

## Supplementary Materials:

**Table S1.** List of total *LEA* genes available in National Center of Biotechnology Information (NCBI) (Access online at 18<sup>th</sup> February 2016)

No.	Gene name	Chromosome	Gene ID	NCBI file
1	<i>Os04g0589800</i>	4	4336815	LEA_1
2	<i>Os06g0110200</i>	6	4339887	LEA_1
3	<i>Os06g0324400</i>	6	4340902	LEA_1
4	<i>Os08g0327700</i>	8	4345287	LEA_1
5	<i>Os04g0685300</i>	4	4337461	LEA_2
6	<i>Os04g0416700</i>	4	4335811	LEA_2
7	<i>Os11g0120000</i>	11	9266873	LEA_2
8	<i>Os12g0159600</i>	12	4351561	LEA_2
9	<i>Os12g0159000</i>	12	4351557	LEA_2
10	<i>Os12g0119800</i>	12	4351350	LEA_2
11	<i>Os11g0130400</i>	11	4349673	LEA_2
12	<i>Os09g0267400</i>	9	4346564	LEA_2
13	<i>Os08g0494000</i>	8	4345917	LEA_2
14	<i>Os08g0324200</i>	8	4345274	LEA_2
15	<i>Os08g0102700</i>	8	4344425	LEA_2
16	<i>Os07g0531500</i>	7	4343454	LEA_2
17	<i>Os05g0584200</i>	5	4339745	LEA_2
18	<i>Os05g0526700</i>	5	4339385	LEA_2
19	<i>Os04g0685400</i>	4	4337462	LEA_2
20	<i>Os04g677300</i>	4	4337404	LEA_2
21	<i>Os03g0843300</i>	3	4334748	LEA_2
22	<i>Os03g0836300</i>	3	4334704	LEA_2
23	<i>Os03g0696000</i>	3	4333805	LEA_2
24	<i>Os03g0262700</i>	3	4332329	LEA_2
25	<i>Os02g0538700</i>	2	4329582	LEA_2
26	<i>Os01g0736500</i>	1	4327871	LEA_2
27	<i>Os01g0812100</i>	1	4327363	LEA_2
28	<i>Os01g0225600</i>	1	4326740	LEA_2
29	<i>Os01g0624400</i>	1	4326681	LEA_2
30	<i>Os10g0547200</i>	10	4349292	LEA_2
31	<i>Os08g0163600</i>	8	4344740	LEA_2
32	<i>Os07g0524200</i>	7	4343421	LEA_2
33	<i>Os07g0206800</i>	7	4342691	LEA_2
34	<i>Os05g0584300</i>	5	4339746	LEA_2
35	<i>Os02g0667600</i>	2	4330258	LEA_2
36	<i>Os02g0666600</i>	2	4330251	LEA_2
37	<i>Os07g0272300</i>	7	4342898	LEA_2
38	<i>Os06g0119900</i>	6	4339946	LEA_2
39	<i>Os02g0100600</i>	2	4327974	LEA_2
40	<i>Os01g0864500</i>	1	4324791	LEA_2
41	<i>Os02g0564600</i>	2	9267147	LEA_3
42	<i>Os01g0314800</i>	1	4327292	LEA_3
43	<i>Os05g0362600</i>	5	4338544	LEA_3
44	<i>Os03g0400700</i>	3	4333058	LEA_3
45	<i>Os03g0322900</i>	3	4332688	LEA_4

**Table S1.** Continued

<b>No.</b>	<b>Gene name</b>	<b>Chromosome</b>	<b>Gene ID</b>	<b>NCBI file</b>
46	<i>Os05g0349800</i>	5	4338499	LEA_5
47	<i>Os01g0702500</i>	1	4326935	LEA_5
48	<i>Os02g0669100</i>	2	4330265	Dehydrin
49	<i>Os11g0451700</i>	11	4350448	Dehydrin
50	<i>Os11g0454200</i>	11	4350453	Dehydrin
51	<i>Os11g0454000</i>	11	4350452	Dehydrin
52	<i>Os11g0453900</i>	11	4350451	Dehydrin
53	<i>Os06g0341300</i>	6	4340952	SMP
54	<i>Os03g0747400</i>	3	4334097	SMP
55	<i>Os03g0159600</i>	3	4331691	SMP

**Table S2.** List of primers used for qRT-PCR amplification of LEA in rice

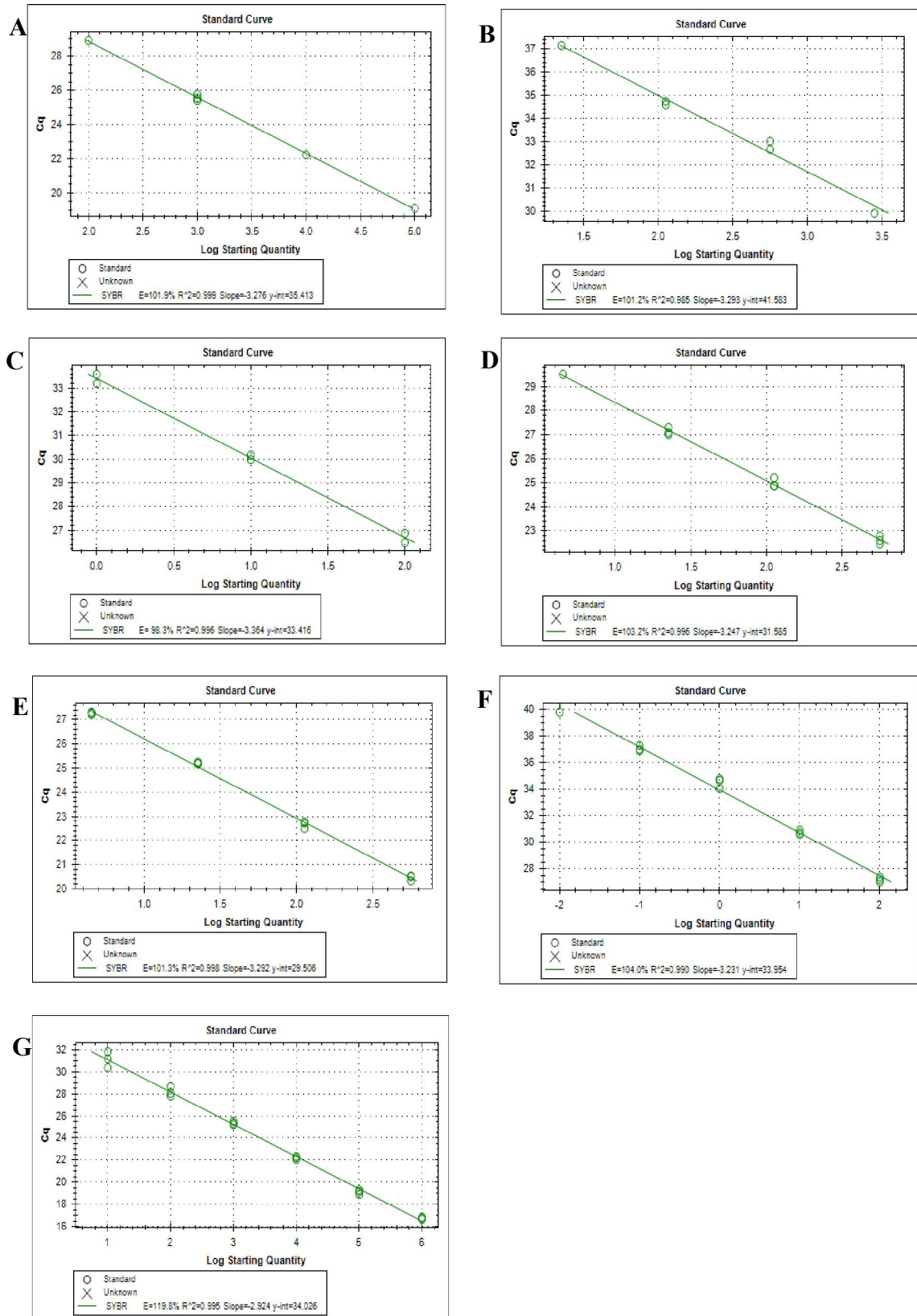
Gene ID*	Gene name	Gene symbol	Amplicon length (bp)	Group	Primer sequence	E
4335811	<i>Os04g0416700</i>	<i>OsLEA1</i>	101	LEA_2	F: 5'-CTCCCTGTACGTCGTGAACA-3' R: 5'-GCTTCTGTGTGTGCGTGTAG-3'	1.02
4351561	<i>Os12g0159600</i>	<i>OsLEA2</i>	132	LEA_2	F: 5'-TAGACCTCGACGTGGCAGTA-3' R: 5'-CTCCAGGTCAAGATCGACGG-3'	1.01
4326681	<i>Os01g0624400</i>	<i>OsLEA3</i>	80	LEA_2	F: 5'-TAATTGTTAGCCGGCGCATC-3' R: 5'-GTCCTTGATCAGCGACACGA-3'	0.98
4338544	<i>Os05g0362600</i>	<i>OsLEA4</i>	114	LEA_3	F: 5'-AGCTGTGTTGCCCTGCT-3' R: 5'-AATCCTCTCCTGCACCG-3'	1.03
4331691	<i>Os03g0159600</i>	<i>OsLEA5</i>	109	SMP	F: 5'-ACAAGGACGCCGTGACGAT-3' R: 5'-TCCCGGAGCTTGATCCTGT-3'	1.01
AK100267	<i>Actin 11</i>	<i>ACT11</i>	67	Reference gene	F: 5'-GGAAGTGGTATGGTCAAGGC-3' R: 5'-AGTCTCATGGATAACCCGCAG-3'	1.04
AK061988	<i>Ubiquitin 5</i>	<i>UBQ5</i>	69	Reference gene	F: 5'-ACCACTTCGACCGCCACTACT-3' R: 5'-ACGCCTAAGCCTGCTGGTT-3'	1.19

\*Full-length cDNA gene ID; F: Forward primer sequences on full-length cDNA sequence; R: reverse primer sequences on full-length cDNA sequence; E, Amplification efficiency

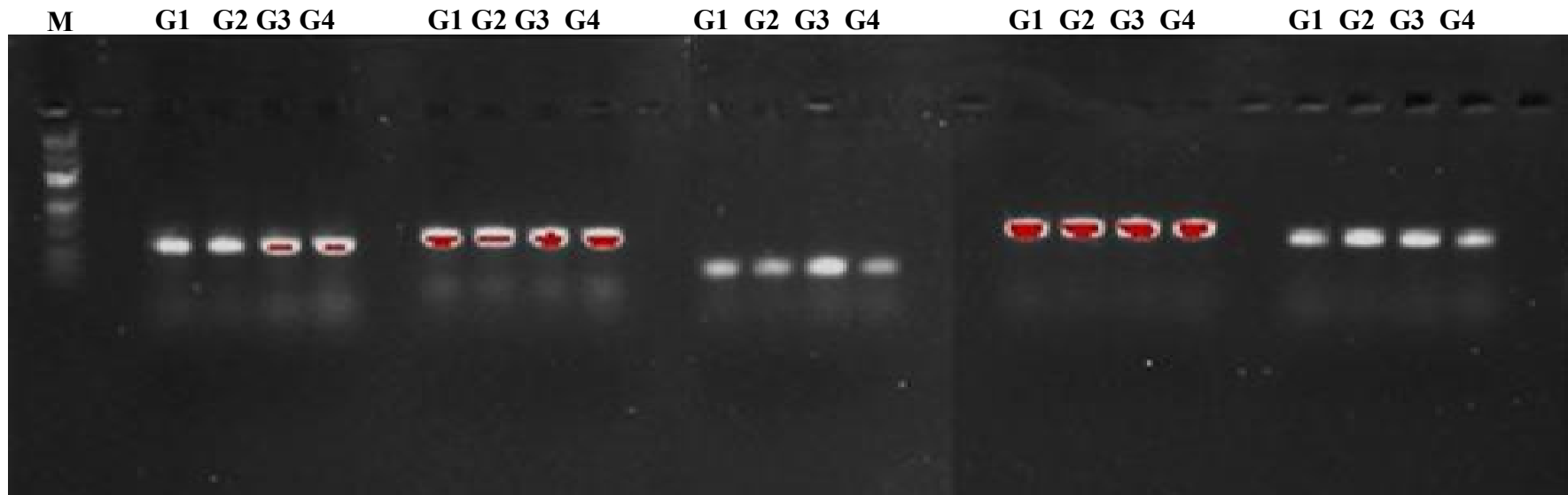
**Table S3.** Analysis of variance for Cq values of candidate target *OsLEA1*, *OsLEA2*, *OsLEA3*, *OsLEA4* and *OsLEA5* genes in the rice genotypes under drought stress condition.

Source of variation	df	Mean square				
		<i>OsLEA1</i>	<i>OsLEA2</i>	<i>OsLEA3</i>	<i>OsLEA4</i>	<i>OsLEA5</i>
Replications	3	0.00042	0.000023	0.00002	0.00028	0.00010
Genotypes	3	142.267*	54.775*	94.583*	29.643*	14.198*
Error	9	0.00013	0.00010	0.00007	0.00014	0.00006

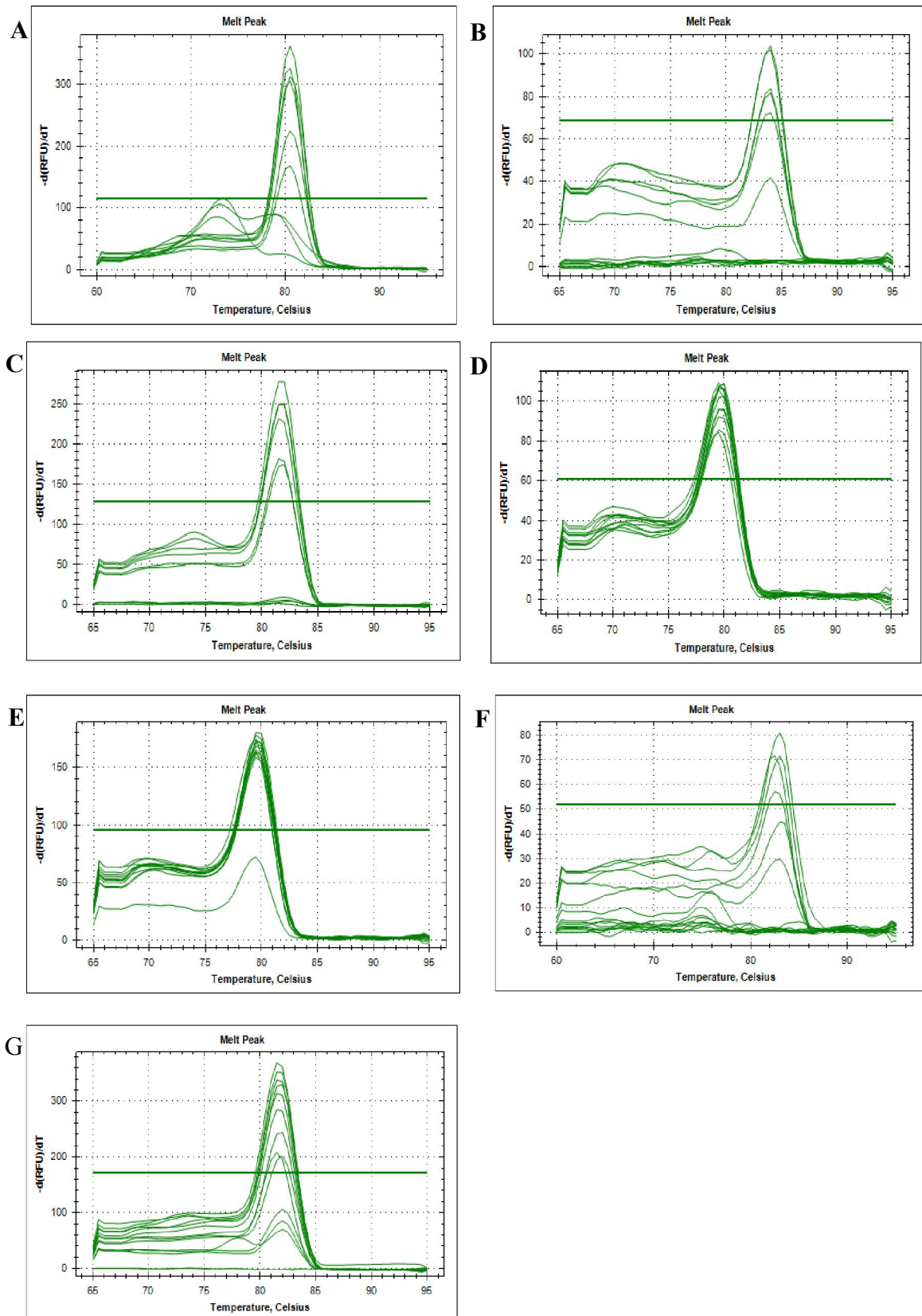
\*Significant level at  $p \leq 0.05$



**Figure S1.** Standard curve with the C<sub>T</sub> plotted against the log of the starting quantity of cDNA template for (A) *OsLEA1*; (B) *OsLEA2*; (C) *OsLEA3*; (D) *OsLEA4*; (E) *OsLEA5*; (F) *ACT11*; (G) *UBQ5*.



**Figure S2.** Five LEA (*OsLEA1*, *OsLEA2*, *OsLEA3*, *OsLEA4*, *OsLEA5*) genes selected from the 55 screened designed primers in all rice genotypes with running on 3% metaphor agarose gel stained with midori green (M=50 bp ladder), G1=MR219-4; G2=MR219-9; G3=MR219; G4=Aeron1



**Figure S3.** Melting curve analysis of A) *OsLEA1*, B) *OsLEA2*, C) *OsLEA3*, D) *OsLEA4*, E) *OsLEA5*, F) *ACT11* and G) *UBQ5* genes.