

vetscan OptiCell

Accurate automated complete blood count results with advanced AI technology¹



A validation study evaluated the accuracy and precision* of Vetscan OptiCell™ to the Advia® 2120 Reference Laboratory Haematology Analyser, according to ASVCP guidelines.

Accuracy Study¹



The study analysed anticoagulated (EDTA) blood samples



COLLECTED FROM
113 canines
72 felines



TESTED WITH
2 Vetscan OptiCell analysers with randomised operators



TESTED FOR
Method comparison with the Advia 2120 and 200-cell manual blood count by a clinical pathologist (for subset of samples)

Study Results¹

Vetscan Opticell demonstrated excellent agreement for key parameters[†] vs. the Advia 2120.

Accuracy measurements were determined using Lin's concordance correlation coefficient for most parameters (ρ):^{2,3}

INTERPRETATION OF LEVEL OF AGREEMENT³



Excellent agreement beyond chance
>0.75



Good agreement beyond chance
0.40-0.75



Poor agreement beyond chance
<0.40

MINIMAL BIAS

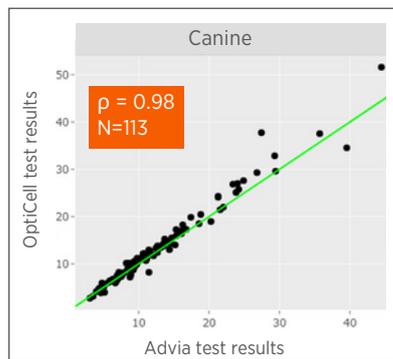


Canine
Minor proportional and constant bias for key analytes

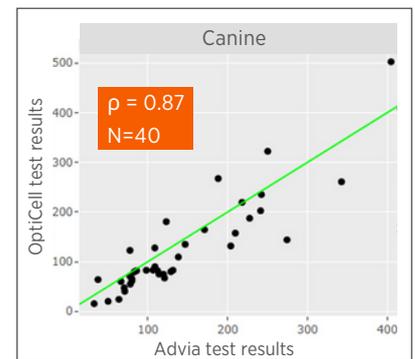


Feline
Minor proportional and constant bias for key analytes

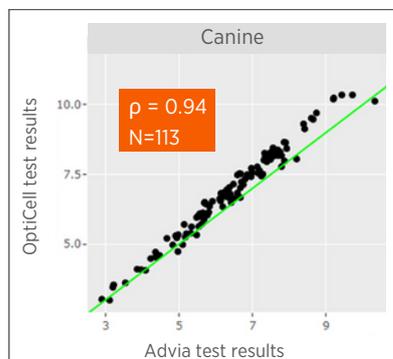
WBC (10⁹/L)



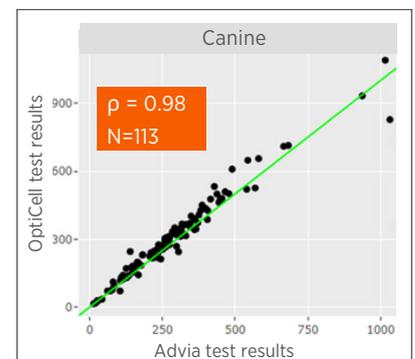
RETIC (10³/L)



RBC (10¹²/L)



PLT (10⁹/L)



WBC=White Blood Cells, RETIC=Reticulocytes, RBC=Red Blood Cells, PLT=Platelets, ASVCP=American Society of Veterinary Clinical Pathology.

* High accuracy is achieved when an instrument hits the correct target or value. High precision is achieved when an instrument generates consistent results from repeated tests.

[†] Key parameters include: WBC, RBC, PLT and RETIC.

Reference: 1. Data on file, Study No. DHXMZ-US-24-235, 2024, Zoetis, Inc. 2. Dawson B, Trapp RG. Basic and clinical biostatistics. 4th ed. Lange Medical Books; 2004:159-174. 3. Landis JR, Koch GG. The measurement of observer agreement for categorical data. Biometrics. 1977;33(1). <https://doi.org/10.2307/2529310><https://doi.org/10.2307/2529310>

This document contains examples of performance data and is not exhaustive of analysis that was performed in the validation study. Additional data available upon request.

Powerful AI and Viscoelastic Focusing technology enable precise automated complete blood count results¹

Precision Study



The study analysed canine EDTA blood samples and tri-level commercial quality control material



TESTED FOR
Precision with canine samples
Precision with tri-level control material



TESTED WITH
2 Vetscan OptiCell analysers and 40 replicates across both analysers using 3 control levels



TESTED ON
148 repeat runs using canine samples

Study Results

Vetscan OptiCell demonstrated precise results for key parameters, including PLT, across control levels and clinical samples.¹



Total precision below 8.5% for most parameters



Replicate precision was below 5% for most parameters



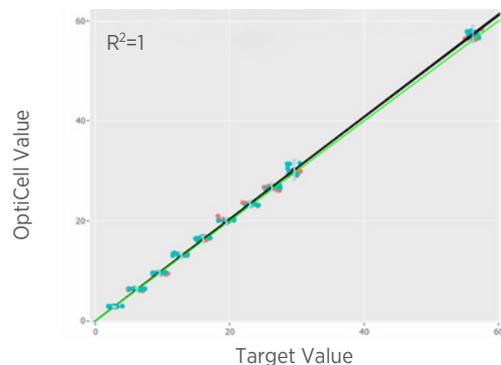
Clinical precision below 6.5% for most parameters

Short term precision with controls¹

Parameter	Control Level	Mean	SD Total	CV% (Replicate)
RBC (M/ μ L)	Low	2.67	0.06	2.3
WBC (K/ μ L)	High	19.41	0.97	3.8
PLT (K/ μ L)	Low	70.67	2.87	3.5
PLT (K/ μ L)	High	10.43	0.53	4.5
LYM (K/ μ L)	High	7.04	0.40	3.8
MON (K/ μ L)	High	1.43	0.14	7.6

Wide reportable ranges across all parameters¹

HGB (g/dl): Analyser A+B



Reportable range analysed for RBC, WBC, HCT, HGB, and RETICs. Only HGB shown here for example.

Vetscan OptiCell delivers advanced cell focusing with AI-powered technology that evaluates blood cells in their native state

Reference-lab quality

Automated complete blood count results¹ including reticulocytes

Viscoelastic Focusing

Enables a cartridge-based design to minimise errors

Detailed flags

for potentially abnormal nucleated cell morphology

HGB=Haemoglobin, NEU=Neutrophils, LYM=Lymphocytes, MON=Monocytes, SD=standard deviation, CV=coefficient of variation.

Reference: 1. Data on file, Study No. DHXMZ-US-24-235, 2024, Zoetis, Inc.

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LOOK DEEPER

Learn more at zoetisdiagnostics.co.nz/opticell

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