

**Supplementary file 1:** The relative abundance of major taxa in three canine breeds

Classification	Percentage of Total Sequences <sup>2</sup>				SEM	<i>p</i> -Value	No. of pigs With detect able taxon
	Collective data <sup>1</sup>	Control	DON	ZEN			
<b>zFirmicutes</b>	56.8	56.7	54.7	57.8	0.31	0.72	14
<i>Lactobacillus</i>	4.0	1.1 <sup>b</sup>	6.5 <sup>a</sup>	3.8 <sup>a</sup>	0.13	<b>0.005</b>	14
<i>Faecalibacterium</i>	4.4	5.5	3.6	4.2	0.08	0.25	14
<i>Dialister</i>	2.3	2.3	1.2	3.4	0.57	0.67	14
<i>Megasphaera</i>	2.0	0.9 <sup>b</sup>	3.0 <sup>a</sup>	1.8 <sup>a</sup>	0.18	<b>0.05</b>	14
<i>Lachnospira</i>	1.9	2.5	2.3	1.0	0.17	0.11	14
<i>Phascolarctobacterium</i>	1.7	1.8	1.6	1.7	0.09	0.91	14
<i>Ruminococcus</i>	1.3	1.7	1.1	1.3	0.09	0.14	14
<i>Bulleidia</i>	1.2	1.4	0.8	1.3	0.09	0.38	14
<i>Blautia</i>	1.1	1.2	0.7	1.3	2.2	0.34	14
<i>Anaerovibrio</i>	0.9	0.9	1.2	0.7	0.12	0.15	14
<i>Coprococcus</i>	0.9	1.1	0.8	0.8	0.04	0.15	14
<i>Oscillospira</i>	0.9	0.8	1.1	0.8	0.09	0.44	14
<i>Catenibacterium</i>	0.7	1.0	0.3	0.9	0.38	0.60	13
<i>p-75-a5</i>	0.6	0.7	0.4	0.8	0.28	0.85	12
<i>Clostridium</i>	0.5	0.5	0.2	0.9	0.14	0.11	14
<i>Dorea</i>	0.5	0.4	0.5	0.6	0.08	0.46	14
<i>Megamonas</i>	0.4	0.0	0.0	1.1	0.61	0.36	6
<i>Shuttleworthia</i>	0.3	0.8	0.2	0.1	0.40	0.44	14
<i>Acidaminococcus</i>	0.3	0.3	0.3	0.3	0.43	0.84	14
<i>Butyrivibrio</i>	0.3	0.1	0.1	0.6	0.19	0.18	14
<i>Selenomonas</i>	0.2	0.0	0.5	0.1	0.39	0.38	14
<i>Roseburia</i>	0.2	0.2	0.3	0.1	0.17	0.21	14
<i>Mitsuokella</i>	0.2	0.2	0.2	0.2	0.19	0.89	14
<i>Streptococcus</i>	0.2	0.3	0.0	0.2	0.26	0.40	14
<i>Peptococcus</i>	0.2	0.2 <sup>a</sup>	0.0 <sup>b</sup>	0.1 <sup>b</sup>	0.11	<b>0.02</b>	14
<i>Pelosinus</i>	0.2	0.0 <sup>b</sup>	0.2 <sup>a</sup>	0.1 <sup>a</sup>	0.06	<b>0.005</b>	14
<b>Bacteroidetes</b>	35.6	35.9	38.8	32.0	0.04	0.34	14
<i>Prevotella</i>	21.4	25.4	22.2	17.5	0.09	0.39	14
<i>Bacteroides</i>	4.1	2.0 <sup>b</sup>	4.6 <sup>a</sup>	5.3 <sup>a</sup>	0.06	<b>0.001</b>	14
<i>CF231</i>	0.6	0.6	0.7	0.5	0.20	0.67	14
<i>Parabacteroides</i>	0.4	0.3	0.6	0.3	0.22	0.44	14
<i>Paludibacter</i>	0.3	0.2 <sup>b</sup>	0.4 <sup>a</sup>	0.4 <sup>a</sup>	0.07	<b>0.001</b>	14
<b>Proteobacteria</b>	4.3	4.1	3.1	5.7	0.09	0.23	14
<i>Campylobacter</i>	1.4	1.5 <sup>a</sup>	0.0 <sup>b</sup>	2.8 <sup>a</sup>	0.44	<b>0.01</b>	14
<i>Succinivibrio</i>	0.6	0.6	0.6	0.6	0.20	0.81	14

<i>Actinobacillus</i>	0.2	0.1 <sup>a</sup>	0.0 <sup>b</sup>	0.4 <sup>a</sup>	0.38	<b>0.006</b>	12
<i>Desulfovibrio</i>	0.2	0.3	0.2	0.2	0.19	0.95	14
<i>Dechloromonas</i>	0.1	0.0 <sup>b</sup>	0.2 <sup>a</sup>	0.1 <sup>a</sup>	0.06	<b>0.001</b>	14
<b>Spirochaetes</b>	0.9	0.7	0.8	1.3	0.35	0.74	14
<i>Treponema</i>	0.9	0.7	0.8	1.3	0.36	0.79	14
<b>Cyanobacteria</b>	0.9	0.7	1.0	0.9	0.08	0.39	14
<b>Actinobacteria</b>	0.8	0.8	0.4	1.3	0.29	0.19	14
<i>Collinsella</i>	0.2	0.2	0.1	0.3	0.18	0.24	14
<i>Turicibacter</i>	0.2	0.3 <sup>a</sup>	0.0 <sup>b</sup>	0.2 <sup>a</sup>	0.29	<b>0.001</b>	13
<b>TM7</b>	0.4	0.4	0.4	0.3	0.26	0.58	14
<b>Tenericutes</b>	0.3	0.3	0.4	0.3	0.18	0.71	14
<b>Verrucomicrobia</b>	0.2	0.1 <sup>b</sup>	0.2 <sup>a</sup>	0.2 <sup>a</sup>	0.05	<b>0.001</b>	14
<i>Akkermansia</i>	0.1	0.0 <sup>b</sup>	0.1 <sup>a</sup>	0.1 <sup>a</sup>	0.04	<b>0.001</b>	14
<b>Fusobacteria</b>	0.1	0.1	0.1	0.1	0.07	0.41	14

<sup>1</sup> Sequences obtained from all cecum samples

<sup>2</sup> Values represent means.

<sup>a,b</sup> Within a row, means with a different subscript were different ( $p < 0.05$ ).