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Supplementary Materials

Supplementary Table 1. Physiochemical properties of HSP family members in *Phaseolus vulgaris*, *Pisum sativum*, *Glycine max*, and *Oryza sativa.*

P. *vulgaris*

Gene ID	Exon	Length	MW	PI	Instability	GRAVY	Location	Subcellular localization
PHAVU_009G192500g	7	903	100/685	5.98	stable	(-0.368)	Chromosome 9: 28,503,666-28,507,417	Cytoplasm, Nucleus
PHAVU_008G035600g	10	982	110/438	6.15	unstable	(-0.428)	Chromosome 8: 2,960,820-2,967,665	Chloroplast
PHAVU_004G034000g	10	980	110/153	6.41	unstable	(-0.443)	Chromosome 4: 3,763,500-3,771,698	Chloroplast
PHAVU_009G088500g	10	977	109/405	8.01	stable	(-0.361)	Chromosome 9: 13,781,519-13,790,437	Mitochondrion
PHAVU_009G162100g	9	922	102/496	6.21	unstable	(-0.357)	Chromosome 9: 23,588,291-23,596,068	Chloroplast
PHAVU_002G282500g	9	923	102/634	6.52	unstable	(-0.361)	Chromosome 2: 44,624,193-44,632,955	Chloroplast
PHAVU_009G159300g	12	940	103/568	8.69	stable	(-0.169)	Chromosome 9: 23,102,730-23,109,132	Chloroplast
PHAVU_003G150300g	3	1040	113/83	6.77	unstable	(-0.451)	Chromosome 3: 35,261,881-35,266,783	Nucleus
PHAVU_008G223600g	4	1007	106/321	6.70	unstable	(-0.346)	Chromosome 8: 53,685,811-53,691,299	Nucleus
PHAVU_009G235300g	3	1025	113/473	6.47	unstable	(-0.421)	Chromosome 9: 34,680,439-34,684,961	Nucleus
PHAVU_003G140600g	3	1002	111/099	6.47	unstable	(-0.403)	Chromosome 3: 33,372,676-33,376,480	Nucleus
PHAVU_001G243900g	3	1079	119/057	6.54	unstable	(-0.372)	Chromosome 1: 50,331,097-50,336,473	Nucleus

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P. *sativum*

Gene ID	Exon	Length	MW	PI	Instability	GRAVY	Location	Subcellular localization
Psat4g047480.1	6	912	101/306	5/83	stable	(-0.411)	Primary_assembly 4LG4: 80,548,021-80,553,570	Cytoplasm, Nucleus
Psat4g050520.1	6	912	101/271	5/83	stable	(-0.387)	Primary_assembly 4LG4: 84,050,496-84,054,490	Cytoplasm, Nucleus
Psat3g200800.1	10	970	109/457	6/07	stable	(-0.471)	Primary_assembly 3LG5: 424,825,416-424,832,681	Chloroplast
Psat1g069480.1	10	978	110/356	7/67	unstable	(-0.451)	Primary_assembly 1LG6: 109,832,052-109,837,142	Chloroplast
Psat0s3033g0160.1	10	981	110/017	6/89	stable	(-0.400)	Primary_assembly CAADHX020009032.1: 110,594-119,380	Mitochondrion
Psat5g054560.5	9	931	103/539	6/84	stable	(-0.353)	Primary_assembly 5LG3: 98,403,926-98,412,325	Chloroplast
Psat7g039080.1	10	927	102/725	6/44	stable	(-0.336)	Primary_assembly 7LG7: 67,555,264-67,561,471	Chloroplast
Psat5g055960.1	12	929	103/103	8/68	stable	(-0.197)	Primary_assembly 5LG3: 102,055,248-102,062,072	Chloroplast

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G. *max*

Gene ID	Exon	Length	MW	PI	Instability	GRAVY	Location	Subcellular localization
GLYMA_05G022200	6	911	101/335	5/93	stable	-0/393	Chromosome 5: 1,940,604-1,944,604	Cytoplasm, Nucleus
GLYMA_18G264400	10	974	109/768	6/1	stable	-0/428	Chromosome 18: 54,954,462-54,961,006	Chloroplast
GLYMA_19G027900	10	978	110/200	6/2	stable	-0/451	Chromosome 19: 3,485,283-3,498,153	Chloroplast
GLYMA_13G058600	10	978	110/159	6/26	stable	-0/448	Chromosome 13: 15,598,045-15,606,712	Chloroplast
GLYMA_08G242100	10	974	109/756	6/34	unstable	-0/445	Chromosome 8: 20,692,480-20,699,160	Chloroplast
GLYMA_04G062200	10	974	109/222	7/01	unstable	-0/402	Chromosome 4: 5,112,212-5,119,686	Mitochondrial
GLYMA_04G200400	9	922	102/554	6/16	unstable	-0/349	Chromosome 4: 47,289,746-47,297,214	Chloroplast
GLYMA_08G008400	9	919	102/169	6/37	unstable	-0/378	Chromosome 8: 664,591-672,931	Chloroplast
GLYMA_05G201100	9	919	102/367	6/35	unstable	-0/39	Chromosome 5: 38,487,420-38,493,497	Chloroplast
GLYMA_04G203300	12	946	103/761	8/81	stable	-0/162	Chromosome 4: 47,602,124-47,609,550	Chloroplast
GLYMA_17G067700	3	1034	113/130	6/43	unstable	-0/407	Chromosome 17: 5,262,798-5,267,554	Nucleus
GLYMA_13G092700	3	1036	113/552	6/49	unstable	-0/42	Chromosome 13: 20,749,074-20,754,015	Nucleus
GLYMA_17G058400	3	1010	112/364	6/31	unstable	-0/444	Chromosome 17: 4,429,106-4,433,256	Nucleus
GLYMA_11G230700	4	1083	119/528	6/77	unstable	-0/35	Chromosome 11: 32,618,499-32,623,797	Nucleus
GLYMA_15G167000	3	1059	116/784	6/15	unstable	-0/431	Chromosome 15: 14,653,629-14,658,354	Nucleus
GLYMA_13G101300	3	1008	111/964	6/57	unstable	-0/461	Chromosome 13: 21,651,856-21,656,115	Nucleus
GLYMA_06G165200	9	922	102/498	6/09	unstable	-0/352	Chromosome 6: 13,694,179-13,701,878	Chloroplast

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O. *sativa*

Gene ID	Exon	Length	MW	PI	Instability	GRAVY	Location	Subcellular localization
OsARC_05g0023700	5	912	100/90	5/9	stable	-0/324	Chromosome 2	Cytoplasm, Nucleus
OsARC_03g0022310	10	977	108/96	6/37	unstable	-0/415	Chromosome 3	Chloroplast
OsARC_02g0006140	10	1045	116/20	7/01	unstable	-0/282	Chromosome 2	Mitochondrion
OsARC_04g0011920	9	918	101/80	6/14	stable	-0/321	Chromosome 4	Chloroplast
OsARC_12g0007470.01	10	919	102/02	6/62	unstable.	-0/317	Chromosome 12	Chloroplast
OsARC_11g0009810	10	932	100/91	8/49	unstable	-0/226	Chromosome 11	Chloroplast
OsARC_12g0007470	10	3460	102/02	6/62	unstable	-0/317	Chromosome 12	Chloroplast
OsARC_02g0019320	12	938	101/84	6/78	unstable	-0/138	Chromosome 2	Chloroplast
OsARC_02g0035990	3	965	102/56	6/55	unstable	-0/251	Chromosome 2	Nucleus