LDMVCVAFGV S---IFVAFW ---CFLFSR

Erythranthe guttata NRVEEGQRRY CKYMEMKRER REKLRVESA LDMFVAFGI S---LVFGFC ---CFLLCR

Beta vulgaris GRVEEGRRRY LEYLERKRE REKVLRRRGR LDNMCVGIGV F---LVFGII YLLCFSTSR

Medicago truncatula G-----EGY REFVKKKKE ERKKRVERR MDIMCLFVGL V---SLTFVA FFAL

Cicer arietinum -----EGH REFVKKKKE ERKKRAERR LDMLCLCVGL V---SLTFVA FFAL

Cajanus cajan N-----DRF ADFVYRKMER KERKVRDERR LDLLCLCLGF A---ILSFAA LSTLFL

Nicotiana tabacum

AT2G36090 RREVESKRRH EEFMEKKREM KEKKMRVESV FDILTVAFGI L---GFVLLV VFCLWRVTSI

Consensus**gk.ry** .**e**.....**krer** .**erk**.**rre**.. **ld**.**c**....**g**. . .**f**.... ..**lf**.....

Conserved regions

Figure S2. (continued)



Pro35S:CFB-GFP-52V

Figure S3. Phenotype of plants overexpressing a *CFB-GFP* fusion gene. Photograph of a transgenic plant harboring the *Pro35S:GFP-CFB* gene (individual 52V, see Figure 3) four weeks after germination showing the typical *CFB* overexpression phenotype with white inflorescence stem tips. The arrowhead indicates the onset of the white stem tissue. The inset shows the inflorescence of the same plant at a higher magnification.

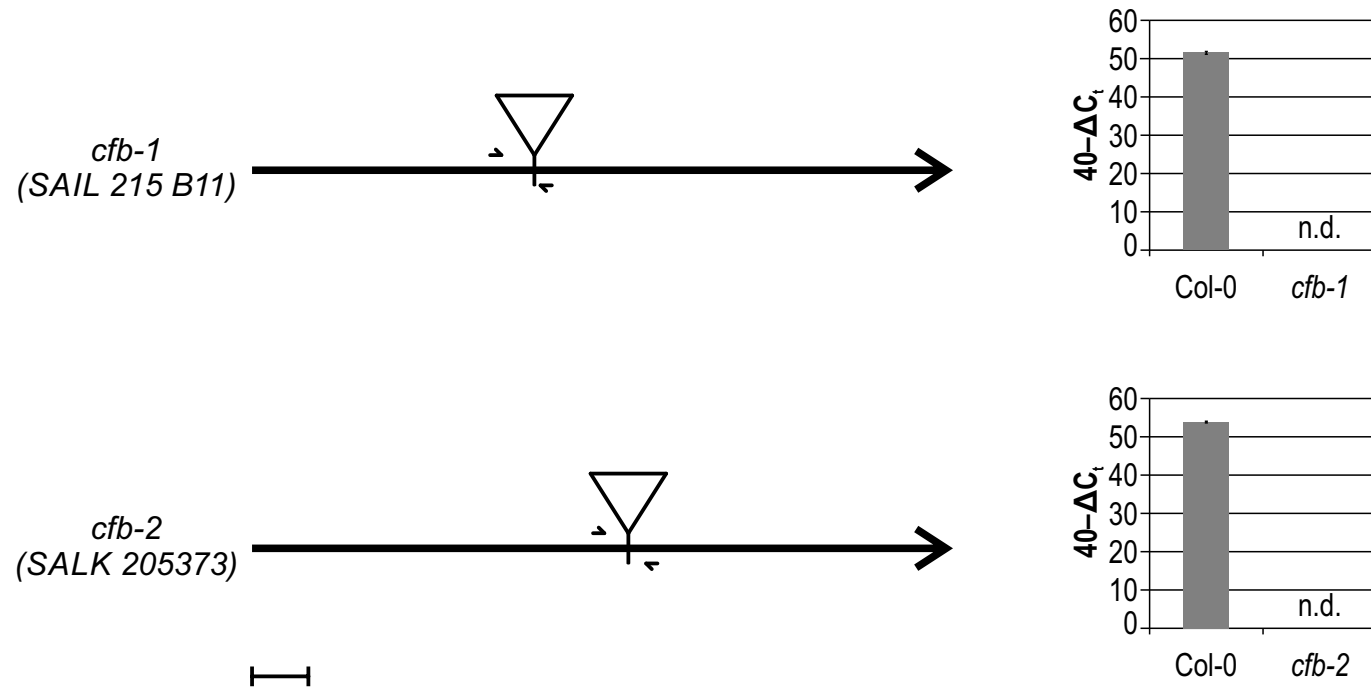


Figure S4. Analysis of the *CFB* transcript in *cfb-1* and *cfb-2* mutants. The position of the T-DNA insertions relative to the cDNA of *CFB* (represented by a bold arrow) is marked by triangles, the position of the primers used for quantitative real-time RT-PCR by half arrows. Transcript abundance was measured by 40 cycles of quantitative real-time RT-PCR in leaves of wild-type (*Col-0*), *cfb-1*, and *cfb-2* mutant plants. *AT3G25800* (*PP2AA2*) was used as a reference gene. Primer sequences are listed in Table S2. Error bars = SD ($n = 3$). n.d.: not detected. Scale bar = 100 bp.

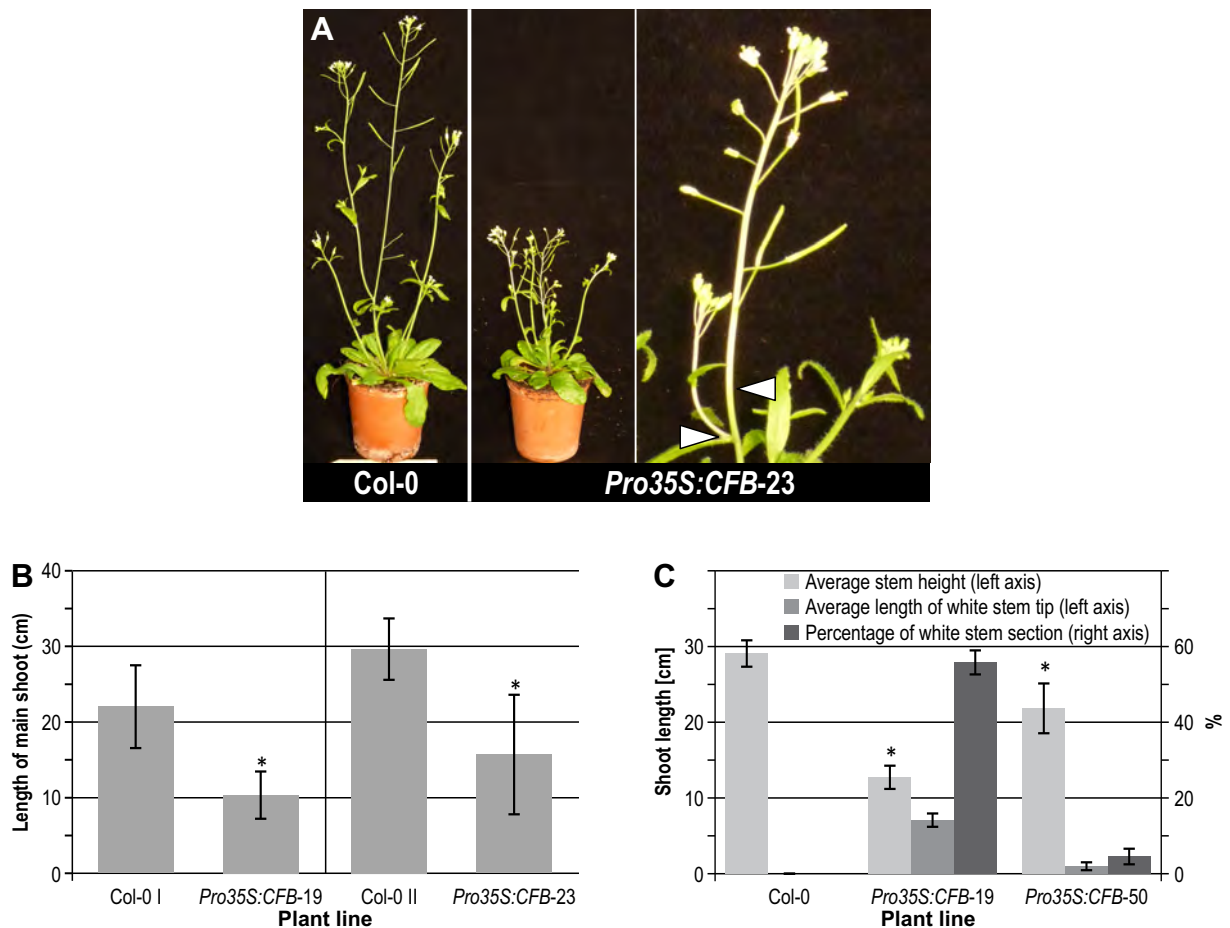


Figure S5. Comparison of independent *CFB* overexpressing lines to the reference line *Pro35S:CFB-19* and wild type. **A**, Comparison of line *Pro35S:CFB-23* to wild type at the flowering stage. The onset of albinotic tissue formation is indicated with arrowheads. **B**, Comparison of inflorescence stem length between the wild type (*Col-0*) and the *CFB* overexpressing lines 19 and 23, respectively. Stem lengths of plants grown on soil in the greenhouse were measured 30 (line 19) or 38 (line 23) days after sowing. **C**, Lengths of the main stems and percentage of the white upper portion of the stems of lines 19 and 50 in comparison to the wild type. Stem lengths of plants grown on soil in the greenhouse were measured 38 days after sowing. Error bars = SD ($n \geq 8$). Asterisks indicate a p value < 0.01 (Student's t -test; comparison transgenic lines vs. wild type).

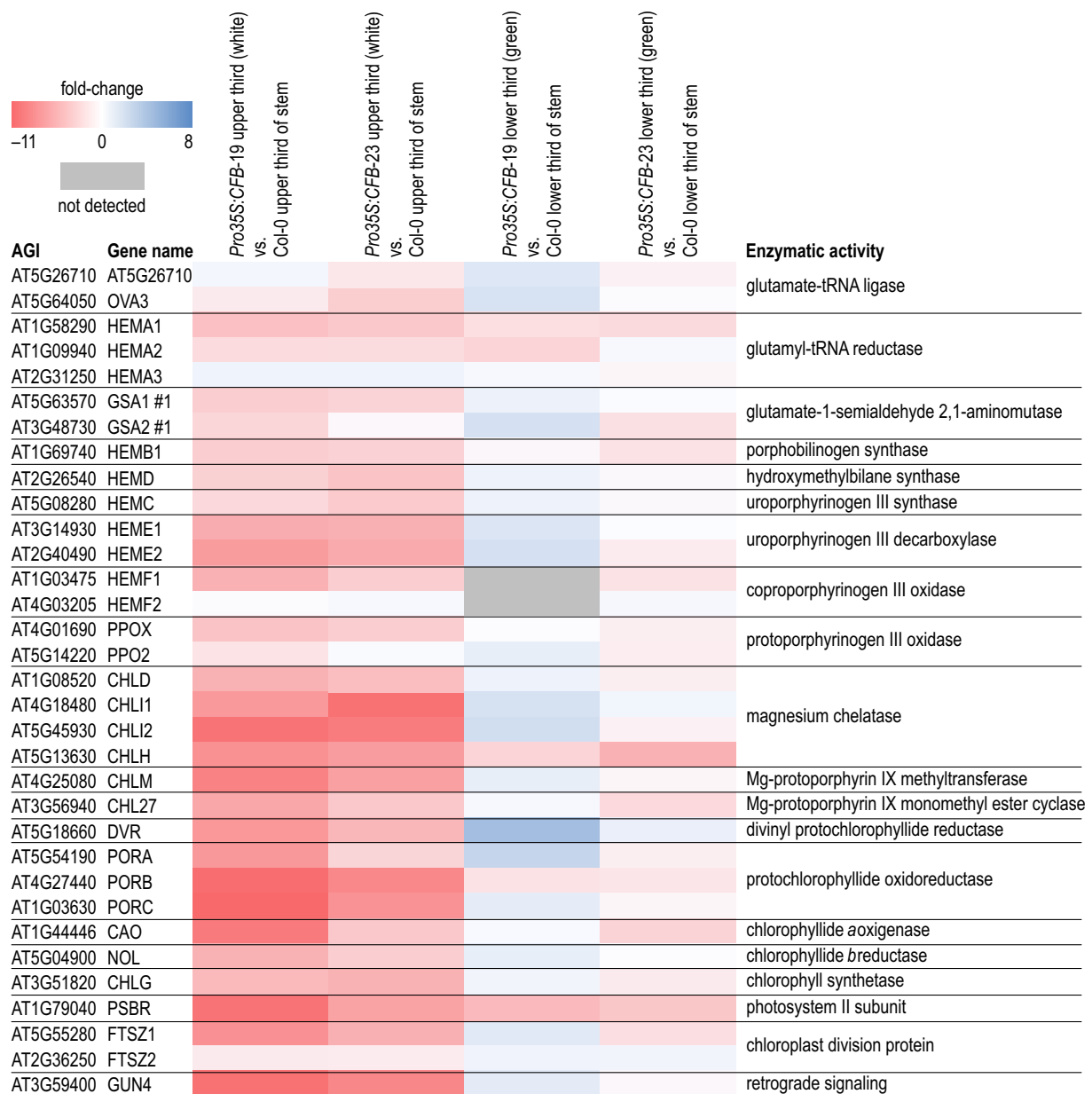


Figure S6. Expression of chlorophyll biosynthesis and other chloroplast-related genes in green and white stem sections of two *CFB* overexpressing lines, *ProCFB35S:CFB-19* and *Pro35S:CFB-23*. The upper and lower third of the stems of flowering plants were pooled from twenty plants of wild type and the two *CFB* overexpressing lines each. Transcript levels were quantified by qRT-PCR. The fold-changes between the samples indicated were calculated and shown as a heat map.

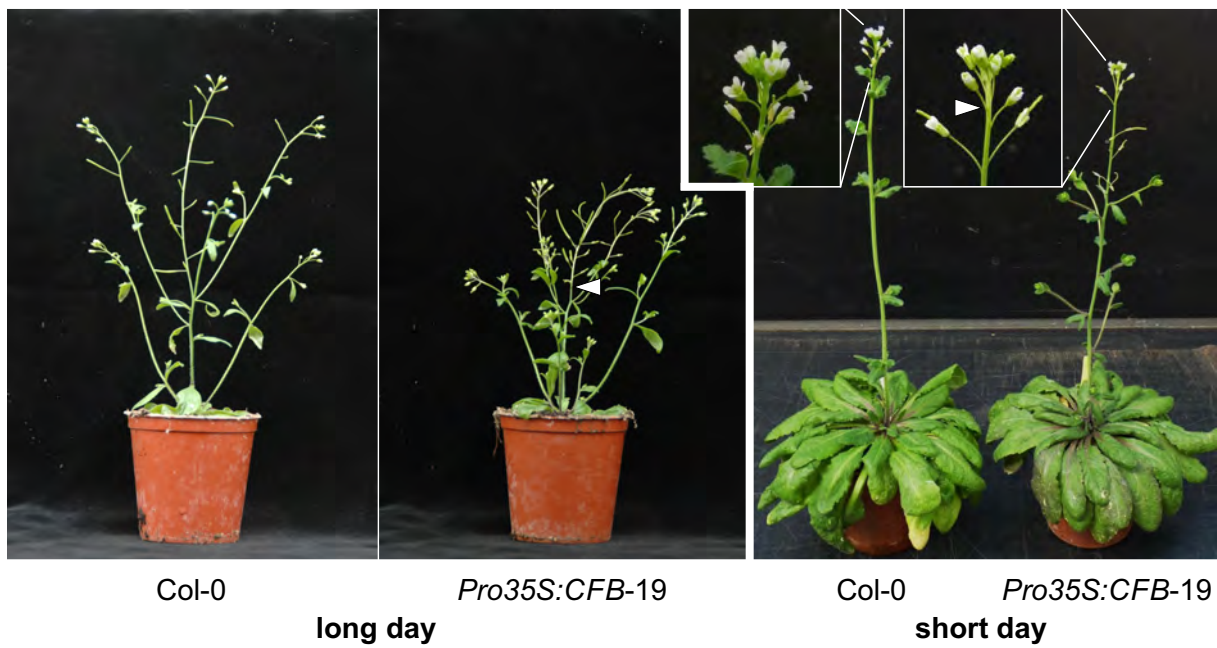


Figure S7. Formation of the albinotic stem tip of *CFB* overexpressing plants grown under long-day (16 h light/8 h dark) and short-day (8 h light/16 h dark) conditions. Arrowheads mark the onset of albinotic tissue formation.

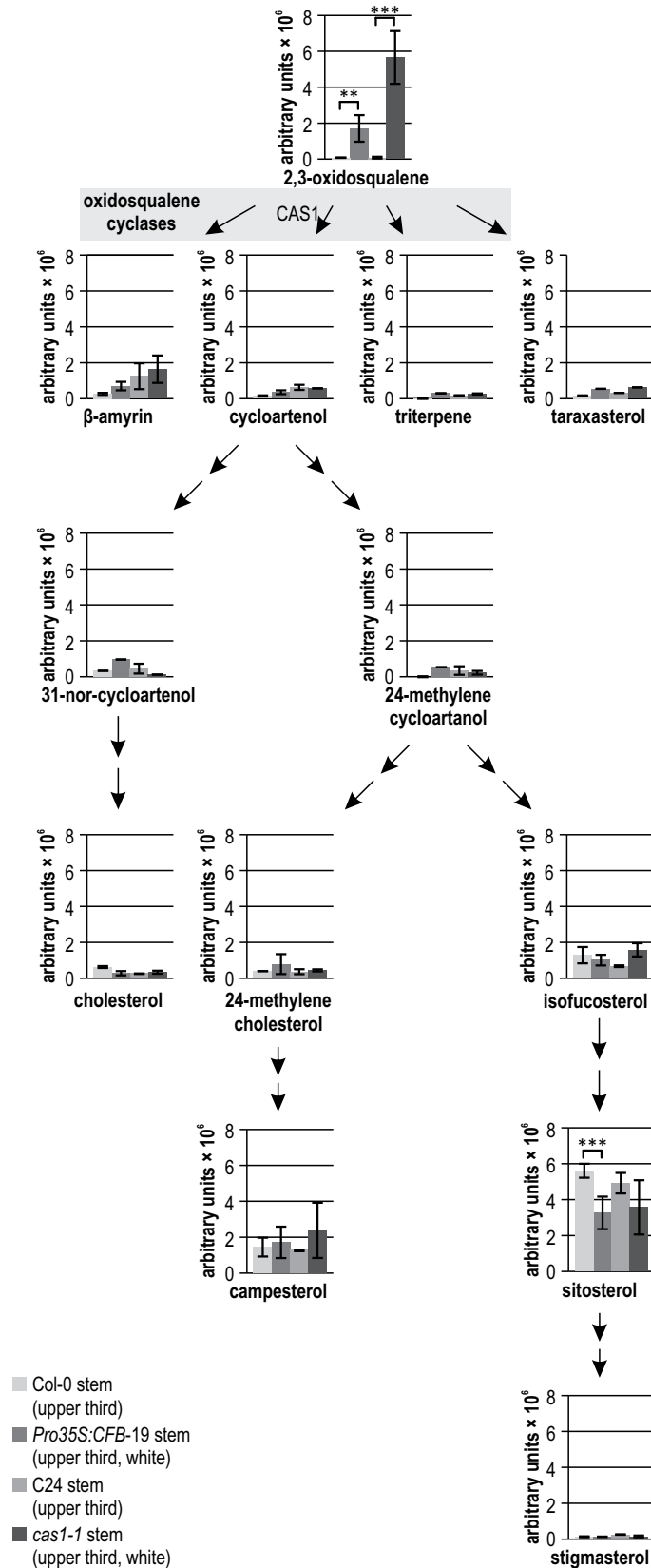


Figure S8. Relative concentrations of sterol metabolites in different genotypes and tissues. Sterol metabolites were measured in the upper thirds of the inflorescence stems of wild-type, *CFB* overexpressing (*Col-0* background), and *cas1-1* (*C24* background) mutant plants. In the two latter plants, the upper third of the stem contained only albinotic tissue. Units of the y axis are mass spectrometry peak heights normalized to the internal control $\times 10^6$. Significance codes: **: $p < 0.01$; ***: $p < 0.001$. Error bars = SD of two to four biological replicates