

Supplementary Information

Table S1. Primers used for gene cloning and PCR analysis in the present study. The primers were designed by the software Primer Express 3.0 on the basis of the sequences conserved in the orthologs (such as *Oryza sativa*, *Triticum aestivum*, *Lolium temulentum*) of these genes.

Primer Name	Primer Sequence (5'-3')
<i>DIAPI</i> F	ATCGAGAACAAAGATCAACCGGCAGG
<i>DIAPI</i> R	CCTTCAGTTCCCTATATCGTGGCA
<i>DITFL1</i> F	TGGTTATGACGGACCCAGATG
<i>DITFL1</i> R	TACCGATGTTCGGCTTG
<i>DIRFL</i> F	AGCCCAAGATGCGGCACTA
<i>DIRFL</i> R	AGACGGCGTCGATGTCGAA
<i>DIID1</i> F	GGAAGGCGCACGTCAAGAAC
<i>DIID1</i> R	TCAGCTAGGGCATCGCAGAAG
<i>DIFT</i> F	GATGTGCTACGAGAGCCCCAAGG
<i>DIFT</i> R	CGCTGGCAGTTGAAGTAGACGG
<i>DIMADSI</i> F	GGAACGGGCTGCTCAAGAA
<i>DIMADSI</i> R	CCATATTACTTGCTTGGCTGGAGTA
<i>DIMADS2</i> F	CATGTATGGACAAAATTCTTGAACG
<i>DIMADS2</i> R	GGTGCTTTGACATTCTGTATCG
<i>PpACT</i> F	GTGTTGGATTGGAGGGTCCATCCT
<i>PpACT</i> R	GTAGCTTACATGGCAAGGACTTG
<i>DIEMF2</i> F	TACTACAGTTGGAAAGACAAGGAA
<i>DIEMF2</i> R	CCGAACAAATGAATTCCACATATGC
<i>DISPL9</i> F	ACTGTGGTAGTTGCTGCTGTAT
<i>DISPL9</i> R	GTGGAGTCGCTAGACAAGTACC
<i>DIFCA</i> F	TGCCTGCTGTGAAGATTGATAAC
<i>DIFCA</i> R	CAAGTTGTTCCCTGGCCAACA

Table S2. The nucleotide sequences of the candidate genes that isolated.

Name	Sequence (5'-3')
<i>DIAPI</i>	CGCGGTCGGAGCTGCTCAGAGGCGCATGAGATCTCCGTCTCGCGACGCCGAGG TCGGCCTTATCATCTTCTCACCAAGGGCAAGCTCTACGAGTACGCCACCGACTCA TGTATGGACAAAATTCTTGAACGGTACGAGCGTTACTCCTATGCAGAAAAGGTTCT TATTTCAGCCGAATCTGAAACTCAGGGCAACTGGTGCCACGAATATAGGAAAAGT GAAGGA
<i>DITFL1</i>	AGCTCTACCCATCAGCAGTTGAATCTAACCAAGAGTAGAGGTCCAAGGGGGTG ACTTGCAGGTCTTCCTCACATTGGTTATGACGGACCCAGATGTGCCAGGACCAA GTGATCCATACCTAACGGAGCACCTTCACTGGATTGTCTGTGATATACTGGGAC AACAGATGCTTCTTTGGACGAGAGGTACAGCTACGAGAGGCCAAGCCGAA CATCGGTATCCACAGGCTTCATTAAAC
<i>DIRFL</i>	TGGCAGAGGAGGCGTCCAACGCGCATCGGGCGGTACAAGGCGCGCGA GAACGTCGGCGCGTGGCGGCAGGCGTGTACGCGCCGCTCGACATCTCCGC GCGCCACGGCTTCGACATCGACGCCGTCA
<i>DIEMF2</i>	CTTCCGTTCTCACAGGGCACAGCCAATGGCATTGGAACAAGTTTCAGATCGT GATAGTGAAGACGAAGTTGATGATGATATCGCCGACTTGAAGATAGAAGGATG CTTGATGATTTGTTGATGTTACAAAAGATGAGAAGCTTATTATGCATATGTGGA ATTCACTTGTTGGAAACAAAGGGTGTAGCCGATG
<i>DIFT</i>	ATGTGCTACGAGAGGCCAAGGCCAACCATGGGATCCACCGCTTCGTGTTCGT CTGTTCCAGCAGCTGGGCCGGCAGACGGTGTACGCCCGGTTGGCGCCAGAAC TTCAACACCAGGACTCGCCGAGCTGACATGCTGACCCCTACG
<i>DIID1</i>	TGGAAGGCGCACGTCAAGAACTGCGGCACGCGCGAGTACCGTTGCGACTGCGG CATCCTCTCTCCAGAAGACAG
<i>DIFCA</i>	GCAGCTGTTGGAGTAGCACTGTGGTGCTTGTGACGGCATCTGCTGCATTGGCTGT TGAAGCATTGCGGTGCAACATTGGAGGAAAGTTGCTGTTGCCAGGAACAACT TGA
<i>DISPL9</i>	CTGGTTGCATCACTTATAACATTCACCCACAGAGAGTAGGGGTGCTGCAGCTC CAGTGAAGAGGTACTTGTCTAGCGACTCCACA
<i>DIMADSI</i>	TGACTCGCGCTCTCGCGACGCCGAGGTCGCGCTCATCGTCTCCACCAAGGGC AAGCTCTACGAGTACTCCAGCCAAGCAAGTAATATGGA
<i>DIMADS2</i>	GGCAACTGGTGTACGAATATAGGAAACTGAAGGCGAAGGTTGAGACGATACA GAAATGTAAAAGCACCATG

Table S3. The p-value of the genes between two stages by the two-sample *t*-test. S1: the vegetative phase; S2: initiation of inflorescence; S3: initiation of floral primordia; S4: initiation of the primordia of stamen and pistil; S5: the advanced floral primordium into a complete flower. The black star (★) indicates significant difference compared with the previous stage (*p* value < 0.05).

Genes	S2/S1	S3/S2	S4/S3	S5/S4
<i>DlAPI</i>	0.7149	0.0659	0.0003 ★	0.0000 ★
<i>DlRFL</i>	0.0000 ★	0.022 ★	0.1028	0.0468 ★
<i>DlTFL1</i>	0.0392 ★	0.0001 ★	0.0000 ★	0.0014 ★
<i>DlFCA</i>	0.0038 ★	0.1459	0.0009 ★	0.6727
<i>DlID1</i>	0.0005 ★	0.0000 ★	0.6442	0.8834
<i>DlFT</i>	0.6333	0.4300	0.6990	0.0211 ★
<i>DlMADS1</i>	0.0082 ★	0.3132	0.3571	0.1343
<i>DlMADS2</i>	0.0750	0.8168	0.1660	0.448
<i>DlSPL9</i>	0.2707	0.5757	0.0001 ★	0.0002 ★
<i>DlEMF2</i>	0.0105 ★	0.0931	0.0013 ★	0.2520

Table S4. The ratio of RFL/TFL1. S2: initiation of inflorescence; S3: initiation of floral primordia; S4: initiation of the primordia of stamen and pistil; S5: the advanced floral primordium into a complete flower.

Expression Quantity	S2	S3	S4	S5
<i>FRL</i>	1.234	1.061	0.95	0.487
<i>TFL1</i>	1.206	0.595	1.03	1.2
<i>RFL/TFL1</i>	1.02	1.78	0.92	0.41

Table S5. *API*, *TFL*, *RFL* homologous genes used for sequence comparison and phylogenetic analysis in this study.

Gene	Taxon	Accession No.	Gene	Taxon	Accession No.
<i>PISTILLATA (PI)</i>	<i>Arabidopsis thaliana</i>	NM_122031.3	<i>TFL1</i>	<i>Zea mays</i>	DQ925416.1
<i>VRN1</i>	<i>Festuca arundinacea</i>	FJ793194.1	<i>ZCN3</i>	<i>Zea mays</i>	NM_001112771.1
<i>VRN-A1</i>	<i>Triticum aestivum</i> <i>cultivar</i>	JF965397.1	<i>TFL1</i>	<i>Arabidopsis thaliana</i>	NM_125597.1
<i>MADS1</i>	<i>Lolium temulentum</i>	AF035378.1	<i>RFL</i>	<i>Brachypodium distachyon</i>	XM_003580387.1
<i>MADS14</i>	<i>Oryza sativa</i>	AF058697.1	<i>RFL</i>	<i>Oryza sativa</i>	AB005620.1
<i>API</i>	<i>Oryza sativa</i>	AB041020.1	<i>LEAFY</i>	<i>Triticum aestivum</i>	AB231889.1
<i>MADS2</i>	<i>Dendrocalamus latiflorus</i>	AY395715.1	<i>LEAFY2</i>	<i>Zea mays</i>	AY789030.1
<i>VRN1</i>	<i>Lolium perenne</i>	GQ227990.1	<i>LEAFY2</i>	<i>Zea mays</i> spp.	AY789047.1
<i>TaVRT-1</i>	<i>Triticum aestivum</i>	AY280870.1	<i>LEAFY</i>	<i>Lolium temulentum</i>	AF321273.1
<i>TFL1</i>	<i>Bambusa oldhamii</i>	HM641253.1	<i>LEAFY-like</i>	<i>Sorghum bicolor</i>	XM_002446991.1
<i>CEN2</i>	<i>Brachypodium distachyon</i>	XM_003578853.1	<i>LEAFY1</i>	<i>Zea mays</i>	NM_001111731.1
<i>CEN</i>	<i>Oryza sativa</i>	AF159882.1	<i>LEAFY</i>	<i>Arabidopsis thaliana</i>	NM_125579.1
<i>TFL1</i>	<i>Hordeum vulgare</i>	AB447465.1	<i>CEN</i>	<i>Triticum aestivum</i>	AJ577366.1
<i>TFL1</i>	<i>Lolium perenne</i>	AF316419.1	<i>RCN1</i>	<i>Setaria italica</i>	DQ317428.1
<i>ZCN6</i>	<i>Zea mays</i>	NM_001112774.1	<i>ZCN2</i>	<i>Zea mays</i>	NM_001112770.1

Figure S1. Alignment of predicted amino acid sequences of *DLAP1*, *DlTFL1*, *DIRFL*. The figure shows the align result of deduced amino acid sequences of the floral meristem identity genes *DLAP1*, *DlTFL1*, *DIRFL* and homologs in the grass family. Identical amino acids are indicated by dots. Dl: *Dendrocalamus latiflorus*; Os: *Oryza sativa*; Fa: *Festuca arundinacea*; Fn: *Fargesia nitida*; Ta: *Triticum aestivum*; Lp: *Lolium perenne*; Zms: *Zea mays spp*; Zm: *Zea mays*; Sb: *Sorghum bicolor*; Bd: *Brachypodium distachyon*; Lt: *Lolium temulentum*; Hv: *Hordeum vulgare*; Bo: *Bambusa oldhamii*; Si: *Setaria italic*; At: *Arabidopsis thaliana*. (A) *DLAP1*; (B) *DlTFL1*; (C) *DIRFL*.

DLAP1(DI)	R	S	-	C	S	E	A	H	E	I	S	V	L	C	D	A	E	V	G	L	I	I	F	S	T	K	G	K	L	Y	E	Y	A	T	D	S	C	-	M
AP1(Os)	.	.		G	L	L	K	K	N	A	-	
MADS1(Fn)	.	.		G	L	L	K	K	.	.	.	.	.	.	.	.	.	V	.	A	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-
MADS2(DI)	.	.		G	L	L	K	K	.	.	.	.	.	.	.	.	.	A	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-
MADS14(Os)	.	.		K	L	L	K	K	N	.	.	.	.	.	.	.	.	A	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-
TaVRT-1(Ta)	.	.		G	L	L	K	K	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	F	S	E	.	-
VRN1(Fa)	.	.		G	L	L	K	K	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	F	.	F	.	-	
VRN1(Lp)	.	.		G	L	L	K	K	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	F	.	F	.	-		
VRN-A1(Ta)	.	.		G	L	L	K	K	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	F	S	E	.	-		

DLAP1(DI)	N	G	L	V	K	K	R	I	.	.	.	K	A	.	.	A	S	N	.	M	I	D	C	C	P	M	D	L									
AP1(Os)	D	K	I	L	E	R	Y	E	R	Y	S	Y	A	E	K	V	L	I	S	A	E	S	E	T	Q	G	N	W	C	H	E	Y	R	K	T	E	G
MADS1(Fn)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	G	.	.	D	.	.	N	.	.	L	K	K	A
MADS2(DI)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	D	.	.	.	.	.	L	L	K	K	A	
MADS14(Os)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	L	L	K	K	A		
TaVRT-1(Ta)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	L	L	K	K	A		
VRN1(Fa)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	V	.	S	.	I	.	.	.	L	L	K	K	A
VRN1(Lp)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	T	T	.	I	.	.	.	L	L	K	K	A	
VRN1-A1(Ta)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	T	T	.	I	.	.	L	L	K	K	A		
PISTILLATA(At)	G	A	M	.	D	Q	.	Q	K	L	.	—	G	.	K	.	W	D	.	K	—	—	—	H	E	.	L	S	N	.	I	D	R	I	K	K	

A

B R C

Figure S2. The electrophoresis results of RNA and Real-time PCR products. S1: vegetative buds; S2: initiation of inflorescence; S3: initiation of floral primordia; S4: initiation of the primordia of stamen and pistil; S5: the advanced floral primordium into a complete.

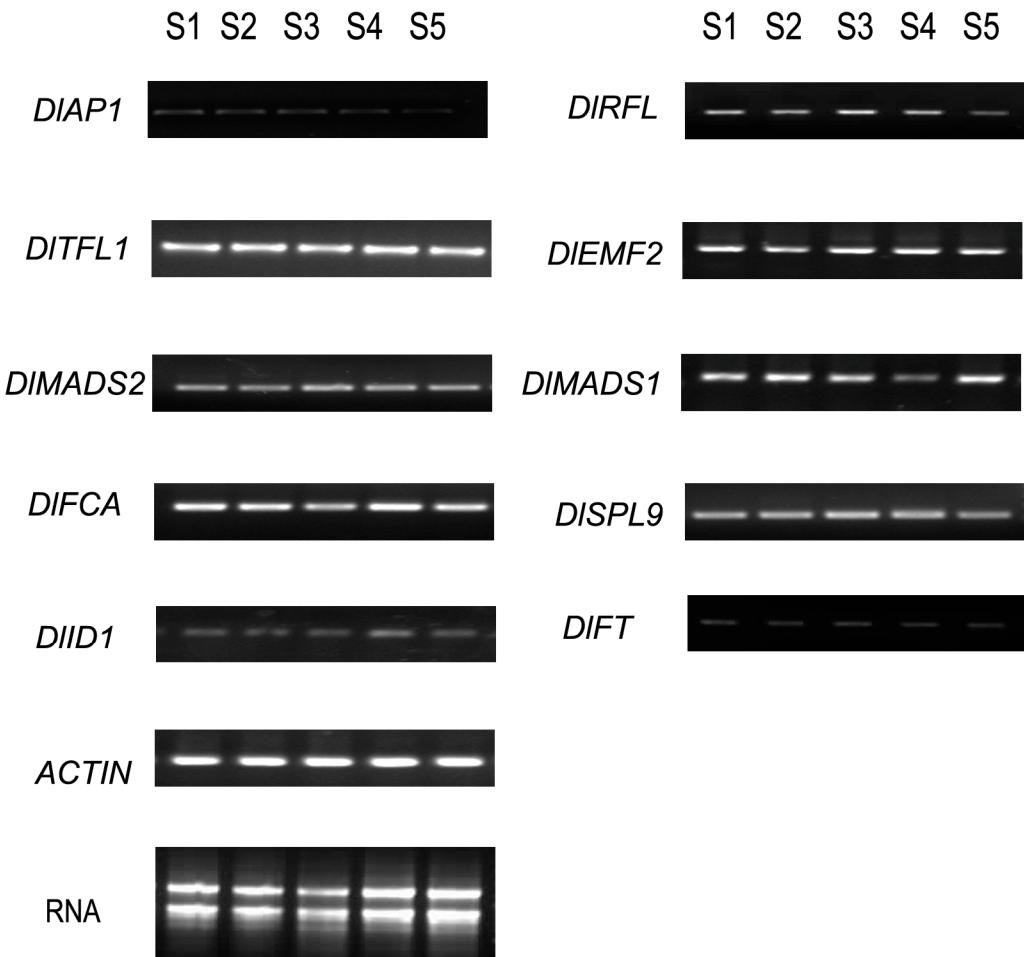


Figure S3. Melting curve analysis of ten candidate genes and *ACTIN*. (A) *DIAPI*; (B) *DIMADS1*; (C) *DIMADS2*; (D) *DIEMF2*; (E) *DIFCA*; (F) *DIFT*; (G) *DIRFL*; (H) *DISPL9*; (I) *DITFL1*; (J) *DIID1*; (K) *ACTIN*.

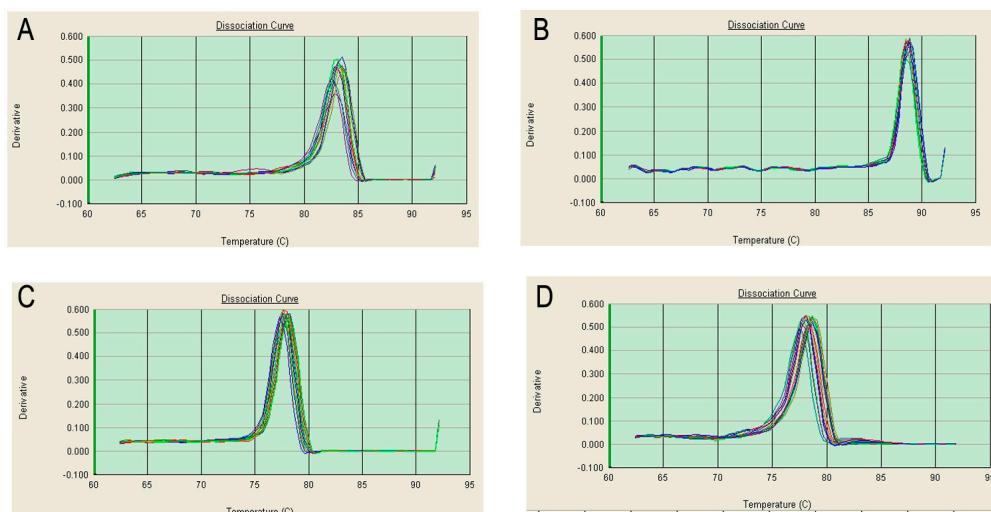


Figure S3. Cont.