

ID	Breed	Histology	Subtype	Mean bait coverage T	Mean bait coverage N	Number of somatic variants	Number Nonsy-nonymous variants
1	ESS	Missing		61.2	40.3	49	5
2	ESS	Missing		71.6	35.8	16	2
3	ESS	Adenoma	Simple	54.9	49.2	12	6
4	ESS	Adenoma	Simple	49.0	32.0	24	2
5	ESS	Adenoma	Complex	52.1	28.2	25	2
6	ESS	Adenoma	Complex	76.3	38.8	47	7
7	ESS	Mixed tumor		78.3	36.1	147	22
8	ESS	Adenoma	Complex	62.7	32.8	48	1
9	ESS	Carcinoma	Squamous	54.0	31.3	57	9
10	ESS	Hyperplasia	Adenosis	75.2	31.3	124	20
11	ESS	Adenoma	Simple	65.5	37.4	51	6
12	ESS	Missing		73.9	33.6	64	19
13	ESS	Mixed tumor		65.9	31.6	58	10
14	ESS	Adenoma	Complex	57.9	31.6	75	8
15	ESS	Adenoma	Simple	73.8	42.8	81	11
16	ESS	Carcinoma	Simple	75.8	29.6	43	5
17	GS	Carcinoma	Simple	61.1	27.5	108	15
19	GS	Adenoma	Complex	77.0	38.5	92	21
20	GS	Fibrolipoma		61.3	27.8	65	12
21	GS	Hyperplasia	Lobular	58.2	35.6	91	14
22	GS	Adenoma	Complex	68.8	34.2	64	14
23	LAJKA	Carcinoma		72.0	38.1	130	19
24	SHETLAND SHEEPDOG	Carcinoma	Simple	76.6	37.1	142	27
25	DACHSHUND	Adenoma	Tubulopapill	68.2	30.3	80	15
26	BEDLINGTON TERRIER	Carcinoma	Tubulopapill	76.9	32.9	72	18
27	FIELD SPANIEL	Adenoma	Complex	76.4	38.6	79	12
28	NOVA SCOTIA RETRIEVER	Adenoma	Complex	74.8	13.7	88	12
29	CKCS	Carcinoma		61.3	13.2	86	11
30	AMERICAN COCKER SPANIEL	Adenoma	Simple	67.2	17.5	68	5
31	CS	Carcinoma	Simple	69.9	18.0	92	6
32	ENGLISH SETTER	Carcinoma	Complex	81.8	13.6	167	26
33	DACHSHUND	Carcinoma	Mucin rich	52.4	13.8	95	15
34	COTON DE TULEAR	Adenoma		75.1	18.5	141	21
35	CS	Missing	Missing	65.4	17.1	98	16
36	ESS	Mixed tumor		71.1	16.4	57	9
37	ESS	Adenoma	Complex	56.7	15.1	42	4
38	ESS	Mixed tumor		59.5	13.8	37	5
39	ESS	Mixed tumor		81.1	15.4	67	13
40	ESS	Mixed tumor		65.4	20.2	59	9
41	ESS	Adenoma	Complex	43.6	10.0	32	9
42	ESS	Missing	Missing	64.0	15.1	54	10
43	ESS	Mixed tumor		69.5	13.3	89	15
44	ESS	Missing		58.1	12.7	44	12
45	GS	Missing		65.9	16.8	70	7
46	CS	Adenoma	Complex	64.8	9.2	86	14
47	GS	Hyperplasia	lobular	87.3	9.3	77	17
48	GS	Adenoma	Complex	88.3	9.3	240	68
50	GS	Chondrosarcoma		56.4	15.6	47	8
51	CS	Mixed tumor		104.3	17.8	131	20
53	ESS	Missing		55.9	10.8	37	6
54	ESS	Mixed tumor		73.4	14.3	66	10
55	ESS	Mixed tumor		112.5	13.2	92	13
56	ESS	Adenoma	Complex	103.3	14.3	95	14
59	ESS	Mixed tumor		137.3	41.8	76	12
75	ESS	Mixed tumor		127.8	45.2	268	21
78	GS	Carcinoma		78.0	40.2	53	9
79	GS	Adenoma	Complex	101.0	40.2	59	12

Table S1 Summary of samples included in the study. Table shows sample id, histological diagnosis and subtype, mean tumor and normal sample sequencing coverage, the total number of somatic variants detected after filtration and the number of non-synonymous variants detected. Non-synonymous mutations in this table includes nonsense mutations and splice-site variants. Breed description: ESS=English springer spaniel, GS=German Shepherd, CKCS= Cavalier king Charles spaniel, CS= cocker spaniel