

Comparison of 2 assays for measuring serum N-terminal pro-B-type natriuretic peptide (NT-proBNP) in dogs

Key Words: Vcheck, Cardiopet®, NT-proBNP, Canine heart disease

Introduction

Pro-hormone (proBNP) is produced by cardiac muscle cells and increases due to increased myocardial wall stress. Upon release into the blood, it is cleaved into B-type natriuretic peptide (BNP) and N-terminal pro-B-type natriuretic peptide (NT-proBNP). Due to its longer half-life and stability, NT-proBNP is better suited as a diagnostic biomarker for the diagnosis of heart diseases in dogs.

There were several limitations associated with the need to maintain sample stability. Vcheck Canine NT-proBNP was developed to address these limitations, and this study reports the results of the comparison validation for this new method.

Purpose

The purpose of this study was to conduct a comparison of NT-proBNP concentrations, measured between Cardiopet® - a previously validated enzyme-linked immunosorbent assay - and Vcheck, using canine serum.

Materials and Methods

Total 66 canine serum samples were analyzed with Vcheck Canine NT-proBNP (Bionote) according to the manufacturer's instructions. The remainder of the samples were frozen immediately and shipped to the IDEXX Laboratories (South Korea) on dry ice for Cardiopet® proBNP testing. Pearson correlation coefficient was performed to measure the strength of the association between the two variables.

Results

The test results for the correlation of the NT-proBNP measurement between Vcheck and Cardiopet® are shown in **figure 1**. A strong correlation (slope 0.9954, $R^2=0.9736$) was found between the two test methods.

Conclusion

Results of this study have validated the Vcheck Canine NT-proBNP test to be an accurate and precise measuring tool for NT-proBNP in canine patients. In addition, this method can also be performed immediately after sample collection using serum without worrying about the sample stability.

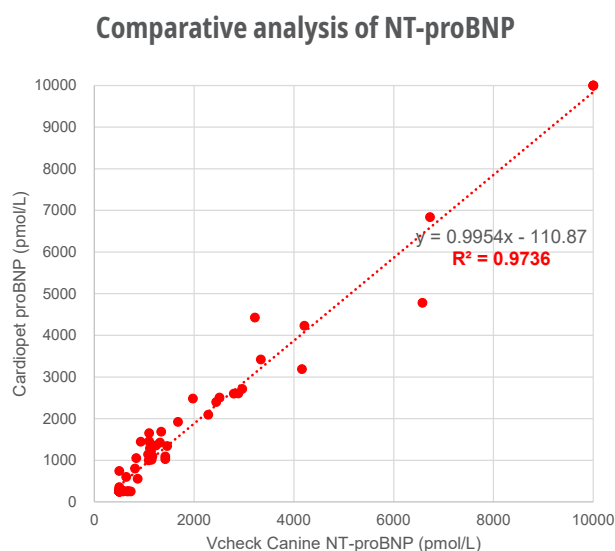


Figure 1. Correlation between the results of Vcheck Canine NT-proBNP and Cardiopet® proBNP in 66 canine serum samples