

S5 Table. Three-locus genotypes for 229 individuals of 30 breeds.

	BREED	GENOTYPE		
		PAN2 R492C	MAP3K7CL indel	DLA-DRB1
1	AMERICAN BULLDOG	GG	wt	001:01/015:01
2	AMERICAN BULLDOG	GG	wt	001:01/uncharacterized
3	AMERICAN BULLDOG	GG	wt	015:02/015:02
4	AMERICAN BULLDOG	GG	wt	018:01/018:01
5	AMERICAN BULLDOG	GG	wt	018:01/018:01
6	AMERICAN ESKIMO	GG	wt	015:01/015:02
7	AMERICAN ESKIMO	GG	wt	015:01/040:01
8	AMERICAN ESKIMO	AG	wt	015:01/040:01
9	AMERICAN ESKIMO	GG	wt	015:01/040:01
10	AMERICAN ESKIMO	GG	wt	013:01/040:01
11	AUSTRALIAN SHEPHERD	GG	wt	002:01/046:01
12	AUSTRALIAN SHEPHERD	GG	indel/wt	026:01/030:01
13	AUSTRALIAN SHEPHERD	GG	wt	006:01/011:01
14	AUSTRALIAN SHEPHERD	GG	wt	002:01/011:01
15	AUSTRALIAN SHEPHERD	GG	wt	011:01/015:01
16	AUSTRALIAN SHEPHERD	GG	wt	001:01/015:01
17	BASENJI	GG	wt	009:01/030:01
18	BASENJI	GG	wt	009:01/027:01
19	BASENJI	GG	wt	004:01/027:01
20	BASENJI	GG	wt	009:01/022:01
21	BASENJI	GG	wt	uncharacterized
22	BORDER COLLIE	GG	wt	013:01/023:01
23	BORDER COLLIE	GG	wt	013:01/013:01
24	BORDER COLLIE	GG	wt	015:01/023:01
25	BORDER COLLIE	GG	wt	013:01/013:01
26	BORDER COLLIE	GG	wt	013:01/018:01
27	BOSTON TERRIER	GG	wt	002:0*/015:0*
28	BOSTON TERRIER	GG	wt	002:01/002:01
29	BOSTON TERRIER	GG	indel/wt	002:01/002:01
30	BOSTON TERRIER	GG	indel/wt	002:01/002:01
31	BOSTON TERRIER	GG	indel/wt	002:01/002:01
32	BOSTON TERRIER	GG	wt	002:01/002:01
33	BOSTON TERRIER	GG	wt	002:01/002:01
34	BOSTON TERRIER	GG	wt	001:01/002:01
35	BOSTON TERRIER	GG	wt	002:01/023:01
36	BOXER	GG	wt	004:01/015:02
37	BOXER	GG	wt	001:01/001:01
38	BOXER	GG	wt	015:01/uncharacterized
39	BOXER	GG	wt	001:01/020:01
40	BOXER	GG	wt	012:01/012:01

41	CAIRN TERRIER	AA	wt	009:01/015:02
42	CAIRN TERRIER	AG	indel/wt	015:01/015:01
43	CAIRN TERRIER	AG	wt	009:01/012:01
44	CAIRN TERRIER	GG	wt	015:02/015:02
45	CAIRN TERRIER	AA	wt	015:01/015:01
46	CAIRN TERRIER	AG	wt	009:01/015:02
47	CAIRN TERRIER	AA	indel/wt	015:01/015:02
48	CAIRN TERRIER	AG	indel/wt	009:01/015:02
49	CAIRN TERRIER	AG	wt	009:01/015:02
50	CAIRN TERRIER	AA	wt	015:02/018:01
51	CAIRN TERRIER	AA	wt	015:01/015:02
52	CAIRN TERRIER	AA	indel/wt	015:01/015:02
53	CAIRN TERRIER	AG	wt	001:01/001:01
54	CAIRN TERRIER	AG	wt	002:01/015:02
55	CAIRN TERRIER	AA	indel/wt	009:01/015:01
56	CAIRN TERRIER	AA	indel/wt	001:01/009:01
57	CAIRN TERRIER	AA	indel/wt	015:01/015:02
58	CAIRN TERRIER	AA	wt	001:01/015:02
59	CARDIGAN WELSH CORGI	AG	indel/wt	015:02/015:02
60	CARDIGAN WELSH CORGI	GG	wt	015:02/015:02
61	CARDIGAN WELSH CORGI	GG	indel/wt	020:01/020:01
62	CARDIGAN WELSH CORGI	GG	wt	015:02/015:02
63	CARDIGAN WELSH CORGI	AG	wt	002:01/015:02
64	CARDIGAN WELSH CORGI	GG	wt	002:01/002:01
65	CARDIGAN WELSH CORGI	AG	wt	002:01/015:02
66	CARDIGAN WELSH CORGI	GG	indel/wt	002:01/018:01
67	CARDIGAN WELSH CORGI	AA	indel/wt	002:01/002:01
68	CARDIGAN WELSH CORGI	GG	wt	002:01/015:02
69	CARDIGAN WELSH CORGI	GG	indel/wt	002:01/002:01
70	CARDIGAN WELSH CORGI	GG	wt	015:02/020:01
71	CARDIGAN WELSH CORGI	AG	wt	002:01/002:01
72	CATAHOULA	GG	wt	001:01/015:01
73	CATAHOULA	GG	wt	001:01/015:01
74	CATAHOULA	GG	wt	001:01/001:01
75	CATAHOULA	GG	wt	026:01/030:01
76	CATAHOULA	GG	wt	026:01/030:01
77	CAVALIER KING CHARLES SPANIEL	GG	wt	011:01/011:01
78	CAVALIER KING CHARLES SPANIEL	GG	wt	009:01/011:01
79	CAVALIER KING CHARLES SPANIEL	GG	indel/indel	011:01/011:01
80	CAVALIER KING CHARLES SPANIEL	GG	wt	006:01/006:01
81	CAVALIER KING CHARLES SPANIEL	GG	indel/indel	006:01/020:01
82	CHIHUAHUA	AA	wt	uncharacterized
83	CHIHUAHUA	AG	wt	002:01/009:01
84	CHIHUAHUA	AG	wt	001:01/002:01
85	CHIHUAHUA	AG	wt	015:01/015:01

86	CHIHUAHUA	GG	wt	001:01/009:01
87	DACHSHUND	GG	wt	009:01/015:02
88	DACHSHUND	GG	wt	001:01/015:01
89	DACHSHUND	GG	wt	002:01/009:01
90	DACHSHUND	GG	wt	002:0*/015:0*
91	DACHSHUND	GG	wt	001:01/009:01
92	DALMATIAN	GG	wt	002:01/006:01
93	DALMATIAN	GG	wt	006:01/020:01
94	DALMATIAN	GG	indel/wt	002:01/020:01
95	DALMATIAN	GG	wt	002:01/037:01
96	DALMATIAN	GG	wt	002:01/020:01
97	ENGLISH BULLDOG	GG	wt	015:01/015:02
98	ENGLISH BULLDOG	GG	wt	018:01/018:01
99	ENGLISH BULLDOG	GG	indel/wt	013:01/015:02
100	ENGLISH BULLDOG	GG	wt	013:01/018:01
101	ENGLISH BULLDOG	GG	wt	002:01/015:02
102	ENGLISH COCKER SPANIEL	GG	indel/indel	001:01/006:01
103	ENGLISH COCKER SPANIEL	GG	indel/wt	001:01/001:01
104	ENGLISH COCKER SPANIEL	GG	indel/wt	006:01/006:01
105	ENGLISH COCKER SPANIEL	GG	indel/indel	006:01/006:01
106	ENGLISH COCKER SPANIEL	GG	indel/wt	006:01/006:01
107	ENGLISH COCKER SPANIEL	GG	indel/indel	006:01/006:01
108	ENGLISH COCKER SPANIEL	GG	indel/wt	006:01/006:01
109	ENGLISH COCKER SPANIEL	GG	indel/indel	006:01/006:01
110	ENGLISH SETTER	GG	wt	001:01/001:01
111	ENGLISH SETTER	GG	wt	001:01/001:01
112	ENGLISH SETTER	GG	wt	001:01/001:01
113	ENGLISH SETTER	GG	wt	001:01/001:01
114	ENGLISH SETTER	GG	wt	001:01/001:01
115	ENGLISH SPRINGER SPANIEL	GG	indel/wt	015:01/015:01
116	ENGLISH SPRINGER SPANIEL	GG	indel/indel	012:01/015:01
117	ENGLISH SPRINGER SPANIEL	GG	indel/wt	015:01/015:01
118	ENGLISH SPRINGER SPANIEL	GG	wt	015:01/015:01
119	ENGLISH SPRINGER SPANIEL	GG	wt	012:01/012:01
120	FOX TERRIER	GG	wt	001:01/015:01
121	FOX TERRIER	AG	wt	013:01/013:01
122	FOX TERRIER	GG	wt	001:01/001:01
123	FOX TERRIER	AG	indel/wt	013:01/013:01
124	FOX TERRIER	GG	wt	001:01/001:01
125	FOX TERRIER	GG	wt	001:01/001:01
126	FOX TERRIER	GG	wt	001:01/013:01
127	FOX TERRIER	AG	wt	001:01/001:01
128	FOX TERRIER	AG	indel/wt	013:01/013:01
129	FOX TERRIER	GG	wt	001:01/001:01
130	FOX TERRIER	AA	wt	026:01/030:01

131	FOX TERRIER	GG	wt	001:01/001:01
132	FOX TERRIER	AA	indel/wt	013:01/013:01
133	FOX TERRIER	GG	wt	001:01/018:01
134	FOX TERRIER	AG	wt	013:01/013:01
135	FOX TERRIER	GG	indel/wt	013:01/013:01
136	FOX TERRIER	GG	wt	001:01/001:01
137	FOX TERRIER	GG	wt	001:01/001:01
138	FOX TERRIER	AG	wt	008:01/013:01
139	FOX TERRIER	GG	wt	001:01/001:01
140	FOX TERRIER	GG	wt	001:01/001:01
141	FOX TERRIER	GG	wt	001:01/001:01
142	FOX TERRIER	AG	wt	001:01/001:01
143	FOX TERRIER	GG	wt	001:01/015:02
144	FOX TERRIER	GG	wt	001:01/018:01
145	FOX TERRIER	GG	wt	001:01/001:01
146	FOX TERRIER	GG	wt	001:01/013:01
147	GERMAN SHEPHERD DOG	GG	wt	001:01/002:01
148	GERMAN SHEPHERD DOG	GG	wt	001:02/015:01
149	GERMAN SHEPHERD DOG	GG	wt	001:01/011:01
150	GERMAN SHEPHERD DOG	GG	wt	001:02/015:01
151	GERMAN SHEPHERD DOG	GG	wt	011:01/015:01
152	GOLDEN RETRIEVER	GG	wt	006:01/012:01
153	GOLDEN RETRIEVER	GG	wt	012:01/012:01
154	GOLDEN RETRIEVER	GG	wt	006:01/015:01
155	GOLDEN RETRIEVER	GG	wt	006:01/012:01
156	GOLDEN RETRIEVER	GG	wt	012:01/012:01
157	GREAT DANE	GG	indel/wt	001:01/006:01
158	GREAT DANE	GG	wt	001:01/001:01
159	GREAT DANE	GG	wt	001:01/012:01
160	GREAT DANE	GG	wt	001:01/012:01
161	GREAT DANE	GG	wt	001:01/001:01
162	IRISH SETTER	GG	wt	001:01/008:01
163	IRISH SETTER	GG	wt	001:01/001:01
164	IRISH SETTER	GG	wt	001:01/005:01
165	IRISH SETTER	GG	indel/indel	001:01/005:01
166	IRISH SETTER	GG	wt	005:01/006:01
167	JACK RUSSELL TERRIER	AA	wt	015:01/015:02
168	JACK RUSSELL TERRIER	AG	wt	002:01/008:01
169	JACK RUSSELL TERRIER	AA	wt	001:01/002:01
170	JACK RUSSELL TERRIER	AA	wt	011:01/023:01
171	JACK RUSSELL TERRIER	AG	wt	009:01/009:01
172	JACK RUSSELL TERRIER	AA	wt	002:01/015:02
173	JACK RUSSELL TERRIER	GG	wt	013:01/020:01
174	JACK RUSSELL TERRIER	AA	wt	002:01/009:01
175	JACK RUSSELL TERRIER	AG	wt	011:01/038:01

176	JACK RUSSELL TERRIER	AG	wt	013:01/015:01
177	JACK RUSSELL TERRIER	GG	wt	006:01/011:01
178	JACK RUSSELL TERRIER	GG	wt	015:01/020:01
179	JACK RUSSELL TERRIER	GG	wt	009:01/009:01
180	JACK RUSSELL TERRIER	AG	wt	013:01/015:01
181	LABRADOR RETRIEVER	GG	wt	006:01/012:01
182	LABRADOR RETRIEVER	GG	wt	008:02/015:02
183	LABRADOR RETRIEVER	GG	wt	001:01/012:01
184	LABRADOR RETRIEVER	GG	indel/indel	008:02/012:01
185	LABRADOR RETRIEVER	GG	wt	012:01/015:02
186	LABRADOR RETRIEVER	GG	indel/wt	012:01/012:01
187	LABRADOR RETRIEVER	GG	indel/wt	012:01/012:01
188	LABRADOR RETRIEVER	GG	indel/wt	002:01/046:01
189	LABRADOR RETRIEVER	GG	wt	001:01/012:01
190	LABRADOR RETRIEVER	GG	wt	008:02/020:01
191	LABRADOR RETRIEVER	GG	wt	015:02/015:02
192	LABRADOR RETRIEVER	GG	wt	012:01/015:02
193	LABRADOR RETRIEVER	GG	wt	008:02/020:01
194	LABRADOR RETRIEVER	GG	wt	012:01/015:02
195	PEMBROKE WELSH CORGI	AG	wt	012:01/015:01
196	PEMBROKE WELSH CORGI	AG	wt	012:01/015:01
197	PEMBROKE WELSH CORGI	AG	wt	002:01/002:01
198	PEMBROKE WELSH CORGI	AG	wt	012:01/015:01
199	PEMBROKE WELSH CORGI	GG	wt	012:01/018:01
200	PEMBROKE WELSH CORGI	GG	wt	002:01/015:01
201	PEMBROKE WELSH CORGI	GG	wt	002:01/015:01
202	PEMBROKE WELSH CORGI	AG	wt	002:01/015:01
203	PEMBROKE WELSH CORGI	AG	wt	012:01/015:01
204	PEMBROKE WELSH CORGI	AG	wt	012:01/015:01
205	POODLE	GG	wt	001:01/015:01
206	POODLE	GG	wt	015:01/015:01
207	POODLE	GG	wt	015:01/015:01
208	POODLE	GG	wt	015:01/015:01
209	POODLE	GG	indel/wt	015:01/020:01
210	POODLE	GG	wt	015:01/015:01
211	SCHNAUZER	GG	wt	001:01/013:01
212	SCHNAUZER	GG	wt	009:01/009:01
213	SCHNAUZER	GG	wt	001:01/009:01
214	SCHNAUZER	GG	indel/wt	009:01/015:02
215	SCHNAUZER	GG	wt	009:01/009:01
216	WEST HIGHLAND WHITE TERRIER	AG	wt	001:01/015:02
217	WEST HIGHLAND WHITE TERRIER	AA	wt	001:01/015:01
218	WEST HIGHLAND WHITE TERRIER	AG	wt	001:01/001:01
219	WEST HIGHLAND WHITE TERRIER	GG	wt	001:01/015:01
220	WEST HIGHLAND WHITE TERRIER	GG	wt	001:01/015:01

221	YORKSHIRE TERRIER	AA	wt	006:01/006:01
222	YORKSHIRE TERRIER	AG	wt	006:01/015:02
223	YORKSHIRE TERRIER	AG	wt	006:01/006:01
224	YORKSHIRE TERRIER	AA	wt	006:01/006:01
225	YORKSHIRE TERRIER	GG	wt	006:01/015:02
226	YORKSHIRE TERRIER	AG	wt	015:02/015:02
227	YORKSHIRE TERRIER	AG	wt	006:01/006:01
228	YORKSHIRE TERRIER	AG	wt	015:02/015:02
229	YORKSHIRE TERRIER	GG	wt	015:02/015:02