

Supplementary materials:

Table S1 The *CONSTANS*-like genes published in other species.

Gene published	Gene ID	Species	Group	Function	Reference
<i>CO</i>	AT5G15840	Arabidopsis	I	Accelerating flowering in response to long days	[1]
<i>COL1</i>	AT5G15850	Arabidopsis	I	Accelerating the circadianclock	[2]
<i>COL2</i>	AT3G02380	Arabidopsis	I	No influence on flowering time in overexpression plant	[2]
<i>COL3</i>	AT2G24790	Arabidopsis	I	Promoting lateral root development; daylength-sensitive regulator of shoot branching	[3]
<i>COL5</i>	AT5G57660	Arabidopsis	I	Inducing flowering under short days condition	[4]
<i>COL7</i>	AT1G73870	Arabidopsis	III	Regulating branching and shade avoidance rspnse	[5]
<i>COL8</i>	AT1G49130	Arabidopsis	III	Delaying flowering under long-day conditions	[6]
<i>COL9</i>	AT3G07650	Arabidopsis	II	Delaying flowering	[7]
<i>Hd1</i>	Os06g0275000	Rice	I	Promotion of flowering under short-day conditions and inhibition under long-day conditions	[8]
<i>Ghd7</i>	Os07g0261200	Rice	II	Delaying flowering under long day condition	[9]
<i>OsCO3</i>	AB001887	Rice	I	Delaying flowering under short day condition	[10]
<i>OsCOL4</i>	Os02g0610500	Rice	I	Delaying flowering	[11]
<i>DTH2</i>	JX202590	Rice	II	Promoting flowering under long day condition	[12]
<i>LpCO</i>	AY600919	Ryegrass	I	Accelerating flowering	[13]
<i>HvCO1</i>	AF490467	Barley	I	Accelerating flowering	[14]
<i>HvCO9</i>	AB592332	Barley	I	Delaying flowering	[15]

References

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Table S2 Primer sequences used for qRT-PCR.

	Forward primer	Reverse primer
BniCOL01	GCACGACACTTTGTTCCCTT	TTACAACCTAAGCTGCCGA
BniCOL02	CGTTCAGAAATCGGTCAACCC	CCGACGAGTCTCTCCAGAAA
BniCOL03	TGGCCAGACTGCATGGATAT	TTCTTGGCCTCTTCTCTGCA
BniCOL04	GGAAGAGCAAGACCAACAGC	GAGAGGGTCCAATATCGGCA
BniCOL05	AGATGGACGGGGAACAAGAG	AGAGGAAGAGGTGTGCGGTG
BniCOL06	CTCTCGAAGGCTTCAATGGC	ACCCACAGAGCAAGGAACAT
BniCOL07	GGAGAACTTCAGGCACTTGG	CTTCCGACACGCATACTTGA
BniCOL08	CAACTCCTTCGAGCAAAAGC	GACCTCTGTGTCCTCGAAC
BniCOL09	CGACACACCGAAGAGGAAGA	GGCTTTGACCATGGCACTAC
BniCOL10	TCAAAATTCGCCCCAAGAAG	ATCGAGATAGCCGCTGTGAT
BniCOL11	GAGCAAAGCGTGTCTGTACA	ATGGCTCCACTGAGCAATTT
BnHDZIP01	TAATGGCTCAGGACCACCTC	TCGCATTCCATCTCTGTCTG
BnHDZIP02	CCCTGACAGGAAAATGAAGC	ACTGCTTGCTCGCTTAGCAT
BnHDZIP03	ATTTCCGGCGAAGTAGAGGT	TGTGGTGTGCTCTTTGAAGC
BnHDZIP04	GGACTCAGACAGCGGAAAAG	ATCGGGAGATGTCAACGAAC
BnHDZIP05	TCCTGGAGAAGAGCTTCGAG	GACTCGTAGTCGGCCTTGAG
BnHDZIP06	ATGTTGTCGGGCAACTTTTC	TGACTTGAGACTCGCATTGG
BnHDZIP07	AGGACGAGGACGGCTCTAAC	CTTCCGTTTGCTTCAGCTTC
BnHDZIP08	AGCAGAAATGCTTCCCAGTG	ATTCTTGGGCAATTGTCTG
BnHDZIP09	CAACAAAAACCCACAAACCC	CTTCGTTTCGAGCTCTCGTC
BnHDZIP10	CTTGCGCTCCAAGTTTGAGT	CGCTCAAAATCGCCTCTATC
BnHDZIP11	TCTAACCCAACCACACCACA	CCTTCTCGAAGCTCATCACC
BnHDZIP12	AACATACGACAGACACAACG	ATTGGACCCACTCAACAGC
BnHDZIP13	GAGACCGCCGTGTTATCAT	GGGTCGGAAGTAGTGGTAA
BnHDZIP14	ATGAGCGGAAGATTGATGG	CAACACGGAGAAGGTGTGTG
BnHDZIP15	CCCTTGCCCTGTGCTAAGAG	GGGGGAAGTGAAGGTGTGA
BnHDZIP16	GAGGGGAAAGGAAGAGATGC	TGTCATCTGGGTGTGGACAT
BnHDZIP17	AGATCCGAGACATGGACGAC	CACGGCTCAACTCCTTTCTC
BnHDZIP18	GCCCACAAAAGATCACAGT	CTCTCTGGCTCGAGCTTGTT
BnHDZIP19	TGCTTGCTCCATGGTCTTG	CAAACAGGCGTGAAGTCAAA

	Forward primer	Reverse primer
BnHDZIP20	ATTGACAGCCCTCTCTCCAA	TGGAGGTGTTGGTGATGTTG
BnHDZIP21	GCCATAGCCGAAGAAAACAG	GGTCTGGCTTGTGTGCTTT
BnHDZIP22	TGTCGTCGTTTCACATGGAT	CGAGTTGACCCGTTTTCTTC
BnHDZIP23	CCGACAACAACAGCAACAAT	ACAGCTCCACCCATTGTTC
BnHDZIP24	CGAGAATCTGACGGAGGAGA	GCCCATAGAGGTGCGGTGT
BnHDZIP25	GGAGATCGTCAACCAGTCGT	ACAAAAACGACACCGACCTC
BnbZIP01	GAAACCCATTTCCGTCCTTC	ATCCGTTGCGTTACTGTTCG
BnbZIP02	AGCGAGCACAGGATTAGCAT	CCTATTGGTCGTTGCAGGT
BnbZIP03	CCAGTGCAGCCAAAACACTA	ATGAGCTCTCTGGGGTTCAA
BnbZIP04	GTTGTTGGGTTGCGTAATGG	CTCCTCTCAAGCCTCACTG
BnbZIP05	CCAAGAGGATTCTTGCGAAC	CCATTGCTTGAACCGGAGT
BnbZIP06	CTTCAGCTGATTGTGGCTCA	ACTGTTGCGTGTACGATCCA
BnbZIP07	TCAACGATTGCTTCTGAACG	GCTGTTGGTGATGGTGATTG
BnbZIP08	TGCCACCAAAAATACCGATT	ATCATCAGAGGCTCCAGGAA
BnbZIP09	TCGATCGGTACCAGAGGACT	TCTGCAAAGAGCCTTCCATT
BnbZIP10	TAACACTGCCACTTCCACCA	GGTCGGTGGTGAGTTGATCT
BnbZIP11	ACGTCTTCCACCTCATACC	TGATCCAACCCCTGAGAGAG
BnbZIP12	CCATGCCTCCTGATAAGCTC	TAACGCGAACCTGGAACAGT
BnbZIP13	CCAGGATGAGGAAGCAGAAG	ACGATCTCGTCAAGGGACTG
BnbZIP14	GGCGATCACGAAGAAGAAAG	AGCCTCTTGCAACCATGTCT
BnbZIP15	GAAGAACAATGAGGCGGGTA	CGGAGGACCATGCATAGAAT
BnbZIP16	GGAAGCAGAAGCAGATGGAG	GACCTGGAGGAACGAGTTGA
BnbZIP17	AGAGGGCACTCCAACAACCTG	GAAGGCAAACTGGGTTCAA
BnbZIP18	TCCTCTCTGCTTCTGCTGT	TGGAGGATTTCCTGACGAAG
BnbZIP19	TGGCTAAGGTGGTGAAGACC	ATGGCATAACCATCGCATTT
BnbZIP20	TTCGATGGAGGATAGGGATG	CACCAACTGAGCACCATCAG
BnbZIP21	TTCTCAAGGTAACGGCCAAC	AGAGCTCTCTCGACCTTCC
BnbZIP22	AGGCAAGGGTCGTTGACTC	TGAGCGTCGTTGTTGTCTTC
BnbZIP23	ACGTTGAGATGGAATACGG	AAATGCCGGACATGAGGTAA
BnbZIP24	GATTCGACGATGATGACCT	AGGCGCTTAGCAACGTAGA
BnbZIP25	AGGGCTAGGGTTTTGCATTT	AAGGCTCAGGCTTCACATTG
BnbZIP26	TCACGTTGCTCTGTGAAAG	GCTCCATGCCTGCAACTAAT
BnbZIP27	TTCCGAAATCCTTTCTTGC	CCAGCTCGTGACCCTTGTT
BnbZIP28	GTTGAGCGATGATGACGAAA	CCACTCAACTGTTGCCTCAA
BnbZIP29	CAAACAATGGGGTCTCAAGG	TCCGGTGCTCTGATTAGCTT
BnbZIP30	GGAGAGAGAATGACCGGTTG	AAGCTAAACTCGTCCAACG
BnbZIP31	ATCGTGAGAATTGGGGTGAG	CAGCTTACGATTTTGAGCA
BnbZIP32	TTTCGCTGTCCTTGTGTTG	GACGGAGAAGGATTGAACGA
BnbZIP33	TCCCATCTCCAAGAAACGTC	AAGGCATTATTGCCCATCTG
BnERF01	GTGTTGGATTGTGCTGTGG	TCTGGGAACGGCAAGTTAAG

	Forward primer	Reverse primer
BnERF02	GCTTCCAACCACTCTTCAGC	CTGTGACACCGCTCGAATTA
BnERF03	TCATGATGATGATCACCGCT	GCAGAGTAGCCGGAACAAG
BnERF04	GGCAAGAGGAGATTGAGCAG	TGAAATCGGCTGTGAGACTG
BnERF05	TCAACGTCGACAATATCCCA	GGTCCAATGTTGTCCATCC
BnERF06	TGAACAGCAACAACCTCTGC	GAACGGAGCTCTGAAAATCG
BnERF07	CCAATCACAGCCGTTTATCC	GAATCTCCACGTTGATGCAC
BnERF08	CTCCAGAACAACCTCATCC	ATCAGTGCCGCCAGTACTCT
BnERF09	GCAGACCAGTTGTCCAATCA	TGGTGGGAGGGGTAGTTGTA
BnERF10	ACTCTCAAGGCCAAGCTTCA	AGCTCTCTCTTGCCATTC
BnERF11	CAGAAATTCGCCACCTTTA	GCTCTGTTGGCCGAATTAT
BnERF12	AGGCAGTTGAGAAACCTCA	CCTGGAAGAACTGGAGCAAG
BnERF13	CGATATTGGCAAAGACGACA	CAAAACGCTCAAACTCTCC
BnERF14	GTTTCGCCGACTGGACTAAG	GACATTGACAACGAGGACGA
BnERF15	ACAGCAAGCAGGAAGAGGAA	GGAAATTTGCTTCCGATGA
BnERF16	TACACTTCGGACCAACTCC	CTCTCCGCTGCCCCAAGTC
BnERF17	ACCTAACCTTAGCCTCAGC	CTACCACAGACGACGACGAA
BnERF18	GCGAAGAGGCTCTAGGGTTT	TTTCTTCTAACCCGACAGA
BnERF19	TGGCTTTTCAAGAGGAGCTT	CGGCTTATGTGCAAGTTGGT
BnERF20	GAGGAAATGCTCCTCTACGG	GCGTCGAGTCCCTTATCTCC
BnERF21	GCAAATGACCAAAGCCAACT	GATCTTGGTCGTGCTCGAAT
BnERF22	GGAGATGGGAAGCAAGGATT	TTGGGAAGCAAGAGAATTGG
BnERF23	GAGATCAGAGACCCGACCAG	CCTCCGACCTTCTCCTCTTC
BnERF24	AAGCCAGCTCTAAACCAGCA	AAGTTGGGCTGTGAAAATG
BnERF25	TGATTCCAATTGGGTTTGA	ATCATCTGCCTTGCCAATCT
BnERF26	TGCAACACAAGAGGAAGCAG	TAAATGAGGCTTCGGAGACG
BnERF27	CCCCTCGCAGTCCTTAATT	CCTCCAAAACCTTGTCATCC
BnERF28	AAAACGACACGGATTTGAGG	CCCGGACGACAAAAATAAAG
BnERF29	ATTTCCCACTGCGTTTGAAG	AGACCTCTGAGCGGAATGAA
BnERF30	CGTCTTCAGGCTCTTGAGC	GTACCTTCTCTCGGCCTCT
BnERF31	GAGAACCCAACAGCAAAAGC	TGCTAGACGCCATTTCAATG
BnERF32	CTTCGAATTGAAGCCTGAGC	AACTCGATCCACTTCGGTTG
BnERF33	AGGCATCACCATAACGGAAG	TCGGGGATGTTGATTTTGT
BnERF34	CAAACCTCATGAACCCGATT	AGCGAAATCAGAGTCCAAGC
BnERF35	GCGAAGGTGAAGAAGAGTCG	CAGCTTCAAGTCTCGGAAC
BnERF36	GGCTTGTTTGACACGGAGAT	ATTGCTTGGCTTTGAGGTTG
BnERF37	CTGGATGTCAGTTGCATGGT	CCAAATGGAGGCAATGAAAT
BnERF38	ACAAGCTAAGTCGGCCTTGA	GGAACCGAAAAAGGGTTTCT
BnERF39	GCAGCAACAAGCCTACCTTC	GTTGAAAGTTCCAGCCAGA
BnERF40	TGACCTCTGCTTCTCACCT	AGCCCAACCAATCCTTTCT
BnERF41	TTTCCATGCCATCAAGATCA	CCCCAAACCCCTAAAGGTAA

	Forward primer	Reverse primer
BnERF42	TTGGGATGGAGCTTGTAAAC	TTCCGAGCCACATCCTTATC
BnERF43	TGACACCTCTAATCGCGACA	GAATCTCCGACACCCACTTC
BnMYB01	GCCGAGATTGATCCAGAAGA	CGAACACTGCTCGAAATTCA
BnMYB02	TATTCACGCCGTACCGACT	AGGACCAGCGACACGATAAT
BnMYB03	CAGAAACCAAGGCGTTTTTC	CCCCCAGTACTGAAGCATGT
BnMYB04	GGGTTTGATATTGGTCGTG	CGACCTATTTGCCTCTTGC
BnMYB05	CCAAACACGTCGCTACTCAG	TGGGGTTTTAAAGTTCGCTTG
BnMYB06	AGGCAACGAGAGCTTCAGAG	GTCCCATGGCTGTTGAGAAT
BnMYB07	GGCTCTAATTGGTCCGTGTC	GATGGTCAGCAATAGCAGCA
BnMYB08	TTCTGATCAGCTTCCCAACC	CGTTCTCGGAGATGATGCTT
BnMYB09	TTCTTCCCGTAGATGTTGCG	ATCTTTGCCCAAGAATGCAG
BnMYB10	GTCGTGGATGCTCGATCTCT	ACGACCCCGATAGGAAGAAG
BnMYB11	CAACGCCATGAGATAATTGG	CTTTGTCCCTCCTTTGGAGA
BnMYB12	ATCGGAGGAGGACCAAAAAC	CCACCGGTTTCCTAGGAGTT
BnMYB13	TTCGCAAGATCACGAGAAGA	AAGCTGTGACGACGTTGTTG
BnMYB14	TCAACAAACAGCTACCCAGC	TGATCAGGCTTGATTAGGGC
BnMYB15	AATCGTCGACATCGAAATCC	ATACCAGGATCCGACAAGCA
BnMYB16	TTGGAACACCAAGCTCAAGA	GAGGATGGCATGAGAAGATGA
BnMYB17	CATGCCTGCAAATATGGCTA	AGCTCGGGCATTTTACTTCA
BnMYB18	AACTAATTTCCCGGCCATTC	GCCGGAAAGCTATAGTGGTG
BnMYB19	TCATGGCGTTGTAGGCAATA	GCATGAGATTTGAGGGTGGT
BnMYB20	CACCAATGCCAACAATACCA	TGATCACGATTTTGCTCCAG
BnMYB21	ACTGGAATCCACCTCAAG	TTATCGGGATGGGTCTGAAG
BnMYB22	GCTCATCAATGGCGATCATA	ATGTGACGTCAACAGCAAGC
BnMYB23	GCATTGGCTCAGAAAGCTC	TCGCCGTATCTTCTCATCC
BnMYB24	CCCACATACTTGGAATCGT	GGGTCCTGCATTGTTGTCT
BnMYB25	GCCACAATTCTGTGAAATGC	AAAGCACCATGACCAATCC
BnMYB26	TCAATTGGCAAAACAACCAA	TGTTGGATTTCCCATCAAC
BnMYB27	TCCAGAAGCCAGTCCAACCTC	TCTTCTCCGACTTCTCTCAGC
BnMYB28	CGCCTTCATAACCTTCTTGG	CCCCGACGGGATAGAATAGT
BnMYB29	TGTAAACCGGTCCTTCAAGC	CGCGAGCGGTACTACAGAAT
BnMYB30	TTGGACAATTTTGACGTGGA	GAAAACAGGCGAAGAAGACG
BnMYB31	AGATCTTTTCGCGAGGTCAA	CTCAACTCCTCGTGGCTAGG
BnMYB32	GGTCAAAGCAGGAAGACCAA	AAGGAGAGCATGAGGCTTGA
BnMYB33	GACCGTGAACTTTGGAGGA	GCAGCAGCCTTAACACTTCC
BnMYB34	AATCCTCCTTTTGGGCAAT	GAGGGTTTTACCGGAACAT
BnMYB35	CCGGGTACACAACCTCCAC	CCAATCCCCTTTCCATACT
BnMYB36	CATAGCCGAAAAGCTCCAAG	ATGGTTCTTGACCGCATTGT
BnMYB37	GGTCTGAATCCGAACTTG	GGTCCACGCGTCTTTCTAA
BnMYB38	CATTAAGCGTGGCAATCTGA	ATCCTTTGCCTTCGGATTCT

	Forward primer	Reverse primer
BnMYB39	TTGAGGTCCATGGAAGGAAG	TGACATCCGAGATGCTGGTA
BnMYB40	AATTTTGGGCCAAGGAGAG	ATTGGCGTTCTCGTAATCT
BnMYB41	TCTCGATCACCACCTATTCG	CTGCGTCAGCTTCCTCTCT
BnMYB42	AACGACAGGGCTCTAGACGA	AATCGTCGTCGCTTTTAGA
BnMYB43	TATGGGCCAAAGAAGTGCTC	CTGTCCTTCCAGGCAAGAAT
BnMYB44	ATCCAAATATGGGGCAACAA	TCCCGGTAAAACCTTAGCAA
BnMYB45	TGTAATTCGCGATGACGGA	GCAATCTCCTTGGTGACGTT
BnMYB46	GCCTTCATAGGTGGCAGAAAG	GCTCCTGTTTATGGCAGGA
BnMYB47	TTTCCTTGATGGGCTACCTG	ACGTCAAACCTCCAGCAAC
BnMYB48	GGCTGAAGAAGACGAAGTGC	ACTCCGCCTGCAACTCTATC
BnMYB49	CCGAGTCGAATCTCGTTAGC	AAGAGGTAATTGGCGTCGAA
BnMYB50	AGTCGGCGAAGGTGTTATG	GGCATCCTTCTTCTGCGATA
BnMYB51	CGACAGTCCTAATGGGCTTC	CAACTCTCCCCAAGCTTCAC
BnMYB52	AGCGTTGGACATCTGAGGAG	AATCACCAGACGCTGCTCTT
BnMYB53	GTGAGAACGGATTGCCTGAT	GTTCCACGGCATTTTCGTAT
BnMYB54	GGAGGCTGGGGGTTCTAATA	GAATGGTGAGGAAGCATGT
BnMYB55	GCGAGCAATGATAGCAACAA	GAGGAGCTTTTCCCTCCAAG
BnMYB56	AAAATCCAGCAGCGAAGCTA	AGTAGCGCAACCGCTAAGAG
BnMYB57	CCCGACATACTTGACTCGT	GGGTCCTGCATTGTTGTCT
BnMYB58	TACCGGTGTAGGAGGACTGG	GGTCTTTCAGGCACCAATGT
BnMYB59	CCCTCAAACTGGAACCTCA	GTCAGTCCTTCTGGGAACA
BnMYB60	TCTGAGGCAAATCCAGGAG	GTCTTTGCGGATGTTCCAAT
BnMYB61	TGGAACACCCATCTGAAGAA	GTGTTGGTGGTGACGATGAG
BnMYB62	ACCTGAGGCCTGACTTGAAA	GCTTGAGAGTGTGTTGGGTCA
BnMYB63	CTTGCGCTGTGTGCCCT	GGAGAATTGGATGAAGGGGT
BnMYB64	ACATGTCGTTTTGGGTCCAT	TTCGACGCAATCTGTTGAG
BnMYB65	ATGAAGCGAAAACCGAAGAA	ACGGAGTTAGCAACGATTGG
BnMYB66	TCGCCTTCCAATCTTCATT	TGCCTCTCCAATCACCTTTC
BnMYB67	ATGACGAACACAAGCACTCG	AGACACATTTCCCCTCTTCC

Table S3 Basic genetic information for five TF families.

Gene	Genebank ID	Varieties	Gene length (bp)	Predicted protein (aa)	Expression response to stresses				Expression levels in five tissues relative to the leaf tissue				
					Drought	Cd	Pest	leaf	bast	xylem	shoot	root	flower
<i>BniCOL01</i>	KF928219	Zhongzhu 1	3121	408				1	2.73	18.33	0.40	0.67	4.29
<i>BniCOL02</i>	KF928220	Zhongzhu 1	3007	392	6.986357		4.067126	1	8.13	30.49	0.00	0.01	0.00
<i>BniCOL03</i>	KF928221	Zhongzhu 1	1973	453				1	0.08	0.18	0.02	0.03	0.08
<i>BniCOL04</i>	KF928222	Zhongzhu 1	1942	458				1	1.65	7.72	0.53	1.04	2.64
<i>BniCOL05</i>	KF928223	Zhongzhu 1	1929	444	3.317106			1	0.47	4.31	0.50	0.83	1.83
<i>BniCOL06</i>	KF928224	Zhongzhu 1	1713	371				1	2.01	11.97	0.27	0.47	1.29
<i>BniCOL07</i>	KP229725	Qingyezhuma 1142	313	313				1	1.58	1.22	2.27	1.20	0.82
<i>BniCOL08</i>	KP229726	Qingyezhuma 1115	322	322				1	1.50	1.16	1.52	0.68	0.82
<i>BniCOL09</i>	KP229727	Qingyezhuma 908	181	181				1	106.56	36.67	1.49	0.61	0.58
<i>BniCOL10</i>	KP229728	Qingyezhuma 1354	284	284				1	92.98	41.83	8.33	3.88	4.24
<i>BniCOL11</i>	KP229729	Qingyezhuma 1147	261	261	-50.9807	-39.8587	-38.9899	1	6.82	45.04	1.29	0.50	0.82
<i>BnHDZIP01</i>	KP229700	Qingyezhuma 775	188	188	-4.34	-5.51		1	2.01	3.51	7.74	1.51	0.73
<i>BnHDZIP02</i>	KP229701	Qingyezhuma 1082	274	274				1	0.94	0.71	1.26	0.11	0.06
<i>BnHDZIP03</i>	KP229702	Qingyezhuma 1391	332	332	-17.01	-26.62	-6.97	1	571.80	915.81	0.74	0.65	0.42
<i>BnHDZIP04</i>	KP229703	Qingyezhuma 1155	230	230	-7.70	-10.28		1	45.94	12.39	0.02	0.02	0.03
<i>BnHDZIP05</i>	KP229704	Qingyezhuma 1657	314	314	-5.25	-7.03		1	48.46	38.71	8.91	9.62	7.03
<i>BnHDZIP06</i>	KP229705	Qingyezhuma 1048	182	182	-5.05	-7.29		1	3.50	2.18	1.67	0.77	0.37
<i>BnHDZIP07</i>	KP229706	Qingyezhuma 1423	287	287				1	320.26	388.28	1.97	5.47	4.62
<i>BnHDZIP08</i>	KP229707	Qingyezhuma 3059	859	859	-4.95	-5.65		1	157.41	2402.02	4.40	11.79	307.57
<i>BnHDZIP09</i>	KP229708	Qingyezhuma 1694	279	279				1	19.10	42.17	2.12	1.60	1.58
<i>BnHDZIP10</i>	KP229709	Qingyezhuma 1271	237	237				1	17.46	17.88	1.44	0.25	0.11
<i>BnHDZIP11</i>	KP229710	Qingyezhuma 1229	303	303	8.31			1	30.88	15.22	1.87	0.49	0.32
<i>BnHDZIP12</i>	KP229711	Qingyezhuma 3836	837	837				1	5.79	129.93	1.62	0.46	0.84
<i>BnHDZIP13</i>	KP229712	Qingyezhuma 2497	653	653	8.77			1	5.93	0.49	0.93	0.27	0.49
<i>BnHDZIP14</i>	KP229713	Qingyezhuma 3019	774	774	6.35		-4.15	1	2.80	1.06	2.61	0.21	0.25
<i>BnHDZIP15</i>	KP229714	Qingyezhuma 3305	845	845		-6.47	-3.52	1	8.55	0.86	0.88	0.28	0.32
<i>BnHDZIP16</i>	KP229715	Qingyezhuma 2897	812	812				1	2.33	2.78	2.64	1.58	0.96

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<i>BnHDZIP17</i>	KP229716	Qingyuezhuma 3411	733					1	1.07	0.62	1.22	1.89	4.01	
<i>BnHDZIP18</i>	KP229717	Qingyuezhuma 1202	301		29.99	37.10	7.17	1	318.33	192.53	0.15	0.21	0.06	
<i>BnHDZIP19</i>	KP229718	Qingyuezhuma 960	210		5.71			1	52.41	2.29	0.15	0.08	0.03	
<i>BnHDZIP20</i>	KP229719	Zhongzhu 1 2060	359					1	3.53	1.90	1.58	0.92	1.22	
<i>BnHDZIP21</i>	KP229720	Zhongzhu 1 2473	683					1	47.24	20.74	3.32	1.10	1.47	
<i>BnHDZIP22</i>	KP229721	Zhongzhu 1 1525	357		5.40			1	102.59	1233.77	203.69	12.21	18.74	
<i>BnHDZIP23</i>	KP229722	Zhongzhu 1 2564	733		-2.83	-5.78		1	1.23	0.96	1.44	0.05	0.03	
<i>BnHDZIP24</i>	KP229723	Zhongzhu 1 1540	333					1	2.77	1.32	1.74	1.18	0.89	
<i>BnHDZIP25</i>	KP229724	Zhongzhu 1 2699	761					1	1.51	1.40	1.25	0.60	0.82	
<i>BnbZIP01</i>	KP229667	Qingyuezhuma 1177	203		13.68			1	14.12324	41.56722	1.259112	0.849121	0.172575	
<i>BnbZIP02</i>	KP229668	Qingyuezhuma 1674	515					1	2.575444	20.58661	5.100784	2.038646	0.822933	
<i>BnbZIP03</i>	KP229669	Qingyuezhuma 624	205		7.23			1	64.59786	11.49025	1.377196	7.143732	0.58601	
<i>BnbZIP04</i>	KP229670	Qingyuezhuma 1454	296					1	0.365738	0.361175	0.518834	0.072705	0.143794	
<i>BnbZIP05</i>	KP229671	Qingyuezhuma 1421	342					1	99.80833	123.4839	0.091158	0.052833	0.00276	
<i>BnbZIP06</i>	KP229672	Qingyuezhuma 1675	440					1	10.48346	50.47735	1.555637	2.358367	2.536348	
<i>BnbZIP07</i>	KP229673	Qingyuezhuma 1313	235			3.21		1	5.838118	222.0788	0.493763	0.158535	0.230851	
<i>BnbZIP08</i>	KP229674	Qingyuezhuma 1298	327				-3.43	1	14.67484	305.6765	1.888679	0.909142	0.746259	
<i>BnbZIP09</i>	KP229675	Qingyuezhuma 1582	253		13.16	6.20		1	772.9309	1609.63	0.613118	0.878224	1.054149	
<i>BnbZIP10</i>	KP229676	Qingyuezhuma 1426	317					1	1.092982	0.994341	1.66793	0.85012	0.507612	
<i>BnbZIP11</i>	KP229677	Qingyuezhuma 1207	362					1	19.06935	34.72377	2.320737	1.199039	1.003236	
<i>BnbZIP12</i>	KP229678	Qingyuezhuma 1966	205		3.21	4.14		1	40.09206	57.24621	1.232614	0.733419	0.556241	
<i>BnbZIP13</i>	KP229679	Qingyuezhuma 1258	159		8.93			1	835.3164	866.2802	1.879997	2.307447	2.769499	
<i>BnbZIP14</i>	KP229680	Qingyuezhuma 1557	349		57.79	4.96	3.38	1	177.4543	163.8859	0.182849	0.569232	0.104939	
<i>BnbZIP15</i>	KP229681	Qingyuezhuma 2129	405		42.08	3.58		1	116.7597	173.2441	0.358034	0.021296	0.029108	
<i>BnbZIP16</i>	KP229682	Qingyuezhuma 1376	144		49.97	20.35	3.08	1	109.3297	420.6924	0.390943	0.190719	0.188547	
<i>BnbZIP17</i>	KP229683	Qingyuezhuma 1951	403		15.68		-6.88	1	319.7566	758.4049	0.169793	0.413633	0.213017	
<i>BnbZIP18</i>	KP229684	Qingyuezhuma 1376	328		19.90	5.17	3.76	1	130.294	230.7068	4.573464	1.856239	1.420194	

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<i>BnbZIP19</i>	KP2229685	Qingyezhuma 2066	484		34.13	10.62		1	50.63038	75.48693	0.271487	0.361832	0.473829	
<i>BnbZIP20</i>	KP2229686	Qingyezhuma 2561	540		-3.54		-8.82	1	29.99234	81.15633	3.875144	2.895316	3.505236	
<i>BnbZIP21</i>	KP2229687	Qingyezhuma 1794	270					1	27.75926	76.02103	6.041831	5.298281	3.953201	
<i>BnbZIP22</i>	KP2229688	Qingyezhuma 1762	411			25.20		1	72.2297	100.092	2.113733	0.40376	1.217165	
<i>BnbZIP23</i>	KP2229689	Qingyezhuma 2082	363		116.89	16.79		1	4381.684	2725.755	0.534394	0.488163	0.194493	
<i>BnbZIP24</i>	KP2229690	Qingyezhuma 1691	418		27.90	9.58		1	236.8392	563.6586	1.034922	0.48407	0.373208	
<i>BnbZIP25</i>	KP2229691	Qingyezhuma 2408	438		20.85			1	281.8883	665.6697	1.737448	7.684339	0.529508	
<i>BnbZIP26</i>	KP2229692	Qingyezhuma 1886	276			3.92	3.53	1	37.31553	19.87688	0.56935	0.020717	0.015125	
<i>BnbZIP27</i>	KP2229693	Qingyezhuma 1346	166		12.69	3.57		1	9.430805	9.661869	0.042244	0.003439	0.000238	
<i>BnbZIP28</i>	KP2229694	Qingyezhuma 2836	781		28.45			1	117.2956	288.907	1.000591	0.120435	0.216507	
<i>BnbZIP29</i>	KP2229695	Qingyezhuma 1482	333		5.12			1	445.657	837.4425	4.721997	0.657002	0.31425	
<i>BnbZIP30</i>	KP2229696	Zhongzhu 1 644	145					1	1.692735	1.448719	1.657981	0.585105	0.520594	
<i>BnbZIP31</i>	KP2229697	Qingyezhuma 2190	469		22.37			1	137.8184	246.5416	0.158033	0.037341	0.640048	
<i>BnbZIP32</i>	KP2229698	Zhongzhu 1 1500	168		16.89			1	170.8	60.64498	4.108426	0.276158	0.956723	
<i>BnbZIP33</i>	KP2229699	Zhongzhu 1 2134	249		1220.89	445.57	31.65	1	85.72444	806.4902	0.243251	0.084652	0.010079	
<i>BnERF01</i>	KP2229624	Zhongzhu 1 3513	294		4.72			1	25.81	103.17	1.31	0.12	0.14	
<i>BnERF02</i>	KP2229625	Zhongzhu 1 1147	349		8.32	3.12		1	111.71	141.01	0.42	0.11	0.01	
<i>BnERF03</i>	KP2229626	Zhongzhu 1 1986	528					1	2.81	2.32	2.35	0.73	0.83	
<i>BnERF04</i>	KP2229627	Zhongzhu 1 1848	545					1	2.06	2.47	1.74	3.86	2.74	
<i>BnERF05</i>	KP2229628	Qingyezhuma 1862	548			-3.53		1	31.60	51.28	1.42	0.80	0.47	
<i>BnERF06</i>	KP2229629	Zhongzhu 1 1627	369		7.29			1	7.19	24.93	1.59	0.36	0.02	
<i>BnERF07</i>	KP2229630	Zhongzhu 1 1433	294					1	7.86	119.66	2.58	0.25	0.55	
<i>BnERF08</i>	KP2229631	Zhongzhu 1 1013	297					1	5.10	9.92	1.12	0.01	0.01	
<i>BnERF09</i>	KP2229632	Zhongzhu 1 1718	299		1238.98	33.97	23.36	1	1737.17	1526.95	0.18	0.10	0.03	
<i>BnERF10</i>	KP2229633	Zhongzhu 1 794	214					1	17.50	25.55	3.76	1.61	1.53	
<i>BnERF11</i>	KP2229634	Zhongzhu 1 935	262				-3.46	1	2.60	0.57	1.45	0.22	0.02	
<i>BnERF12</i>	KP2229635	Zhongzhu 1 1931	443		14.45			1	2690.78	3985.73	2.63	0.57	0.70	
<i>BnERF13</i>	KP2229636	Zhongzhu 1 1884	291					1	36.38	34.19	0.32	0.65	0.58	

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<i>BnERF14</i>	KP229637	Zhongzhu 1	1531	322	5.60	2.94		1	20.74	55.48	0.63	0.80	0.46
<i>BnERF15</i>	KP229638	Zhongzhu 1	1387	298				1	8.98	50.25	0.68	0.11	0.18
<i>BnERF16</i>	KP229639	Zhongzhu 1	1345	373	-6.06			1	1.43	1.26	2.94	4.07	4.42
<i>BnERF17</i>	KP229640	Zhongzhu 1	1236	206				1	102.68	90.88	2.83	3.22	3.97
<i>BnERF18</i>	KP229641	Zhongzhu 1	1157	294	-5.08	-3.61		1	18.19	259.24	1.65	2.25	0.99
<i>BnERF19</i>	KP229642	Zhongzhu 1	1026	235				1	2.26	1.16	3.54	6.55	12.29
<i>BnERF20</i>	KP229643	Zhongzhu 1	912	256				1	1.26	1.31	3.01	4.82	6.00
<i>BnERF21</i>	KP229644	Zhongzhu 1	893	209				1	78.25	218.75	0.14	0.18	0.08
<i>BnERF22</i>	KP229645	Zhongzhu 1	853	230				1	25.96	83.42	0.05	0.05	0.24
<i>BnERF23</i>	KP229646	Zhongzhu 1	841	251				1	1.93	4.14	4.33	1.97	3.43
<i>BnERF24</i>	KP229647	Zhongzhu 1	831	214				1	1.07	1.06	1.30	1.10	1.89
<i>BnERF25</i>	KP229648	Zhongzhu 1	707	222	3.70	5.58	5.37	1	2.04	0.17	0.30	0.08	0.10
<i>BnERF26</i>	KP229649	Zhongzhu 1	1448	370			-6.35	1	89.94	89.29	41.19	37.08	57.66
<i>BnERF27</i>	KP229650	Qingyezhuma 507		135				1	6.43	2.69	6.80	0.80	5.32
<i>BnERF28</i>	KP229651	Qingyezhuma 1163		219	136.10	23.89		1	7.11	0.02	0.52	0.18	0.02
<i>BnERF29</i>	KP229652	Qingyezhuma 2110		368	3.08			1	14.69	81.47	1.55	4.10	4.08
<i>BnERF30</i>	KP229653	Qingyezhuma 885		276				1	2.34	5.96	2.23	9.03	5.22
<i>BnERF31</i>	KP229654	Qingyezhuma 1527		376				1	2.15	1.90	0.79	0.74	1.07
<i>BnERF32</i>	KP229655	Qingyezhuma 1278		279				1	1.82	6.56	1.81	1.05	0.52
<i>BnERF33</i>	KP229656	Qingyezhuma 1241		266	80.03			1	4.89	3.71	1.18	0.11	0.51
<i>BnERF34</i>	KP229657	Qingyezhuma 1201		191		3.72	35.97	1	1.50	7.51	2.92	2.28	2.09
<i>BnERF35</i>	KP229658	Qingyezhuma 1829		248				1	6.68	3.33	4.14	4.68	6.30
<i>BnERF36</i>	KP229659	Qingyezhuma 1942		506				1	185.30	230.84	2.81	34.42	36.28
<i>BnERF37</i>	KP229660	Qingyezhuma 1598		187			-4.97	1	2.79	2.06	1.34	0.27	0.11
<i>BnERF38</i>	KP229661	Qingyezhuma 2012		145	47.59	26.70	4.00	1	8.65	59.62	0.48	0.03	0.06
<i>BnERF39</i>	KP229662	Qingyezhuma 1724		392				1	50.68	68.69	1.39	0.14	0.19
<i>BnERF40</i>	KP229663	Qingyezhuma 1112		212	8.81	32.96	128.71	1	16.35	33.17	0.68	0.04	0.03
<i>BnERF41</i>	KP229664	Qingyezhuma 1843		337	26.59			1	2873.21	5474.38	1.78	1.04	0.54

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<i>BnERF42</i>	KP229665	Qingyeshuma 1384	285			7.05		1	4.33	1.46	3.16	0.00	0.04
<i>BnERF43</i>	KP229666	Qingyeshuma 1148	257					1	1.78	8.05	2.15	0.14	0.06
<i>BnMYB01</i>	KP229557	Qingyeshuma 1365	310		6.42		4.50	1	299.12	124.03	0.70	0.06	0.11
<i>BnMYB02</i>	KP229558	Qingyeshuma 1688	330		-3.98	-12.05	-4.79	1	1.72	1.58	0.96	0.08	0.10
<i>BnMYB03</i>	KP229559	Qingyeshuma 1614	491			5.79	4.59	1	10.03	30.46	0.86	0.04	0.01
<i>BnMYB04</i>	KP229560	Qingyeshuma 824	260					1	1.35	1.16	2.11	0.24	0.05
<i>BnMYB05</i>	KP229561	Qingyeshuma 818	192					1	1.94	1.03	1.18	0.02	0.04
<i>BnMYB06</i>	KP229562	Qingyeshuma 1585	314		224.30	98.99	8.38	1	301.41	338.96	0.50	0.06	0.06
<i>BnMYB07</i>	KP229563	Qingyeshuma 1146	262					1	14.20	27.12	10.54	0.65	3.03
<i>BnMYB08</i>	KP229564	Qingyeshuma 1437	368		4.24			1	66.31	0.22	0.57	6.75	2.33
<i>BnMYB09</i>	KP229565	Qingyeshuma 1580	337		7.71		3.92	1	0.61	1.00	1.68	0.30	0.14
<i>BnMYB10</i>	KP229566	Qingyeshuma 981	241					1	7.46	55.33	0.70	0.08	0.06
<i>BnMYB11</i>	KP229567	Qingyeshuma 673	208				8.34	1	74.39	4332.87	0.12	0.05	0.36
<i>BnMYB12</i>	KP229568	Qingyeshuma 823	212					1	1.35	1.12	1.66	0.14	0.15
<i>BnMYB13</i>	KP229569	Qingyeshuma 1164	324					1	1.02	0.90	2.36	0.12	0.06
<i>BnMYB14</i>	KP229570	Qingyeshuma 1359	383					1	34.66	12.93	45.91	13.71	10.53
<i>BnMYB15</i>	KP229571	Qingyeshuma 877	245				5.01	1	2.56	0.00	0.21	0.19	0.14
<i>BnMYB16</i>	KP229572	Qingyeshuma 1033	337					1	6.48	24.13	2.18	1.83	0.68
<i>BnMYB17</i>	KP229573	Qingyeshuma 3762	347		65.52	20.89		1	25.82	669.55	0.19	1.17	1.28
<i>BnMYB18</i>	KP229574	Qingyeshuma 1195	298					1	21.80	9.83	4.29	2.38	4.12
<i>BnMYB19</i>	KP229575	Qingyeshuma 1118	359				-5.79	1	53.35	71.77	2.70	0.14	0.05
<i>BnMYB20</i>	KP229576	Qingyeshuma 964	304					1	0.37	0.04	0.07	0.01	0.01
<i>BnMYB21</i>	KP229577	Qingyeshuma 1701	277		32.15			1	20.85	92.86	19.99	0.01	0.07
<i>BnMYB22</i>	KP229578	Qingyeshuma 749	232					1	3.24	3.78	5.62	6.02	5.14
<i>BnMYB23</i>	KP229579	Qingyeshuma 1365	332					1	17.07	2.76	3.40	0.13	0.17
<i>BnMYB24</i>	KP229580	Qingyeshuma 3319	680					1	1.68	0.06	1.81	0.12	0.12
<i>BnMYB25</i>	KP229581	Qingyeshuma 1443	331		-6.42	-3.31		1	3.45	4.18	6.84	0.04	0.01
<i>BnMYB26</i>	KP229582	Qingyeshuma 1519	324			-3.68	-5.24	1	2.38	0.79	2.25	0.00	0.00

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BnMYB27	KP229583	Qingyuezhuma 1303	320		15.91	6.89	4.00	1	4.51	1.03	2.31	0.20	0.05
BnMYB28	KP229584	Qingyuezhuma 975	234		12.40			1	38.36	1.24	5.30	0.00	0.00
BnMYB29	KP229585	Qingyuezhuma 1425	394		-35.84	-31.21	-19.58	1	0.80	0.69	1.38	0.00	0.00
BnMYB30	KP229586	Qingyuezhuma 1027	291					1	1.33	0.61	1.28	0.04	0.05
BnMYB31	KP229587	Qingyuezhuma 1070	299				-3.49	1	1.15	0.57	0.69	0.00	0.00
BnMYB32	KP229588	Qingyuezhuma 1328	264					1	2.17	0.94	0.00	0.05	0.08
BnMYB33	KP229589	Qingyuezhuma 3212	823					1	1.60	0.95	0.83	0.28	0.38
BnMYB34	KP229590	Qingyuezhuma 1749	293				-3.55	1	2.06	1.95	1.64	6.56	0.52
BnMYB35	KP229591	Qingyuezhuma 1283	308					1	101.50	124.50	0.46	0.14	0.06
BnMYB36	KP229592	Qingyuezhuma 1194	269		-3.78		-2.87	1	2.48	0.46	9.16	0.03	0.09
BnMYB37	KP229593	Qingyuezhuma 1375	413		-29.34	-8.80	-139.97	1	13.73	13.04	3.31	0.02	0.37
BnMYB38	KP229594	Qingyuezhuma 1638	337					1	1.30	0.78	1.76	0.07	0.13
BnMYB39	KP229595	Qingyuezhuma 1819	395		-14.08		-5.64	1	6.59	29.11	0.71	0.64	0.60
BnMYB40	KP229596	Qingyuezhuma 2020	455					1	4.19	4.70	9.07	2.36	5.24
BnMYB41	KP229597	Qingyuezhuma 3611	517			2.99		1	1.21	0.77	2.15	0.36	0.63
BnMYB42	KP229598	Qingyuezhuma 1211	326					1	1.25	0.73	2.96	0.06	0.05
BnMYB43	KP229599	Qingyuezhuma 3604	1002				-4.33	1	0.67	0.74	2.03	0.65	0.59
BnMYB44	KP229600	Qingyuezhuma 2492	600					1	1.16	0.78	1.45	0.00	0.02
BnMYB45	KP229601	Qingyuezhuma 3129	175					1	3.12	2.22	4.55	0.68	0.83
BnMYB46	KP229602	Qingyuezhuma 3284	953					1	1.45	0.78	1.55	0.04	0.04
BnMYB47	KP229603	Qingyuezhuma 3743	1078					1	1.59	1.42	2.47	3.08	1.34
BnMYB48	KP229604	Qingyuezhuma 588	183					1	1.55	0.77	3.56	0.17	0.18
BnMYB49	KP229605	Qingyuezhuma 898	244		-5.97	-3.38	-10.20	1	1.60	0.90	1.08	0.08	0.09
BnMYB50	KP229606	Zhongzhu 1 4089	795					1	9.72	15.44	2.92	0.30	0.19
BnMYB51	KP229607	Zhongzhu 1 3121	434					1	0.63	0.45	1.42	0.02	0.02
BnMYB52	KP229608	Zhongzhu 1 1855	363					1	1.40	1.12	1.59	0.02	0.03
BnMYB53	KP229609	Zhongzhu 1 1601	342		6.59			1	4.02	2.24	2.01	0.07	0.07
BnMYB54	KP229610	Zhongzhu 1 1594	303		14.91		3.18	1	3.65	10.22	3.87	0.19	0.26

Gene	Genebank ID	Varieties	Gene length (bp)	Predicted protein (aa)	Expression response to stresses					Expression levels in five tissues relative to the leaf tissue				
					Drought	Cd	Pest	leaf	bast	xylem	shoot	root	flower	
<i>BnMYB55</i>	KP229611	Zhongzhu 1	1554	463	3.75			1	0.50	0.11	0.27	0.06	0.04	
<i>BnMYB56</i>	KP229612	Zhongzhu 1	1316	396				1	1.02	0.80	1.72	0.01	0.01	
<i>BnMYB57</i>	KP229613	Zhongzhu 1	997	239			-4.57	1	1.32	0.86	1.43	0.05	0.06	
<i>BnMYB58</i>	KP229614	Zhongzhu 1	1624	419				1	1.10	0.63	1.11	0.07	0.08	
<i>BnMYB59</i>	KP229615	Zhongzhu 1	1616	476		-3.44	-4.46	1	1.25	0.79	1.49	0.01	0.00	
<i>BnMYB60</i>	KP229616	Zhongzhu 1	1400	299	2.94	14.35		1	1.04	1.58	1.37	0.01	0.01	
<i>BnMYB61</i>	KP229617	Zhongzhu 1	1545	435				1	1.10	1.02	1.88	20.18	20.88	
<i>BnMYB62</i>	KP229618	Qingyuezhuma	1269	335				1	2.78	1.06	2.29	0.73	2.16	
<i>BnMYB63</i>	KP229619	Zhongzhu 1	1506	365		11.76	6.38	1	1.05	0.62	1.71	1.05	1.00	
<i>BnMYB64</i>	KP229620	Zhongzhu 1	1335	352				1	0.74	1.34	1.53	0.47	1.06	
<i>BnMYB65</i>	KP229621	Qingyuezhuma	1473	350	5.40		5.14	1	0.32	0.79	0.02	0.01	0.01	
<i>BnMYB66</i>	KP229622	Zhongzhu 1	1735	470	4.78			1	3.38	2.21	2.19	0.73	0.89	
<i>BnMYB67</i>	KP229623	Qingyuezhuma	3009	684				1	1.21	0.82	2.99	2.99	2.73	

Table S4 Comparison of the stress-responsive TFs from five families between this and previous studies.

Families	Stress-responsive genes in previous studies	Expression response detected by qRT-PCR in this study	
		Name designated	Response to stresses
MYB	CL3391.Contig1	BnMYB08	Have expression change
	Unigene1569	BnMYB06	Have expression change
	comp41485_c0	BnMYB27	Have expression change
	T1_Unigene_BMK.16854	BnMYB23	No response
	T1_Unigene_BMK.3283	Expression response has not been investigated because of no full-length ORF	
	T1_Unigene_BMK.5480	BnMYB19	Have expression change
	T1_Unigene_BMK.7314	BnMYB21	Have expression change
	T4_Unigene_BMK.18380	BnMYB61	No response
AP2/ERF	Unigene957	Expression response has not been investigated because of no full-length ORF length ORF, and expression response has not been investigated	
	Unigene4573	BnERF06	Have expression change
	T1_Unigene_BMK.11287	BnERF34	Have expression change
bZIP	T3_Unigene_BMK.24603	BnbZIP12	Have expression change
HDZIP	Unigene13048	BnHDZIP22	Have expression change
	CL5149.Contig1	BnHDZIP13	Have expression change
	Unigene565	BnHDZIP05	Have expression change
	comp45343_c0	BnHDZIP14	Have expression change
	T3_Unigene_BMK.22713	BnHDZIP17	No response
COL	comp24353_c0	BniCOL10	No response
	T2_Unigene_BMK.21157	BniCOL4	Have expression change

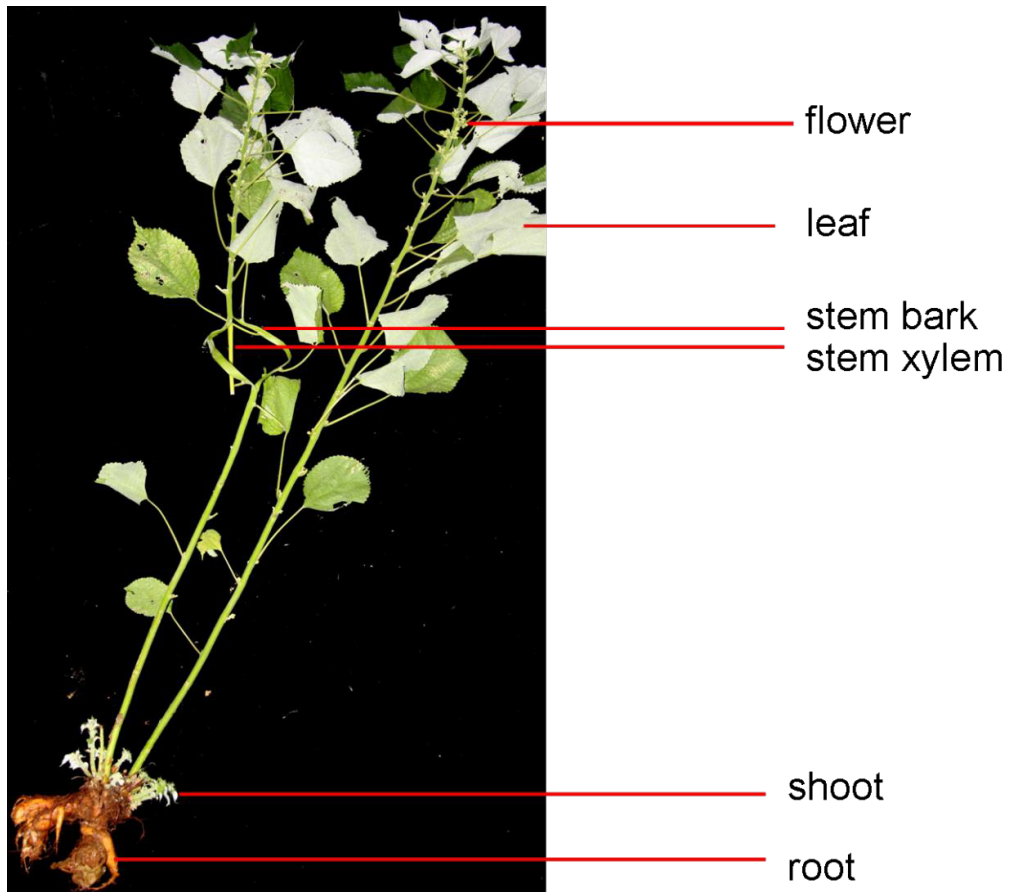


Figure S1 Illustration of six tissues that were used for analyzing gene expression patterns.