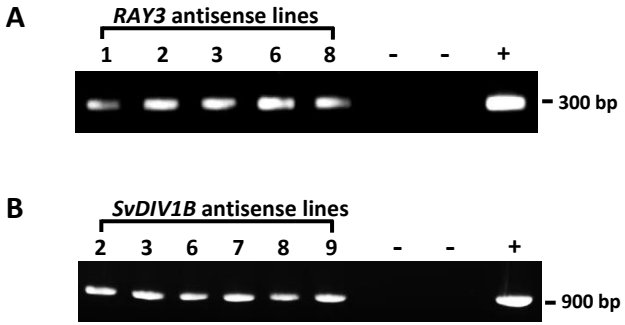
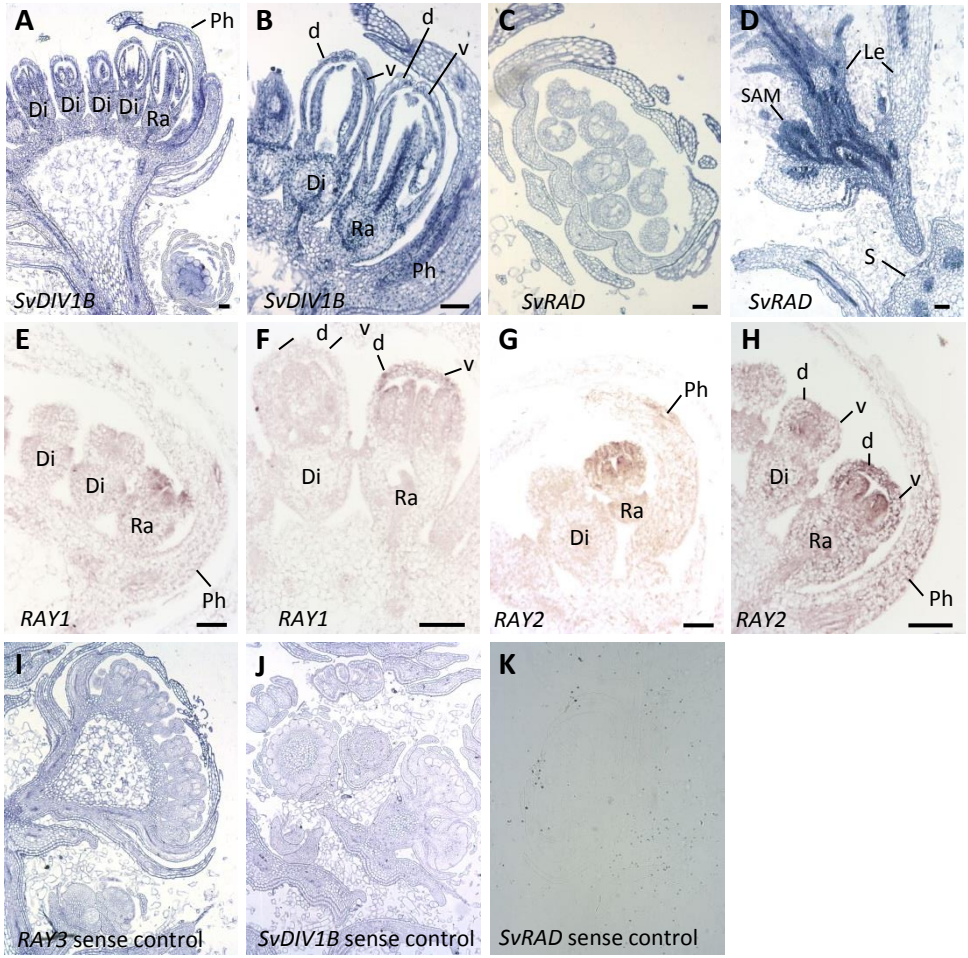


Supplementary Figure 1. PCR amplification of *RAY3* and *SvDIV1B* transgenes. A, *RAY3* antisense lines (1, 2, 3, 6 and 8) showed the presence of the *RAY3* transgene. No amplification was detected in either of the two wild-type non-transformed controls (-). *RAY3* antisense construct amplification (+) showed a 300 bp positive band, as expected. B, *SvDIV1B* antisense lines (2, 3, 6, 7, 8 and 9) showed the presence of the *SvDIV1B* transgene. No amplification was detected in either of the two wild-type non-transformed controls (-). *SvDIV1B* antisense construct amplification (+) showed a 900 bp positive band, as expected.



Supplementary Figure 2. *In situ* hybridization showing the expression pattern of *SvDIV1B* (A, B), *SvRAD* (C, D), *RAY1* (E, F) and *RAY2* (G, H) in the *S. vulgaris*. During later capitulum development (stage 6-7), *DIV1B* (A, B) was expressed ubiquitously in ray and disc florets, whereas *SvRAD* (C, D) was expressed in the vegetative tissues including the vasculature. *RAY1* and *RAY2* were expressed in both dorsal and ventral petals of ray florets (E, G: stage4 and F, H: stage 5). *In situ* sense controls (I-K). Di, disc florets; Ra, ray florets; Ph, phyllaries; Le , leaf; S, stem; SAM, shoot apical meristem; d, dorsal petal and v, ventral petal. Scale bars are 100 µm.

Degenerative primers	Sequences (5'-3')
DeDIVForw-1	CCNGGNAARACNGTNKGNGAYGTNAT
DeDIVRev-1	RAARTAYTTYTGNGCRTGNSWNGCNACYTG
DeDIVRev-2	CCATACTTRTTWAGCCCSAGCAAAAATTGCCTG
DeCYC-1	AGCAAAACCCTWGATTGGCT
DeCYC-2	YCTTTCYCKAGCTCTTGCTC
DeRADForw	AIAACRARIISTTYGARMRR
DeRADRev	YTGTAIKYKGGSAAIGGIAC
G775	GACTCGGAGTCGACATCGA$(T)_{17}$
G873	ATGCTIGGI TTRGARAAYCCIAGRAAYACI CTIGARTGG
Specific primers	
SvDIV1BF	GCGTGCGTGGCTACTTGAGTAG
SvDIV1BR	TGAGTATCATTGTAGCACTTCTCCTTTCAC
35SForw	CGCACAATCCCACTATCCTT
Antisense construct primers	
SvDIV1B-5'SacI	CGAGCTCGTGAGTATCATTGTAGCACTTCTCCTTTCAC
SvDIV1B-3'XbaI	GCTCTAGAGCGCGTGCGTGGCTACTTGAGTAG
RAY3-5'SacI	CGAGCTCGGATTGGCTTCTTACCAAGTCCC
RAY3-3'XbaI	GCTCTAGAGCCTTGAATTAACCCAGCCTTGCTG
qRT-PCR primers	
qSvDIV1BF	GCTCTTCTTCAGTCCAAGGAACA
qSvDIV1BR	GTCTATTGTGCGCGAGGGAAG
qSvRADF	AATCGGCAGAAGAAGTGAAGAGG
qSvRADR	TATTGCATTACCTCATGGTTGGCAA
qRAY1F	CAGGATCAACTTAGTAAAGATTCAGGG
qRAY1R	GCAAGATCCACACGGCTCAAG
qRAY2F	GACCCCGGCGATTGTCTTC
qRAY2R	CCATAGTCCCAAGAAAGATCATCATAG
qRAY3F	GGCTTCTTACCAAGTCCCTTAC
qRAY3R	GATGTCCCCTTAATGCTTTCCAG

Supplementary Table 1. Primer sequences used for cloning genes, making constructs and expression analysis. Restriction enzyme sites are underlined.