

附表 1: 本研究所用引物

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Table 1 Primers Used in This Study

	引物名称 (Primer Name)	引物序列 (Primer sequence)
1	StLEA37-BamHI-F	TGTACAAGGGTACCCGGGATCCATGTCCAACCTGAACGGAGC
2	StLEA37-XbaI-R	CATGCCTGCAGGTCGACTCTAGACTACCAATCAAGATGGCACC
3	ef1 α -qF	ATTGAAAACGGATATGCTCCA
4	ef1 α -qR	TCCTTACCTGAACGCCTGTCA
5	StLEA5-qF	ATGGAGAAACCGGAGGCAAC
6	StLEA5-qR	TGGCGCTTTTGAGGACGTAA
7	StLEA9-qF	ATCGCAGCAGCCGTAGTTTA
8	StLEA9-qR	AGCTCGTGTCTCAGTGTGAGG
9	StLEA37-qF	CCCGTCCAAATCTACCACC
10	StLEA37-qR	GCAATGACTCCGAGGACGAT
11	StLEA38-qF	CGTCCAAATCCTACCACCGA
12	StLEA38-qR	ACGTAGGACTAGCCAGAGGA
13	NtACTIN-qF	ACTGAAGCGCCTCTTAACCC
14	NtACTIN-qR	AGACGGAGAATGGCATGTGG
15	NtCAT-qF	AGGTACCGCTCATTACACC
16	NtCAT-qR	AAGCAAGCTTTTGACCAGA
17	NtCOR47-qF	TGTCATCGAAAAGCTTCACCGA
18	NtCOR47-qR	ACCGGGATGGTAGTGGAAACTG
19	NtCBF1-qF	CAGGTAAGTGGGTGTGTAAGT
20	NtCBF1-qR	TGCGATCTCGGCTGTTAGG
21	NtCBF2-qF	GTTGAAGTCTTCTGCCGTC
22	NtCBF2-qR	GACTCCACTGGATACCTCGG
23	NtCBF3-qF	TGCTTGGAAGTTGCCTGTTC
24	NtCBF3-qR	AGAATAGCGCCTCCTCATCC
25	NtCBF4-qF	GGATAITCAGAAAGCGGCGG
26	NtCBF4-qR	TTCGCTAGTAATCCCGCAT
27	NtAPX-qF	CAAATGTAAGAGGAAACTCAGAGGA
28	NtAPX-qR	CAGCCTTGAGCCTCATGGTACCG
29	NtPOD-qF	GCTGTTGACGAGTTGTTAACAG
30	NtPOD-qR	CTCTGGCTGAGTTGTTGTTGG
31	NtSOD-qF	CTCTACCCTCGCCAAAT
32	NtSOD-qR	GCCCAACCAAGAGAACCC

附表 2: 马铃薯 LEA₂ 基因家族基本特征

表 2 马铃薯 LEA₂ 基因家族基本特征
Table 2 Basic characteristics of potato LEA₂ gene family

Gene ID	基因名称 Gene name	氨基酸数 /aa Amino acid	分子量/KDa Molecular weight	等电点 Molecular weight	不稳定性系数 Instability index	脂溶指数 Aliphatic index	亲水性 指数 GRAVY	亚细胞定位 Subcellular localization
Soltu.DM.01G003040	<i>StLEA1</i>	211	23.9	9.44	40.96	88.67	-0.132	液泡 Vacuole
Soltu.DM.01G003050	<i>StLEA2</i>	229	26	8.97	43.15	77.42	-0.154	质膜 Plasma membrane
Soltu.DM.01G006200	<i>StLEA3</i>	270	29.7	9.77	45.43	87.63	-0.15	细胞质 Cytosol
Soltu.DM.01G034240	<i>StLEA4</i>	163	17.9	4.74	20.54	96.2	-0.153	细胞质 Cytosol
Soltu.DM.01G034250	<i>StLEA5</i>	175	19.3	4.57	33.54	101.83	-0.189	细胞质 Cytosol
Soltu.DM.01G034270	<i>StLEA6</i>	223	24.9	9.68	19.77	94.71	-0.111	细胞质 Cytosol
Soltu.DM.01G035120	<i>StLEA7</i>	198	21.5	9.69	20.03	85	0.171	线粒体 Mitochondrion
Soltu.DM.01G043740	<i>StLEA8</i>	227	24.7	9.41	28.14	105.15	0.257	叶绿体 Chloroplast
Soltu.DM.02G004650	<i>StLEA9</i>	259	29.4	10.06	40.41	92.12	-0.344	细胞质 Cytosol
Soltu.DM.02G019710	<i>StLEA10</i>	644	72	8.79	39.2	85.4	-0.261	质膜 Plasma membrane
Soltu.DM.02G019720	<i>StLEA11</i>	191	22.3	9.47	31.39	102.88	0.103	叶绿体 Chloroplast
Soltu.DM.02G020950	<i>StLEA12</i>	260	29.6	9.57	46.77	91.08	-0.217	细胞质 Cytosol
Soltu.DM.02G027690	<i>StLEA13</i>	192	21	9.53	25.77	100.05	0.177	细胞外基质 Extracellular matrix
Soltu.DM.02G028710	<i>StLEA14</i>	393	44	9.85	50.86	74.07	-0.302	质膜 Plasma membrane
Soltu.DM.03G021490	<i>StLEA15</i>	213	24	9.41	31.45	90.56	-0.098	细胞核 Nucleus
Soltu.DM.03G023270	<i>StLEA16</i>	204	23.1	9.7	34.46	87.94	-0.19	细胞质 Cytosol
Soltu.DM.03G023870	<i>StLEA17</i>	258	29.1	10.1	36.09	102.33	-0.092	细胞质 Cytosol
Soltu.DM.03G034700	<i>StLEA18</i>	221	25.2	9.06	35.71	103.62	-0.015	高尔基体 Golgi apparatus
Soltu.DM.03G035410	<i>StLEA19</i>	310	34.3	9.75	55.92	76.03	-0.324	叶绿体 Chloroplast
Soltu.DM.03G036400	<i>StLEA20</i>	267	29.1	10.27	36.24	83	-0.136	叶绿体 Chloroplast
Soltu.DM.04G033500	<i>StLEA21</i>	320	34.9	9.93	53	71.91	-0.301	叶绿体 Chloroplast
Soltu.DM.06G006890	<i>StLEA22</i>	193	22	9.83	36.55	103.52	-0.051	线粒体 Mitochondrion
Soltu.DM.06G029430	<i>StLEA23</i>	208	23.4	9.08	48.26	103.51	0.089	细胞质 Cytosol
Soltu.DM.06G029440	<i>StLEA24</i>	247	27.4	9.61	44.14	84.57	-0.119	叶绿体 Chloroplast
Soltu.DM.07G027750	<i>StLEA25</i>	265	30.2	9.98	57.52	91.92	0.001	高尔基体 Golgi apparatus
Soltu.DM.08G004540	<i>StLEA26</i>	235	26	9.87	43.17	100.72	-0.039	叶绿体 Chloroplast
Soltu.DM.08G006260	<i>StLEA27</i>	320	35.6	4.83	24.23	96.19	-0.41	细胞骨架 cytoskeleton
Soltu.DM.08G029320	<i>StLEA28</i>	197	21.6	9.1	35.79	85.53	0.197	叶绿体 Chloroplast
Soltu.DM.09G005760	<i>StLEA29</i>	232	26	5.04	43.08	86.9	-0.132	细胞质 Cytosol
Soltu.DM.09G005770	<i>StLEA30</i>	232	26	5.19	43.16	84.01	-0.225	细胞质 Cytosol
Soltu.DM.09G005780	<i>StLEA31</i>	232	25.9	5.35	41.82	87.76	-0.137	细胞质 Cytosol
Soltu.DM.09G006840	<i>StLEA32</i>	263	29.2	9.97	43.83	87	-0.222	细胞质 Cytosol
Soltu.DM.09G012990	<i>StLEA33</i>	204	22.5	9.53	34.85	118.43	0.245	细胞质 Cytosol
Soltu.DM.10G000050	<i>StLEA34</i>	228	25.3	9.69	50.24	105.88	0.133	细胞质 Cytosol
Soltu.DM.10G005880	<i>StLEA35</i>	175	19.5	4.79	25.24	87.94	-0.362	细胞质 Cytosol
Soltu.DM.10G018280	<i>StLEA36</i>	214	24.3	9.55	40.92	92.94	-0.204	细胞质 Cytosol
Soltu.DM.10G025370	<i>StLEA37</i>	225	26.1	9.29	42.62	86.18	-0.279	质膜 Plasma membrane

Soltu.DM.10G025380	<i>StLEA38</i>	127	15.2	9.6	40.24	75.98	-0.822	细胞核 Nucleus
Soltu.DM.10G025390	<i>StLEA39</i>	211	24.1	9.59	52.84	91.8	-0.153	细胞质 Cytosol
Soltu.DM.11G016270	<i>StLEA40</i>	566	64.3	6.99	41.00	70.71	-0.673	叶绿体 Chloroplast
Soltu.DM.11G020930	<i>StLEA41</i>	209	24	10.05	40.72	98.76	-0.191	叶绿体 Chloroplast
Soltu.DM.11G021970	<i>StLEA42</i>	219	24.6	8.56	42.45	93.42	0.056	液泡 Vacuole
Soltu.DM.11G022280	<i>StLEA43</i>	257	28.5	10.19	46.62	72.18	-0.325	叶绿体 Chloroplast
Soltu.DM.12G020390	<i>StLEA44</i>	320	35.6	5.34	26.71	89.47	-0.463	细胞质 Cytosol
Soltu.DM.12G022060	<i>StLEA45</i>	274	30.7	9.25	29.32	75.69	-0.480	细胞质 Cytosol
