

Table S2 Phenotype and functional marker genotype of *er1-8* and *er1-9* at the *er1* locus in 169 pea germplasms, as well as seven germplasms carrying known resistance genes (*er1* alleles and *er2*) and the four parents resistant/susceptible to *E. pisi* with two replications.

No.	Accession No./ Germplasm name	Phenotype		Marker genotype		
		Resistance reaction	Resistance phenotype	InDel-er1-8	KASPar-er1-8	KASPar-er1-9
1	G0002587	1	R	231bp	TGG:TGG	T:T
2	G0005046	4	S	231bp	TGG:TGG	T:T
3	G0005066	4	S	231bp	TGG:TGG	T:T
4	G0005544	4	S	231bp	TGG:TGG	T:T
5	G0005741	4	S	231bp	TGG:TGG	T:T
6	G0005743	4	S	231bp	TGG:TGG	T:T
7	G0005745	0	I	231bp	TGG:TGG	T:T
8	G0005746	4	S	231bp	TGG:TGG	T:T
9	G0005747	4	S	231bp	TGG:TGG	T:T
10	G0005748	4	S	231bp	TGG:TGG	T:T
11	G0005749	4	S	231bp	TGG:TGG	T:T
12	G0005750	4	S	231bp	TGG:TGG	T:T
13	G0005752	3	S	231bp	TGG:TGG	T:T
14	G0005753	4	S	231bp	TGG:TGG	T:T
15	G0005754	4	S	231bp	TGG:TGG	T:T
16	G0005755	4	S	231bp	TGG:TGG	T:T
17	G0005756	4	S	231bp	TGG:TGG	T:T
18	G0005757	3	S	231bp	TGG:TGG	T:T
19	G0005758	4	S	231bp	TGG:TGG	T:T
20	G0005759	4	S	231bp	TGG:TGG	T:T
21	G0005760	4	S	231bp	TGG:TGG	T:T
22	G0005761	4	S	231bp	TGG:TGG	T:T
23	G0005762	4	S	231bp	TGG:TGG	T:T
24	G0005764	0	I	231bp	TGG:TGG	T:T
25	G0005765	4	S	231bp	TGG:TGG	T:T
26	G0005767	4	S	231bp	TGG:TGG	T:T
27	G0005768	4	S	231bp	TGG:TGG	T:T
28	G0005770	4	S	231bp	TGG:TGG	T:T
29	G0005771	4	S	231bp	TGG:TGG	T:T
30	G0005773	4	S	231bp	TGG:TGG	T:T
31	G0005774	0	I	231bp	TGG:TGG	T:T
32	G0005775	0	I	231bp	TGG:TGG	T:T
33	G0005776	4	S	231bp	TGG:TGG	T:T

34	G0005777	4	S	231bp	TGG:TGG	T:T
35	G0005778	0	I	231bp	TGG:TGG	T:T
36	G0005783	0	I	231bp	TGG:TGG	T:T
37	G0005784	4	S	231bp	TGG:TGG	T:T
38	G0005785	4	S	231bp	TGG:TGG	T:T
39	G0005786	0	I	231bp	TGG:TGG	T:T
40	G0005789	4	S	231bp	TGG:TGG	T:T
41	G0005790	4	S	231bp	TGG:TGG	T:T
42	G0005792	4	S	231bp	TGG:TGG	T:T
43	G0005794	0	I	231bp	TGG:TGG	T:T
44	G0005795	4	S	231bp	TGG:TGG	T:T
45	G0005798	4	S	231bp	TGG:TGG	T:T
46	G0005799	4	S	231bp	TGG:TGG	T:T
47	G0005803	4	S	231bp	TGG:TGG	T:T
48	G0005805	4	S	231bp	TGG:TGG	T:T
49	G0005806	4	S	231bp	TGG:TGG	T:T
50	G0005808	4	S	231bp	TGG:TGG	T:T
51	G0005810	4	S	231bp	TGG:TGG	T:T
52	G0005812	4	S	231bp	TGG:TGG	T:T
53	G0005814	4	S	231bp	TGG:TGG	T:T
54	G0005815	4	S	231bp	TGG:TGG	T:T
55	G0005816	4	S	231bp	TGG:TGG	T:T
56	G0005817	4	S	231bp	TGG:TGG	T:T
57	G0005819	4	S	231bp	TGG:TGG	T:T
58	G0005821	4	S	231bp	TGG:TGG	T:T
59	G0005822	4	S	231bp	TGG:TGG	T:T
60	G0005823	4	S	231bp	TGG:TGG	T:T
61	G0005824	4	S	231bp	TGG:TGG	T:T
62	G0005825	4	S	231bp	TGG:TGG	T:T
63	G0005826	4	S	231bp	TGG:TGG	T:T
64	G0005827	4	S	231bp	TGG:TGG	T:T
65	G0005829	1	R	231bp	TGG:TGG	T:T
66	G0005830	0	I	231bp	TGG:TGG	T:T
67	G0005831	1	R	231bp	TGG:TGG	T:T
68	G0005832	4	S	231bp	TGG:TGG	T:T
69	G0005833	0	I	231bp	TGG:TGG	T:T
70	G0005836	3	S	231bp	TGG:TGG	T:T
71	G0005838	3	S	231bp	TGG:TGG	T:T
72	G0005839	4	S	231bp	TGG:TGG	T:T
73	G0005843	0	I	231bp	TGG:TGG	T:T
74	G0005846	0	I	231bp	TGG:TGG	T:T
75	G0005849	1	R	231bp	TGG:TGG	T:T
76	G0005852	4	S	231bp	TGG:TGG	T:T

77	G0005854	3	S	231bp	TGG:TGG	T:T
78	G0005855	1	R	231bp	TGG:TGG	T:T
79	G0005861	0	I	231bp	TGG:TGG	T:T
80	G0005869	4	S	231bp	TGG:TGG	T:T
81	G0005886	4	S	231bp	TGG:TGG	T:T
82	G0005901	4	S	231bp	TGG:TGG	T:T
83	G0005914	4	S	231bp	TGG:TGG	T:T
84	G0005927	4	S	231bp	TGG:TGG	T:T
85	G0005938	4	S	231bp	TGG:TGG	T:T
86	G0005948	3	S	231bp	TGG:TGG	T:T
87	G0005949	4	S	231bp	TGG:TGG	T:T
88	G0005953	4	S	231bp	TGG:TGG	T:T
89	G0005954	4	S	231bp	TGG:TGG	T:T
90	G0005956	4	S	231bp	TGG:TGG	T:T
91	G0005957	4	S	231bp	TGG:TGG	T:T
92	G0005961	4	S	231bp	TGG:TGG	T:T
93	G0005963	4	S	231bp	TGG:TGG	T:T
94	G0005965	4	S	231bp	TGG:TGG	T:T
95	G0005967	1	R	231bp	TGG:TGG	T:T
96	G0005968	4	S	231bp	TGG:TGG	T:T
97	G0005969	4	S	231bp	TGG:TGG	T:T
98	G0005970	4	S	231bp	TGG:TGG	T:T
99	G0005971	4	S	231bp	TGG:TGG	T:T
100	G0005972	4	S	231bp	TGG:TGG	T:T
101	G0005973	4	S	231bp	TGG:TGG	T:T
102	G0005974	3	S	231bp	TGG:TGG	T:T
103	G0005975	4	S	231bp	TGG:TGG	T:T
104	G0005976	4	S	231bp	TGG:TGG	T:T
105	G0005977	4	S	231bp	TGG:TGG	T:T
106	G0005978	4	S	231bp	TGG:TGG	T:T
107	G0005979	4	S	231bp	TGG:TGG	T:T
108	G0005980	4	S	231bp	TGG:TGG	T:T
109	G0005981	4	S	231bp	TGG:TGG	T:T
110	G0005982	3	S	231bp	TGG:TGG	T:T
111	G0005983	4	S	231bp	TGG:TGG	T:T
112	G0005984	4	S	231bp	TGG:TGG	T:T
113	G0005985	4	S	231bp	TGG:TGG	T:T
114	G0005986	1	R	231bp	TGG:TGG	T:T
115	G0005989	4	S	231bp	TGG:TGG	T:T
116	G0005990	0	I	231bp	TGG:TGG	T:T
117	G0005991	4	S	231bp	TGG:TGG	T:T
118	G0005994	4	S	231bp	TGG:TGG	T:T
119	G0005995	3	S	231bp	TGG:TGG	T:T

120	G0005997	4	S	231bp	TGG:TGG	T:T
121	G0005998	4	S	231bp	TGG:TGG	T:T
122	G0005999	4	S	231bp	TGG:TGG	T:T
123	G0006001	4	S	231bp	TGG:TGG	T:T
124	G0006003	3	S	231bp	TGG:TGG	T:T
125	G0006005	4	S	231bp	TGG:TGG	T:T
126	G0006006	1	R	231bp	TGG:TGG	T:T
127	G0006007	4	S	231bp	TGG:TGG	T:T
128	G0006009	4	S	231bp	TGG:TGG	T:T
129	G0006010	4	S	231bp	TGG:TGG	T:T
130	G0006011	4	S	231bp	TGG:TGG	T:T
131	G0006012	4	S	231bp	TGG:TGG	T:T
132	G0006015	4	S	231bp	TGG:TGG	T:T
133	G0006017	4	S	231bp	TGG:TGG	T:T
134	G0006018	4	S	231bp	TGG:TGG	T:T
135	G0006019	1	R	231bp	TGG:TGG	T:T
136	G0006020	4	S	231bp	TGG:TGG	T:T
137	G0006021	4	S	231bp	TGG:TGG	T:T
138	G0006023	4	S	231bp	TGG:TGG	T:T
139	G0006024	0	I	231bp	TGG:TGG	T:T
140	G0006026	4	S	231bp	TGG:TGG	T:T
141	G0006031	3	S	231bp	TGG:TGG	T:T
142	G0006034	4	S	231bp	TGG:TGG	T:T
143	G0006035	1	R	231bp	TGG:TGG	T:T
144	G0006036	1	R	231bp	TGG:TGG	T:T
145	G0006038	3	S	231bp	TGG:TGG	T:T
146	G0006039	4	S	231bp	TGG:TGG	T:T
147	G0006041	0	I	231bp	TGG:TGG	T:T
148	G0006042	0	I	231bp	TGG:TGG	T:T
149	G0006043	4	S	231bp	TGG:TGG	T:T
150	G0006044	0	I	231bp	TGG:TGG	T:T
151	G0006045	4	S	231bp	TGG:TGG	T:T
152	G0006046	4	S	231bp	TGG:TGG	T:T
153	G0006048	4	S	231bp	TGG:TGG	T:T
154	G0006050	4	S	231bp	TGG:TGG	T:T
155	G0006051	1	R	231bp	TGG:TGG	T:T
156	G0006052	1	R	231bp	TGG:TGG	T:T
157	G0006053	1	R	231bp	TGG:TGG	T:T
158	G0006054	4	S	231bp	TGG:TGG	T:T
159	G0006055	3	S	231bp	TGG:TGG	T:T
160	G0006056	1	R	231bp	TGG:TGG	T:T
161	G0006057	1	R	231bp	TGG:TGG	T:T
162	G0006058	1	R	231bp	TGG:TGG	T:T

163	G0006059	1	R	231bp	TGG:TGG	T:T
164	G0006060	1	R	231bp	TGG:TGG	T:T
165	G0006061	1	R	231bp	TGG:TGG	T:T
166	G0006062	4	S	231bp	TGG:TGG	T:T
167	G0006063	0	I	231bp	TGG:TGG	T:T
168	G0006065	1	R	231bp	TGG:TGG	T:T
169	G0006070	1	R	231bp	TGG:TGG	T:T
170	Tara	0	I	231bp	TGG:TGG	T:T
171	Xuca1	0	I	231bp	TGG:TGG	T:T
172	Jl210	0	I	231bp	TGG:TGG	T:T
173	YI	0	I	231bp	TGG:TGG	T:T
174	G0001778	0	I	231bp	TGG:TGG	T:T
175	DDR11	0	I	231bp	TGG:TGG	T:T
176	GI2480	4	S	231bp	TGG:TGG	T:T
177	WSU28	4	S	231bp	TGG:TGG	T:T
178	WSU28	4	S	231bp	TGG:TGG	T:T
179	G0004389	0	I	228bp	-:-	T:T
180	G0004389	0	I	228bp	-:-	T:T
181	Bawan 6	4	S	231bp	TGG:TGG	T:T
182	Bawan 6	4	S	231bp	TGG:TGG	T:T
183	G0004400	0	I	231bp	TGG:TGG	-:-
184	G0004400	0	I	231bp	TGG:TGG	-:-