

Supplementary Material

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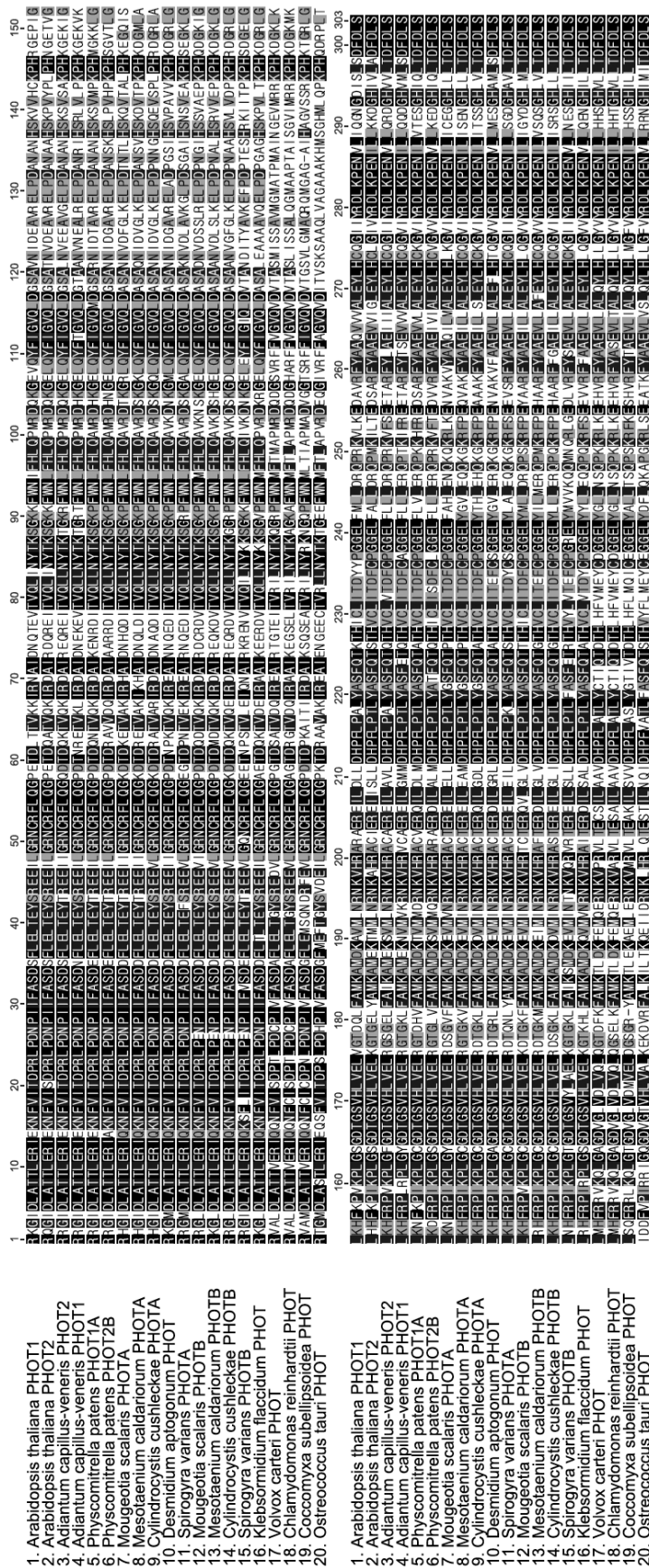
Supplementary Table S1. List of primers used in this study

Name	Sense primer	Antisense primer
SvPHOTA-cloning	CTTATACTGTGAATGAACTCTC	GAATTCCTCGAATGACGTCG
SvPHOTB-cloning	CGATTCTCCGACGGAAATG	CCATTCTCTCCATCAACTAC
SvGAPDH-qPCR	GGAACAGGTGTCTTCATCGAC	ATAGGTTCCGGAGTGGACGT
SvPHOTA-qPCR	AGCATCTCTCAACCAGCAGG	TGCTCGCTTTTCGACGATTTTC
SvPHOTB-qPCR	ACAGATCCTAGACTCCCCGA	CTCTTCTCCCTGCAGGAACC
SvPHOTA-probe	GGTTCTTCAGCAACCAAGC	CGTGGTTGACTACAGGGAG
SvPHOTB-probe	GCGCAGAGGGATAGACTTAG	CTGCTTTCCAGTTATCGCTG

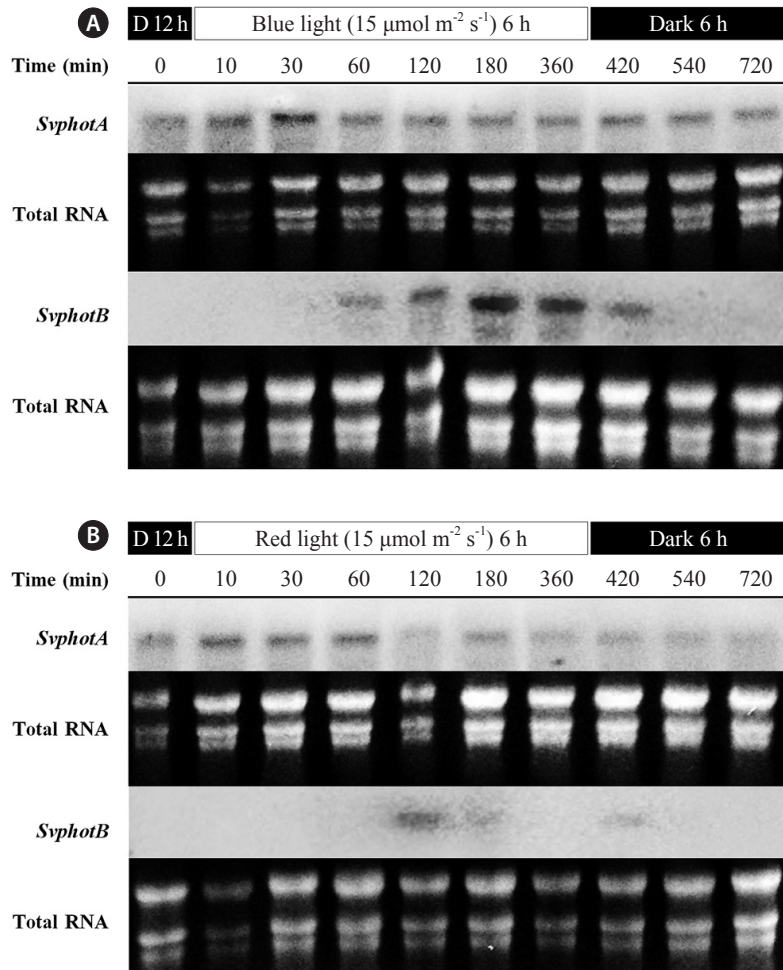
qPCR, quantitative polymerase chain reaction.

Supplementary Table S2. Genbank accession number of sequences of phototropin used for phylogenetic analyses

Species	Gene	Accession No.	Length (aa)
<i>Arabidopsis thaliana</i>	PHOT1	AEE78073	996
	PHOT2	AED97004	915
<i>Adiantum capillus-veneris</i>	PHOT1	BAA95669	1,092
	PHOT2	BAD16729	1,019
<i>Selaginella moellendorffii</i>	PHOT1-1	XP002965484	952
	PHOT2-1	XP002971709	930
<i>Physcomitrella patens</i>	PHOT1A	XP001774256	1,070
	PHOT2B	XP001785726	1,171
<i>Mougeotia scalaris</i>	PHOTA	BAE20160	839
	PHOTB	BAE20161	803
<i>Mesotaenium caldariorum</i>	PHOTA	ANC96838	850
	PHOTB	ANC96840	741
<i>Cylindrocystis cushleckae</i>	PHOTA	AHZ63921	814
	PHOTB	AHZ63919	841
<i>Desmidium aptogonum</i>	PHOT	AHZ63910	868
<i>Klebsormidium flaccidum</i>	PHOT	GAQ80185	871
<i>Chlamydomonas reinhardtii</i>	PHOT	EDP03413	750
<i>Volvox carteri</i>	PHOT	XP002950465	744
<i>Coccomyxa subellipsoidea</i>	PHOT	AHZ63930	775
<i>Ostreococcus tauri</i>	PHOT	XP003083739	738



Supplementary Fig. S1. Alignment of phototropin amino acid sequences used in phylogenetic analysis.



Supplementary Fig. S2. Northern blot analysis on expression of *SvphotA* and *SvphotB* in blue (A) and red (B) light. The filaments were pre-incubated in the dark for 12 h prior to exposure to red and blue light.