

Table S1: Primer list.**Primers used to isolate homologs:**

Locus	Name	Sequence 5'>3'
<i>SHPI/2</i>	For1: ATG3	ATGGSIMGIGGIAARATISARAT
	For2: AGf	ACIAAYMGICARGTIACITTYTG
	For3: SHP2fbp314	CAGAATCTGAACAGACACATTC
	Rev1: poly-T	CCGGATCCTCTAGAGCGGCCGC(T) ₁₇
	Rev2: SHPprev	AAACAAGTTGIAGIGGIGGTTGGT
	Rev3: SHP1rev	CTCCGGATTCAATCTCGCACCTTGT
<i>FUL</i>	For1: AP1F	GTISARYTIAARMRRATIGARAA YAARAT
	For2: FULf	GAGCAYCARCTNGAYGCNGCNATHAARAG
	Rev1: poly-T	CCGGATCCTCTAGAGCGGCCGC(T) ₁₇
	Rev2: FULr	GTNGGNCGYAACATCCANGCNGG
<i>ALC</i>	For1: ALCfor1	AGRAGRAGYAARATHAAYGARAARAT
	For2: ALCfor2	ATHCCNAAAYTCNAA YAARACNGAYAA
	Rev: poly-T	CCGGATCCTCTAGAGCGGCCGC(T) ₁₇
<i>RPL</i>	For1: RPLfor	GTNTAYAARAGRTAYARRCARTAYTA
	For2: RPLfor2	TAYTAYGARCARTICARCGIGTIAT
	Rev1: poly-T	CCGGATCCTCTAGAGCGGCCGC(T) ₁₇
	Rev2: RPLrev	TGDATYTCYTCNACCATNGGYTTCCA
<i>IND</i>	For1: INDfor1	CGNCGNGARAGRATHAGYCARAARAT
	For2: INDfor2	GTNCCNGGNGGNGCNAAARATGGAYAC
	Rev: poly-T	CCGGATCCTCTAGAGCGGCCGC(T) ₁₇

Primers used to generate in situ probes:

Locus	Forward primer 5'>3'	Reverse primer 5'>3'
<i>CISHP1</i>	CAGAATTCAAATAGGCATATTG	CCGGATCCTCTAGAGCGGCCGC(T) ₁₇
<i>CISHP2</i>	CAGAATCTGAACAGACACATTC	TTAAACAAGTTGTAGAGGTG
<i>EeSHP2</i>	CAGAATCTGAACAGACACATTC	TTAAACAAGTTGTAGAGGTG
<i>CIFUL1</i>	GAGCAYCARCTNGAYGCNGCNATHAARAG	CCGGATCCTCTAGAGCGGCCGC(T) ₁₇
<i>CIFUL2</i>	GAGCAYCARCTNGAYGCNGCNATHAARAG	CCGGATCCTCTAGAGCGGCCGC(T) ₁₇
<i>EeFUL1</i>	GAGCAYCARCTNGAYGCNGCNATHAARAG	CCGGATCCTCTAGAGCGGCCGC(T) ₁₇
<i>EeFUL2</i>	TCCAAAGCTTGAGCAAGAGCATTAG	CCGGATCCTCTAGAGCGGCCGC(T) ₁₇
<i>ClALC</i>	ATHCCNAAAYTCNAA YAARACNGAYAA	CCGGATCCTCTAGAGCGGCCGC(T) ₁₇
<i>EeALC</i>	ATHCCNAAAYTCNAA YAARACNGAYAA	CCGGATCCTCTAGAGCGGCCGC(T) ₁₇
<i>CIRPL</i>	GTGTATAAGAGGTATAAGCAGTATTA	GGAGCATGATGATCAGGGAATCC
<i>EeRPL</i>	GTGTATAAGAGGTATAAGCAGTATTA	GGAGCATGATGATCAGGGAATCC
<i>EeIND</i>	GTNCCNGGNGGNGCNAAARATGGAYAC	CCGGATCCTCTAGAGCGGCCGC(T) ₁₇

Primers used for RT-PCR:

Locus	Forward primer 5'>3'	Reverse primer 5'>3'
<i>ClSHP1</i>	CAGAATTCTAACAGGCATATAGTTGGGG	CTCCGGATTCAATCTCGCAACTTGT
<i>ClSHP2</i>	CTGAACAGACACATTCTTGGTGATTCTC	TAAACAAGTTGTAGAGGTG
<i>EeSHP2</i>	CTGAACAGACACATTCTTGGTGATTCTC	TAAACAAGTTGTAGAGGTG
<i>ClFUL1</i>	ATCAGCTCGCCGCTGCCATCAAGA	GAGGACGCACCGACGTTCTCT
<i>ClFUL2</i>	ATCAACTCCCTGCTGCTATCAAAA	GACGATGCATCTCCGTTCTCT
<i>EeFUL1</i>	ATCAGCTCGATGCTGCTATTAAGA	CGACGATGCAACGCCGTTCTCT
<i>EeFUL2</i>	TCCAAAGCTTGGAGCAAGAGCATTAG	CGATGCACCTCCGTCCCAACT
<i>ClALC</i>	GACGGATAAAGCCTCAATGC	AGCGAAAATCTGACTTGGGA
<i>EeALC</i>	GACGGATAAAGCCTCAATGC	TGACATAGGATCATCTTCACCG
<i>ClRPL</i>	GTGTATAAGAGGTATAAGCAGTATTA	GGAGCATGATGATCAGGGAATCC
<i>EeRPL</i>	CAGCTGCAGGCGGTGATGGGCTCATTC	GCTTCCAAACCCTAACTCGTGCG
<i>EeIND</i>	CCCTTCTACCTGTGTCGGAGGTTACG	CCACCCATCGAGATGCAATATTA
<i>ACTIN</i> ¹	GATGGATCCTCCAATCCAGACACTGTA	GTATTGTGGACTCTGGTGATGGTGT

¹ Kramer EM, Holappa L, Gould B, Jaramillo MA, Setnikov D, Santiago PM: **Elaboration of B gene function to include the identity of novel floral organs in the lower eudicot *Aquilegia*. *Plant Cell* 2007, 19:750-766.**