

## Case Study 02: Comparison of the Ani Hb/Hct POC device and the manual PCV test using venous blood samples from canine and feline patients.

### Background

Primary and secondary clinical practices, hospitals and donor centres are all familiar with the application of the microhaematocrit centrifuges and haematology analysers for the determination of Packed Cell Volume (PCV) and Haematocrit (Hct) respectively. Both have their particular uses in various clinical settings however, there is a growing requirement for an accurate portable, handheld device enabling the rapid on-site measurement of Hct. AniPOC Ltd have therefore developed a point-of-care (POC) device enabling the rapid determination of Hct from a 2µL venous or capillary blood sample. This case study compares the test results generated with the manual PCV method and the POC device using venous blood samples from donor animals.

### Aim of the Study

To evaluate the correlation between Hct and PCV using the Ani Hb/Hct POC device and manual PCV test method respectively.

### Study Design

EDTA venous blood samples (n=37) from canine and feline donors were analysed using a microhaematocrit centrifuge and the Ani Hct/Hb POC device, as instructed by the manufacturer's instructions. Testing was performed by trained personnel.

### Data Analysis

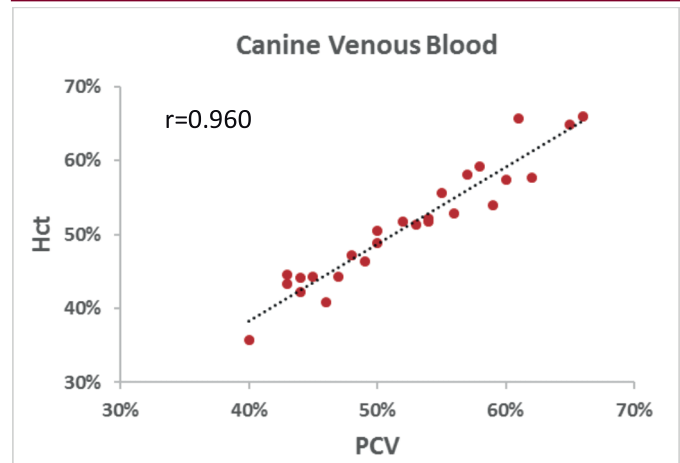
The results observed in this study were analysed using the regression best-fit plot (Pearson Correlation Coefficient, r), the Bland-Altman Plot and the Two Sample t-test, to determine the correlation between the POC test and the manual PCV test.

### Conclusion

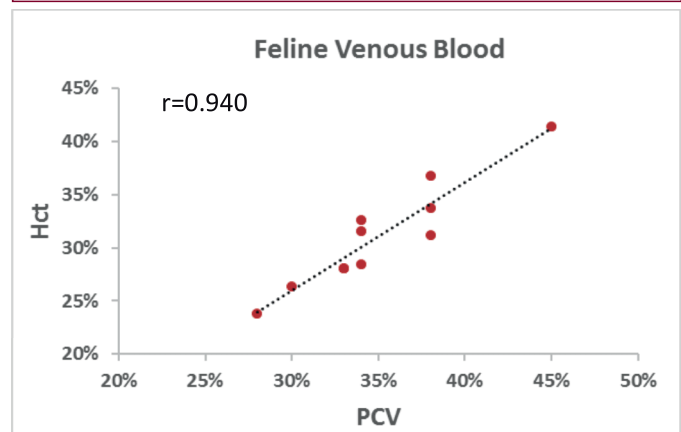
The degree of correlation between the test results for Hct determined using the Ani Hb/Hct device and PCV using the manual method was very high. The Pearson correlation coefficient for the canine samples was  $r=0.96$  and for the feline samples  $r=0.94$ . The two sample t-test for  $n=37$  samples gave a t-value of 0.77 and  $p<0.05$  of 0.22 indicating there was no significant difference between the results generated by the two test methods.

A total of 37 blood samples were analysed at a laboratory in a veterinary college in UK; Canine  $n=26$  and Feline  $n=11$ .

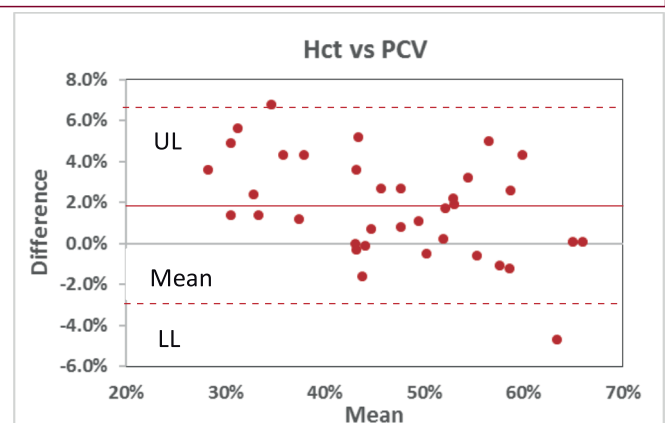
**Figure 1 : Comparison of the Ani Hb/Hct POC with Manual PCV using donor canine venous blood as test sample**



**Figure 2 : Comparison of the Ani Hb/Hct POC with Manual PCV using donor feline venous blood as test sample**



**Figure 3 : Bland-Altman Plot comparing measurement of Hct and PCV by two different test procedures.**



Mean	Upper Limit (UL) +1.96 SD	Lower Limit (LL) -1.96 SD
1.84%	6.59%	-2.91%