

**Table S1:** Distribution of 1779 blood units from 982 canine blood donors tested by SNAP 4Dx/4Dx Plus according to their antibody positivity to *Anaplasma* spp. in a population of canine blood donors, Canada.

Characteristics	Number of dogs <sup>a</sup>	Number of blood units <sup>a</sup>	Number (%) of antibody-positive blood units to <i>Anaplasma</i> spp.
<b>Year of collection</b>			
2010-2012	377	1279	9 (.70)
2013-2014	455	464	1 (.22)
2015-2016	35	35	0 (.00)
<b>Season of collection</b>			
April-October	765	1188	6 (.51)
November-March	465	590	4 (.68)
<b>Age of dog at time of collection</b>			
< 2 years	155	176	0 (.00)
2 to < 8 years	775	1357	9 (.66)
≥ 8 years	145	246	1 (.41)
<b>Number of blood donation</b>			
1	947	947	5 (.53)
≥ 2	400	832	5 (.60)
<b>Borrelia burgdorferi antibodies</b>			
Positive	26	51	4 (7.84)
Negative	963	1726	6 (.35)
<b>Province of residency</b>			
Alberta	265	3020	2 (.66)
Manitoba	665	1416	8 (.56)
Ontario	22	27	0 (.00)
Quebec	27	27	0 (.00)
<b>Sex</b>			
Female	421	760	3 (.39)
Male	548	999	7 (.70)
<b>Breed category</b>			
Border Collie	14	21	0 (.00)
Boxer	28	48	0 (.00)
Doberman Pinscher	12	21	0 (.00)
German Shepherd	35	77	1 (1.3)
Golden Retriever	76	153	2 (1.3)
Great Dane	15	21	0 (.00)
Greyhound	14	18	0 (.00)
Labrador Retriever	116	236	1 (.42)
Mixed	425	782	5 (.64)
Other purebred <sup>b</sup>	138	226	1 (.44)
Rottweiler	15	36	0 (.00)
Siberian Husky	9	22	0 (.00)

<sup>a</sup> Missing values are present for some variables. The number of dogs in each category could add up to > 982 if a dog could be included in more than 1 category (ex. "Year of collection", a dog could be represented once in each year category).

<sup>b</sup> All other purebred dogs with less than 50 blood collections each.

**Table S2:** Distribution of 6140 blood units from 1914 dogs according to their PCR positivity to 5 pathogens in a population of canine blood donors, Canada.

Characteristics	Number of dogs <sup>a</sup>	Number of blood units <sup>a</sup>	Number (%) of PCR-positive blood units						
			<i>Anaplasma phagocytophilum</i>	<i>Bartonella</i> spp.	<i>Brucella canis</i>	" <i>Candidatus Mycoplasma haematoparvum</i> "	<i>Mycoplasma haemocanis</i>	≥ 1 pathogen	
<b>Year of collection</b>									
2010-2012	709	2046	1 (.05)	2 (.10)	1 (.05)	3 (.15)	10 (.49)	14 (.68)	
2013-2014	708	1795	1 (.06)	1 (.06)	1 (.06)	4 (.22)	11 (.61)	13 (.72)	
2015-2016	1158	2288	2 (.09)	2 (.09)	0 (.00)	11 (.48)	25 (1.09)	37 (1.62)	
<b>Season of collection</b>									
April-October	1591	3682	3 (.08)	2 (.05)	0 (.00)	12 (.33)	27 (.73)	39 (1.06)	
November-March	1254	2447	1 (.04)	3 (.12)	2 (.08)	6 (.25)	19 (.78)	25 (1.02)	
<b>Age of dog at time of collection</b>									
< 2 years	369	512	1 (.20)	1 (.20)	1 (.20)	2 (.39)	10 (1.95)	13 (2.54)	
2 to < 8 years	1586	4789	2 (.04)	4 (.08)	1 (.02)	16 (.33)	36 (.75)	51 (1.06)	
≥ 8 years	283	839	1 (.12)	0 (.00)	0 (.00)	0 (.00)	1 (.12)	1 (.12)	
<b>Number of blood collection</b>									
1	1886	1886	1 (.05)	4 (0.21)	2 (.11)	15 (.80)	42 (2.23)	56 (2.97)	
≥ 2	1143	4254	3 (.07)	1 (0.02)	0 (.00)	3 (.07)	5 (.12)	9 (.21)	
<b>Borrelia burgdorferi antibodies</b>									
Positive	23	47	0 (.00)	0 (.00)	0 (.00)	0 (.00)	1 (2.13)	1 (2.13)	
Negative	960	1722	1 (.06)	3 (.17)	2 (.12)	6 (.35)	14 (.81)	20 (1.16)	
<b>Province of residency</b>									
Alberta	493	1348	0 (.00)	1 (.20)	0 (.00)	3 (.61)	14 (2.84)	19 (1.41)	
Manitoba	1245	4464	4 (.32)	4 (.32)	2 (.16)	12 (.96)	32 (2.57)	44 (.99)	
Ontario	125	201	0 (.00)	0 (.00)	0 (.00)	2 (1.60)	0 (.00)	2 (1.00)	
Quebec	44	108	0 (.00)	0 (.00)	0 (.00)	0 (.00)	0 (.00)	0 (.00)	
<b>Sex</b>									
Female	841	2732	0 (.00)	1 (.12)	1 (.12)	6 (.71)	11 (1.31)	16 (.59)	
Male	1055	3382	4 (.38)	4 (.38)	1 (.09)	11 (1.04)	35 (3.32)	49 (1.45)	

Characteristics	Number of dogs <sup>a</sup>	Number of blood units <sup>a</sup>	Number (%) of PCR-positive blood units						
			<i>Anaplasma phagocytophilum</i>	<i>Bartonella</i> spp.	<i>Brucella canis</i>	" <i>Candidatus Mycoplasma haematoparvum</i> "	<i>Mycoplasma haemocanis</i>	≥ 1 pathogen	
<b>Breed category</b>									
Border Collie	24	88	0 (.00)	0 (.00)	0 (.00)	0 (.00)	0 (.00)	0 (.00)	0 (.00)
Boxer	48	181	0 (.00)	0 (.00)	0 (.00)	0 (.00)	1 (2.08)	1 (.55)	
Doberman Pinscher	21	66	0 (.00)	0 (.00)	0 (.00)	0 (.00)	0 (.00)	0 (.00)	
German Shepherd	52	183	1 (1.92)	1 (1.92)	0 (.00)	0 (.00)	0 (.00)	1 (.55)	
Golden Retriever	136	478	0 (.00)	0 (.00)	0 (.00)	0 (.00)	1 (.74)	1 (.21)	
Great Dane	37	99	0 (.00)	0 (.00)	0 (.00)	2 (5.41)	0 (.00)	2 (2.02)	
Greyhound	26	73	0 (.00)	0 (.00)	0 (.00)	1 (3.85)	2 (7.69)	3 (4.11)	
Labrador Retriever	219	677	0 (.00)	0 (.00)	0 (.00)	1 (.46)	1 (.46)	2 (.30)	
Mixed	863	2894	2 (.23)	2 (.23)	0 (.00)	8 (.93)	25 (2.90)	34 (1.17)	
Other purebred <sup>b</sup>	277	834	0 (.00)	0 (.00)	1 (.36)	2 (0.72)	7 (2.53)	9 (1.08)	
Rottweiler	36	134	0 (.00)	0 (.00)	0 (.00)	0 (.00)	0 (.00)	0 (.00)	
Siberian Husky	16	78	0 (.00)	0 (.00)	0 (.00)	0 (.00)	0 (.00)	0 (.00)	

<sup>a</sup> Missing values are present for some variables. The number of dogs in each category could add up to > 1911 dogs if 1 dog could be present in more than 1 category (ex. "Year of collection", a dog could be represented once in each year category); SNAP 4 Dx/4Dx Plus-positive blood units were excluded (n=10 blood units and 3 dogs) from PCR analyses.

<sup>b</sup> All other purebred with less than 50 blood collections each.

**Table S3:** Distribution of 6140<sup>a</sup> blood units from 1914 caning blood donors according to their pooled and individual PCR test results, Canada, 2010-2016.

**A. *Anaplasma phagocytophilum***

Pooled testing	Individual testing		
	Negative	Positive	No individual testing
Negative	31	0	4011
Positive	8	3	0
No pooled testing	2086	1	0

**C. *Brucella canis***

Pooled testing	Individual testing		
	Negative	Positive	No individual testing
Negative	34	0	4019
Positive	0	0	0
No pooled testing	2085	2	0

**E. *Mycoplasma haemocanis***

Pooled testing	Individual testing		
	Negative	Positive	No individual testing
Negative	29	0	4005
Positive	12	7	0
No pooled testing	2047	40	0

**B. *Bartonella* spp.**

Pooled testing	Individual testing		
	Negative	Positive	No individual testing
Negative	34	0	4016
Positive	3	0	0
No pooled testing	2082	5	0

**D. "*Candidatus* Mycoplasma Haematoparvum"**

Pooled testing	Individual testing		
	Negative	Positive	No individual testing
Negative	31	0	4014
Positive	6	2	0
No pooled testing	2071	16	0

<sup>a</sup> From the 6140 recruited blood donors, 10 were excluded following a positive SNAP 4Dx/4Dx Plus test for *Anaplasma* spp.