Supplementary Table S1

Table S1. Information of wild soybean expansin super family members

Gene name	Gene locus	Protein length(aa)	Intron No.	Signal peptide(aa)	pI	Mw(kD)
GsEXPA1	LOC114370335	254	2	25	9.39	27.7
GsEXPA2	LOC114372850	259	2	22	9.58	28.1
GsEXPA3	LOC114372869	255	2	25	7.55	27.4
GsEXPA4	LOC114374276	260	2	25	9.57	28.5
GsEXPA5	LOC114376517	257	1	20	9.45	28.0
GsEXPA6	LOC114379323	254	2	21	8.26	28.2
GsEXPA7	LOC114379650	256	2	28	9.67	28.6
GsEXPA8	LOC114380203	259	2	22	9.60	28.2
GsEXPA9	LOC114381092	258	2	21	9.57	28.1
GsEXPA10	LOC114383211	266	1	25	8.59	28.9
GsEXPA11	LOC114383245	260	1	23	9.50	28.1
GsEXPA12	LOC114383680	258	2	26	9.20	27.8
GsEXPA13	LOC114384276	254	2	27	7.61	27.3
GsEXPA14	LOC114386648	250	2	20	9.33	26.9
GsEXPA15	LOC114387341	256	2	19	9.43	27.8
GsEXPA16	LOC114391831	265	2	31	8.85	28.7
GsEXPA17	LOC114392393	267	3	39	8.41	28.8
GsEXPA18	LOC114392564	255	2	23	9.12	27.5
GsEXPA19	LOC114394768	316	2	None	9.71	34.3
GsEXPA20	LOC114394777	255	1	26	8.54	28.4
GsEXPA21	LOC114395314	265	3	None	9.51	29.1
GsEXPA22	LOC114395314	241	2	19	9.28	26.1
GsEXPA23	LOC114395722	281	1	23	5.52	30.2
GsEXPA24	LOC114395742	262	2	25	9.72	28.6
GsEXPA25	LOC114397255	254	2	27	8.44	27.2
GsEXPA26	LOC114397606	258	2	21	9.74	27.7
GsEXPA27	LOC114397736	270	1	22	8.09	29.2
GsEXPA28	LOC114398438	279	2	20	9.32	30.8
GsEXPA29	LOC114398449	257	1	20	9.48	27.6
GsEXPA30	LOC114399108	250	3	25	9.42	27.4
GsEXPA31	LOC114399718	254	2	24	9.80	27.9
GsEXPA32	LOC114402569	254	2	25	9.40	27.8
GsEXPA33	LOC114403690	248	2	20	9.32	26.6
GsEXPA34	LOC114405974	249	2	24	9.55	26.8
GsEXPA35	LOC114407490	255	2	26	9.55	27.8
GsEXPA36	LOC114408550	256	2	24	8.63	27.6
GsEXPA37	LOC114409709	248	2	20	8.96	26.7
GsEXPA38	LOC114410169	250	2	22	8.37	26.8
GsEXPA39	LOC114411409	250	2	20	9.33	26.9

GsEXPA40	LOC114414291	252	2	18	8.97	27.3
GsEXPA41	LOC114414569	255	2	23	8.75	27.4
GsEXPA42	LOC114415692	250	2	22	8.37	26.8
GsEXPA43	LOC114416556	249	2	21	9.11	26.7
GsEXPA44	LOC114416888	257	2	21	9.55	28.5
GsEXPA45	LOC114417223	254	2	21	8.01	28.3
GsEXPA46	LOC114418935	258	2	21	9.76	27.8
GsEXPA47	LOC114419868	248	2	20	9.34	26.5
GsEXPA48	LOC114422475	259	1	26	8.05	28.8
GsEXPA49	LOC114424245	260	2	25	9.44	28.6
GsEXPA50	LOC114425810	265	3	None	9.51	29.1
GsEXPB1	LOC114370793	277	3	29	5.43	29.5
GsEXPB2	LOC114375549	277	3	29	4.95	29.4
GsEXPB3	LOC114375883	258	3	23	9.11	28.2
GsEXPB4	LOC114379096	267	3	31	8.66	29.1
GsEXPB5	LOC114401963	155	2	29	4.94	16.7
GsEXPB6	LOC114405382	267	3	24	5.37	28.7
GsEXPB7	LOC114413024	277	3	29	4.87	29.5
GsEXPB8	LOC114417222	267	3	31	8.66	29.2
GsEXPB9	LOC114369208	272	3	29	7.51	29.1
GsEXLA1	LOC114377455	259	4	19	8.28	28.0
GsEXLA2	LOC114378544	261	4	19	8.47	28.3
GsEXLB1	LOC114373430	272	4	38	5.06	29.9
GsEXLB2	LOC114374907	251	3	25	5.51	28.2
GsEXLB3	LOC114392387	247	3	24	6.30	27.7
GsEXLB4	LOC114392841	251	3	24	5.42	27.9
GsEXLB5	LOC114392916	248	3	24	9.16	27.4
GsEXLB6	LOC114392956	250	3	24	9.35	27.5
GsEXLB7	LOC114392974	251	4	21	4.86	27.2
GsEXLB8	LOC114411512	241	3	24	8.78	26.8
GsEXLB9	LOC114412218	244	3	24	8.98	27.1
GsEXLB10	LOC114412220	247	3	24	8.31	27.6
GsEXLB11	LOC114412221	251	3	24	5.60	28.0
GsEXLB12	LOC114412251	250	4	20	5.13	27.0
GsEXLB13	LOC114423099	255	4	21	4.49	27.8
GsEXLB14	LOC114423317	251	3	24	5.32	28.3

Supplementary Table S2

Table S2. Primers used in this research

Name	Sequence (5'-3')	Length (bp)	Purpose
GsEXPA2-FW	AGTGCTCACGCCACCTTCT	19	qRT-PCR
GsEXPA2-RV	ACCACTGCCTGTCGTTTGC	19	
GsEXPA3-FW	CTTTGATATGGCTGAACCTGC	25	qRT-PCR
GsEXPA3-RV	CCACCCAGTTTTGGACCC	18	
GsEXPA5-FW	CAGCCCTTCCATCTTCATCA	20	qRT-PCR
GsEXPA5-RV	AAGTGAGGGCGAGGAGGGTT	20	
GsEXPA8-FW	AGTGCCCACGCCACCTTCTA	20	qRT-PCR
GsEXPA8-RV	ACCACTGCCTGTCGTTTGC	19	
GsEXPA14-FW	TCTCAACCTGTTTTCCTTCG	20	qRT-PCR
GsEXPA14-RV	GGACCAAGTTGAAGTAGGAGTG	22	
GsEXPA26-FW	TGCCTCTGGAACAATGGGTG	20	qRT-PCR
GsEXPA26-RV	CTTGGTCGCACTTTATCTCG	20	
GsEXPA33-FW	CCACCTTCTATGGAGGGAGT	20	qRT-PCR
GsEXPA33-RV	AATCTCATAGCAAGAGCCACA	21	
GsEXPA36-FW	TGTGGGGAGTGTTACAAAATCA	22	qRT-PCR
GsEXPA36-RV	CATCCTCCGTTGTTGTTGG	19	
GsEXPA38-FW	TGCTGACTATGGAGGTGGATG	21	qRT-PCR
GsEXPA38-RV	GCAGTGACGATTATGCTACCG	21	
GsEXPA39-FW	GCCTCCCTGGCTCCATTAT	19	qRT-PCR
GsEXPA39-RV	CAATGCGAAGGAAGACAGG	19	
GsEXPA42-FW	TGGTTGGCAAGGTGGTCAT	19	qRT-PCR
GsEXPA42-RV	GGCAGAAGTTTGTGGCAGTAA	21	
GsEXPA46-FW	CGCCCTTCCGAACGACAAT	19	qRT-PCR
GsEXPA46-RV	TATGCGACGGGGACGATTC	19	
GsEXPA50-FW	TGGCTCTTCTTGGATTTCTTC	21	qRT-PCR
GsEXPA50-RV	ACCACAAGCCCCACCCATT	19	
GsEXPB1-FW	TTGTTTGAATCAGGCGAAGG	20	qRT-PCR
GsEXPB1-RV	TTTGCCAGCATTGCGTAGC	19	
GsEXPB4-FW	CTCGCCTTGAAACTCGTGC	19	qRT-PCR
GsEXPB4-RV	CGGCTTCACATCCACCATC	19	
GsEXPB7-FW	GGCAACCCCGTGAAAGTAG	19	qRT-PCR
GsEXPB7-RV	CTCATATTCAACCAAGGTAGCAAA	24	
GsEXPB8-FW	TGGGTATGGAACAATGGTGG	20	qRT-PCR
GsEXPB8-RV	CGGGGCACTCATCCGTAAT	19	
GsEXLA1-FW	GGTTGTGGTGCCTGCTTTC	19	qRT-PCR
GsEXLA1-RV	CAGGCTTCTTGCTTGATTCTT	21	
GsEXLA2-FW	CAAGGCTTCCTATTTCTCCAA	21	qRT-PCR
GsEXLA2-RV	CACCACAAACTGCTCCATCT	20	
GsEXLB2-FW	CTCTATCTTGGTGGAACCTACG	22	qRT-PCR
GsEXLB2-RV	TGAAACCTCAACTTTATGTCGC	22	

GsEXLB4-FW	ATAGCAACCCACCAAACGG	19	qRT-PCR
GsEXLB4-RV	GTGCCTATCTATTTCTAATCCGTTC	25	
GsEXPB1-FW-2	TTATGGCTCCTACACTTCAACG	22	Gene clone
GsEXPB1-RV-2	AAACAAATGGACAACTTCGATTA	23	