

表 1 八仙花ABC转运蛋白家族成员及理化性质分析

Table 1 The ABC transporter protein family members and physico-chemical analysis in Hydrangea

基因 Gene	转录组编号 Transcriptome code	NBD 结构域(aa) NBD domain (aa)	蛋白质长度(aa) Number of Amino acids (aa)	分子量(ku) Molecular weight (ku)	等电点 Theoreti cal pI	不稳定指数 Instability index	脂肪系数 Aliphatic index	总平均亲水系数 Grand average of hydropathicity	亚细胞定位 Subcellular localization
<i>HmABCA1</i>	c200548.graph_c1	595~774	774	84 773.43	5.75	37.89	102.83	0.129	质膜 Plasma membrane
<i>HmABCA2</i>	c210858.graph_c0	555~379	965	107 091.19	6.54	41.09	89.35	0.066	质膜 Plasma membrane
<i>HmABCA3</i>	c211005.graph_c0	589~771 1 497~1 684	1 895	210 905.64	7.33	36.75	99.14	0.121	质膜 Plasma membrane
<i>HmABCB1</i>	c162347.graph_c1	416~610	635	68 490.99	9.00	28.99	104.30	0.123	质膜 Plasma membrane
<i>HmABCB2</i>	c196483.graph_c0	212~398	463	49762.13	9.07	33.23	92.76	-0.088	线粒体 Mitochondrion
<i>HmABCB3</i>	c221727.graph_c0	110~296	383	40962.45	5.57	46.04	90.44	-0.095	叶绿体 Chloroplast
<i>HmABCC1</i>	c156671.graph_c0	342~521 949~1136	1156	127494.92	6.00	39.57	106.31	0.133	质膜 Plasma membrane
<i>HmABCC2</i>	c158016.graph_c0	671~852 1 293~1 478	1509	169341.89	8.64	35.36	105.11	0.161	质膜 Plasma membrane
<i>HmABCC3</i>	c163586.graph_c0	642~825 1 266~1 459	1625	182946.00	7.94	43.69	105.87	0.078	质膜 Plasma membrane
<i>HmABCC4</i>	c176480.graph_c0	549~742	775	86007.39	5.58	36.45	102.53	0.113	质膜 Plasma membrane
<i>HmABCC5</i>	c185684.graph_c0	652~825 1 260~1 452	1480	165230.03	8.51	38.38	104.22	0.180	质膜 Plasma membrane
<i>HmABCC6</i>	c194263.graph_c0	38~163 587~779	797	88147.70	6.37	37.12	99.11	0.132	质膜 Plasma membrane
<i>HmABCC7</i>	c199439.graph_c0	245~428 912~1 098	1131	124928.99	6.90	39.02	100.08	-0.028	质膜 Plasma membrane
<i>HmABCC8</i>	c201746.graph_c0	607~781 1 220~1 410	1431	159549.09	6.38	43.29	107.38	0.279	质膜 Plasma membrane
<i>HmABCC9</i>	c206954.graph_c0	71~261 737~923	952	104331.25	6.28	39.93	101.36	-0.028	线粒体 Mitochondrion
<i>HmABCC10</i>	c209063.graph_c0	665~807	807	90561.23	8.98	29.85	110.36	0.287	质膜 Plasma membrane

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<i>HmABCC11</i>	c209888.graph_c0	101~274 699~895	943	104980.71	5.94	35.19	95.96	-0046	质膜 Plasma membrane
<i>HmABCC12</i>	c210623.graph_c0	658~831	1105	124382.84	8.86	36.53	111.16	0.270	质膜 Plasma membrane
<i>HmABCC13</i>	c210746.graph_c1	288~478 918~1108	1160	129578.10	7.55	33.29	94.38	-0.019	质膜 Plasma membrane
<i>HmABCC14</i>	c211816.graph_c0	422~601 1 022~1 214	1232	136954.82	8.24	41.23	100.99	0.143	质膜 Plasma membrane
<i>HmABCC15</i>	c211939.graph_c0	612~786 1 224~1 415	1453	163353.08	8.66	37.59	107.54	0.146	质膜 Plasma membrane
<i>HmABCC16</i>	c211964.graph_c0	636~809 1 256~1 441	1480	164840.23	6.23	37.08	105.45	0.186	质膜 Plasma membrane
<i>HmABCC17</i>	c212580.graph_c0	655~828 1 284~1 476	1509	168549.07	7.16	40.71	105.06	0.104	质膜 Plasma membrane
<i>HmABCD1</i>	c145066.graph_c1	187~365	447	50591.64	5.67	41.37	86.82	-0.452	叶绿体 Chloroplast
<i>HmABCD2</i>	c181610.graph_c0	489~680	710	81049.43	8.89	39.08	97.73	-0.167	叶绿体 Chloroplast
<i>HmABCD3</i>	c185390.graph_c0	110~302	422	46660.23	5.26	38.56	80.40	-0.501	叶绿体 Chloroplast
<i>HmABCD4</i>	c190425.graph_c0	473~657	661	75060.47	9.49	35.88	100.14	-0.089	叶绿体 Chloroplast
<i>HmABCD5</i>	c201208.graph_c0	99~291	352	39600.73	5.18	32.30	86.68	-0.500	叶绿体 Chloroplast
<i>HmABCD6</i>	c207731.graph_c5	121~370	380	42868.70	5.35	44.70	90.32	-0.269	叶绿体 Chloroplast
<i>HmABCD7</i>	c210535.graph_c1	471~650 1 126~1 328	1338	149587.46	9.21	41.02	102.88	-0.053	质膜 Plasma membrane
<i>HmABCE1</i>	c143732.graph_c0	19~187	248	27992.16	9.11	29.09	87.22	-0.334	质膜 Plasma membrane
<i>HmABCE2</i>	c180499.graph_c1	101~292 369~497	497	55436.49	8.09	29.75	98.83	-0.137	细胞质 Cytoplasm

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<i>HmABCE3</i>	c197794.graph_c0	206~375	457	51409.11	6.31	35.03	90.22	-0.295	叶绿体 Chloroplast
<i>HmABCE4</i>	c207506.graph_c0	102~297 374~543	607	68563.02	8.08	34.88	88.93	-0.312	Nucleus 细胞核
<i>HmABCF1</i>	c120618.graph_c0	1~170	195	21413.55	9.18	33.39	91.49	-0.202	叶绿体 Chloroplast
<i>HmABCF2</i>	c173288.graph_c1	58~232	252	27894.75	6.03	35.11	93.97	-0.206	叶绿体 Chloroplast
<i>HmABCF3</i>	c177935.graph_c1	53~195	201	21912.13	5.48	52.05	98.46	-0.069	质膜 Plasma membrane
<i>HmABCF4</i>	c183630.graph_c0	251~381	388	43383.37	6.20	39.10	88.04	-0.321	Nucleus 细胞核
<i>HmABCF5</i>	c192449.graph_c0	58~236	271	30341.90	6.80	30.80	93.99	-0.284	叶绿体 Chloroplast
<i>HmABCF6</i>	c202770.graph_c1	227~510	557	61901.62	6.82	33.74	80.70	-0.452	叶绿体 Chloroplast
<i>HmABCF7</i>	c203124.graph_c0	195~397 527~703	728	81305.86	5.85	36.92	83.17	-0.625	叶绿体 Chloroplast
<i>HmABCF8</i>	c203715.graph_c0	320~487	578	63657.96	5.85	34.35	87.23	-0.174	细胞质 Cytoplasm
<i>HmABCF9</i>	c204186.graph_c0	97~299 409~576	599	57010.75	6.03	35.15	89.45	-0.321	叶绿体 Chloroplast
<i>HmABCF10</i>	c205016.graph_c0	74~268 383~550	571	65497.26	5.77	39.96	93.43	-0.393	叶绿体 Chloroplast
<i>HmABCF11</i>	c208754.graph_c0	106~309	614	68354.81	6.54	31.41	87.39	-0.387	叶绿体 Chloroplast
<i>HmABCF12</i>	c210038.graph_c0	471~638 714~991	1063	118017.55	6.08	33.75	88.69	-0.354	细胞质 Cytoplasm
<i>HmABCF13</i>	c211855.graph_c0	485~650 727~1 009	1068	116716.78	6.21	35.29	94.22	-0.211	叶绿体 Chloroplast
<i>HmABCG1</i>	c187439.graph_c0	99~289	661	73932.17	9.08	39.41	101.74	0.101	质膜 Plasma membrane