

**Supplementary Table 1.** Intra-assay precision of HbA1c measurement evaluated in EDTA, heparin, and citrate anticoagulated whole blood, and in high and normal quality control material.

Sample	Dog	HbA1c range (%)	HbA1c mean (%)	CV (%)
EDTA whole blood	1	4.0–4.1	4.04	1.36
	2	4.1–4.5	4.30	3.29
	3	5.7–6.0	5.84	1.95
	4	6.0–6.7	6.46	4.46
	5	9.0–9.6	9.30	2.28
	6	9.2–9.6	9.40	1.50
	7	11.3–12.1	11.66	2.47
Mean				2.47
Heparin whole blood	1	4.1–4.4	4.26	2.68
	2	4.2–4.5	4.34	2.63
	3	5.6–6.0	5.80	2.44
	4	6.1–6.5	6.34	2.39
	5	9.4–9.9	8.87	2.17
	6	9.8–10.1	9.83	1.14
	7	12.0–12.8	12.46	2.38
Mean				2.26
Citrate whole blood	1	4.0–4.1	4.02	1.11
	2	4.1–4.2	4.12	1.09
	3	4.8–5.1	4.96	2.30
	4	5.2–5.6	5.40	2.62
	5	8.3–8.5	8.42	0.99
	6	8.4–9.2	8.84	3.26
	7	10.7–11.3	10.94	2.10
Mean				1.92
Normal control ( <i>n</i> = 30)		4.8–5.5	5.31	2.18
High control ( <i>n</i> = 30)		9.3–10.4	9.70	2.01

**Supplementary Table 2.** HbA1c concentration before and after (post) replacement of EDTA plasma with 0.9% NaCl in 4 diabetic dogs with lipemia, 4 diabetic dogs without lipemia, and 4 healthy dogs.

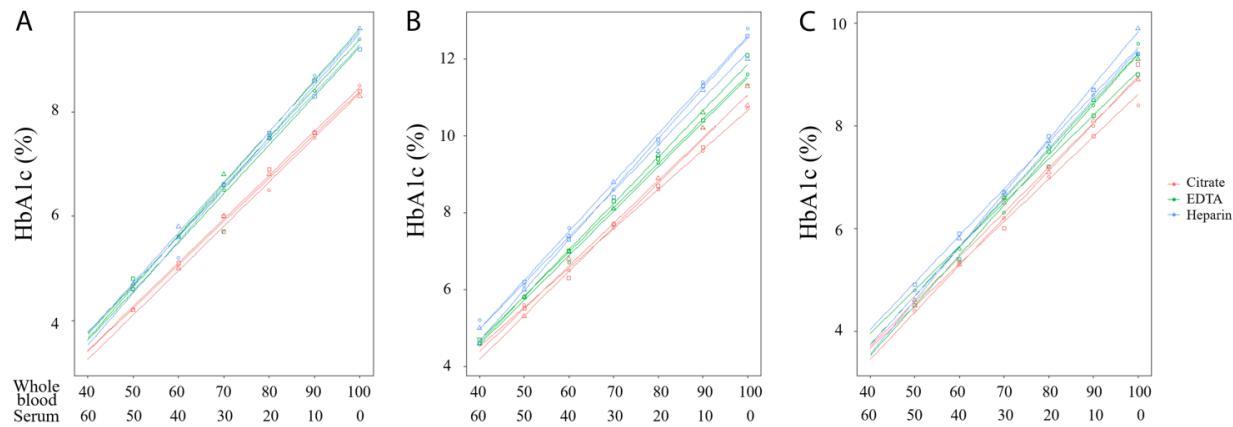
Dog	Diabetes status	Triglycerides (mmol/L)	Cholesterol (mmol/L)	Fructosamine ( $\mu\text{mol}/\text{L}$ )	HbA1c (%)	HbA1c (post) (%)	Difference
1	Yes	27.99	11.74	297	7	7	0
2	Yes	12.84	26.11	534	7.4	7.6	0.2
3	Yes	29.09	25.31	387	11.7	11.6	-0.1
4	Yes	30.30	12.85	247	10.3	10.6	0.3
5	Yes	1.02	7.74	392	9.6	9.9	0.3
6	Yes	1.37	7.97	347	8	8	0
7	Yes	1.42	8.02	289	7.4	7.5	0.1
8	Yes	1.33	7.71	382	7.4	7.4	0
9	No	1.04	5.83	148	5.3	5.3	0
10	No	1.36	6.19	195	5.1	5.0	-0.1
11	No	0.97	3.69	177	4.9	5.2	0.3
12	No	1.40	3.84	153	4.7	4.7	0

**Supplementary Table 3.** Fructosamine and HbA1c levels of 54 diabetes mellitus dogs, and 36 healthy dogs.

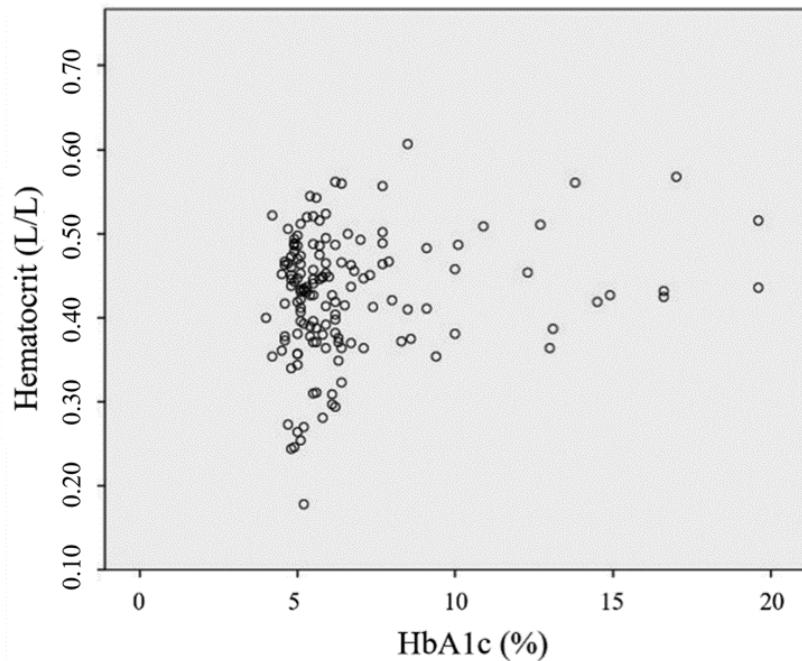
Diabetic dogs		Healthy dogs	
Fructosamine ( $\mu\text{mol}/\text{L}$ )	HbA1c (%)	Fructosamine ( $\mu\text{mol}/\text{L}$ )	HbA1c (%)
689	12.6	289	4.9
586	20	285	5.1
585	8.5	265	6.6
570	8.1	259	4.8
512	8.2	255	4.8
491	16.6	227	5
491	10	218	5.1
479	12	216	5.7
473	14.8	212	4.7
470	6.2	208	5.5
467	7.1	205	4.8
458	18.9	203	5.7
441	20	199	5.4
432	17	199	5.5

422	19.6	195	5.1
422	13.1	193	4.6
417	13.5	193	5.1
417	12.7	191	5
411	14.9	188	5
409	6.7	186	5.9
404	14.9	179	5.1
403	6.7	177	4.9
401	12.3	175	4.8
392	9.6	169	5.6
391	9.1	164	5.3
382	7.4	154	4.8
373	8.9	153	4.7
369	19	150	5
364	8.3	149	4.9
363	14.5	148	5.3
353	6.1	146	6.2
349	9.4	144	5.5
347	8	136	5.2
340	5.7	134	4.6
340	13	100	5.7
339	7.1	100	4.9
337	7.1		
325	13.8		
321	6.5		
316	10		
312	12.7		
303	5.6		
289	7.4		
288	7.2		
288	7.2		
283	5.3		
267	11.2		
263	8		
260	6.1		
253	6.9		
241	6.4		

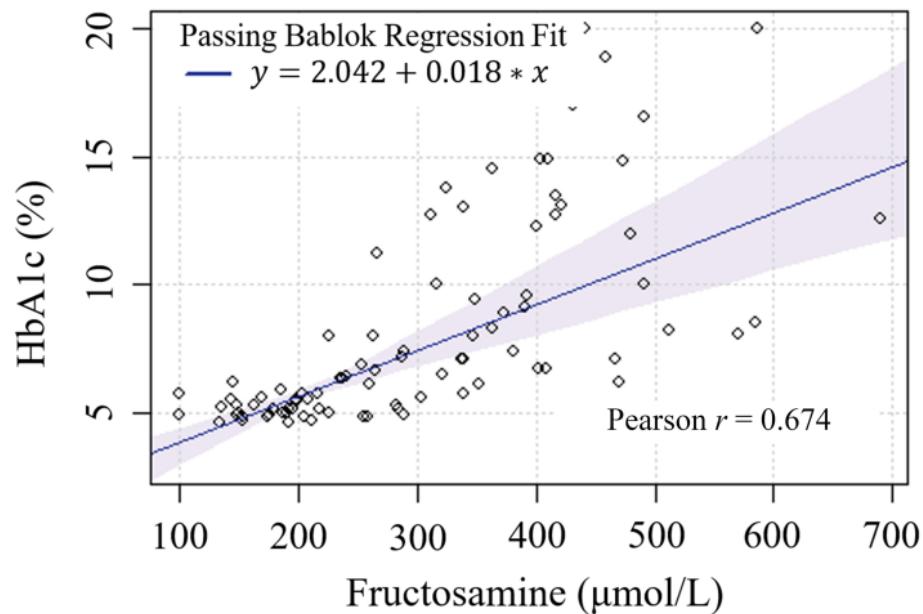
237	6.3		
236	6.3		
227	8		



**Supplementary Figure 1.** Linearity of HbA1c measured in 3 diabetic dogs (A–C) using EDTA, heparin, and citrate after dilution with autologous serum, respectively.



**Supplementary Figure 2.** Scatter plot of HbA1c and HCT levels in 36 healthy, 87 non-diabetic sick, and 24 diabetic dogs.



**Supplementary Figure 3.** Passing–Bablok regression analysis of fructosamine and HbA1c levels in 90 dogs. Scatter diagram was plotted with regression line of  $y = 2.042 + 0.018x$ . Shaded area indicated 95% confidence interval. Pearson correlation coefficient was  $0.674$  ( $p < 0.001$ ).