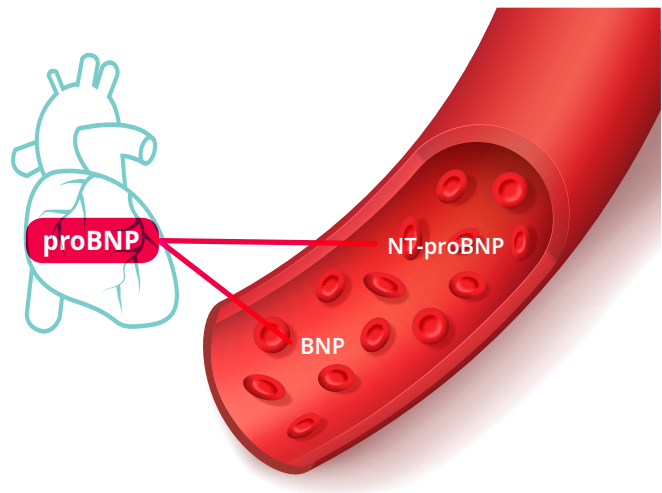# Vcheck Canine NT-proBNP

New Biomarker for the Diagnosis of Heart Failure

BIONOTE

What is NT-proBNP?

The pro-hormone (proBNP) is produced by cardiac myocytes and increases due to increased myocardial wall stress.

Upon release into the blood, it is cleaved into BNP and NT-proBNP. Due to its longer half-life, NT-proBNP is better suited as a diagnostic parameter.

What NT-proBNP levels tell us

In dogs, NT-proBNP is correlated with heart size and systolic function, suggesting that the concentrations can be used to detect animals with early disease.

Distinguishes cardiac from respiratory disease

- In dogs with dyspnea requiring emergency care
- Differentiates cardiac and respiratory causes of respiratory signs

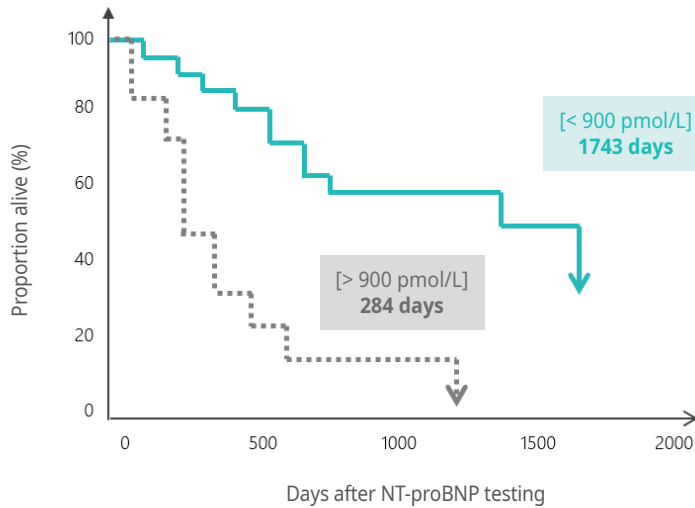### Staging of Myxomatous Mitral Valve Degeneration (MMVD)

- Differentiates dogs with MMVD with and without congestive heart failure
- Chronic monitoring in dogs with MMVD

Detects Dilated Cardiomyopathy in Doberman Pinschers

- Highly sensitive and specific for detecting occult DCM
- Predicts survival in Dobermans at high risk

NT-proBNP should be interpreted with other diagnostic techniques, such as echocardiography, thoracic radiography, history and clinical signs, improving the accuracy of diagnosis.
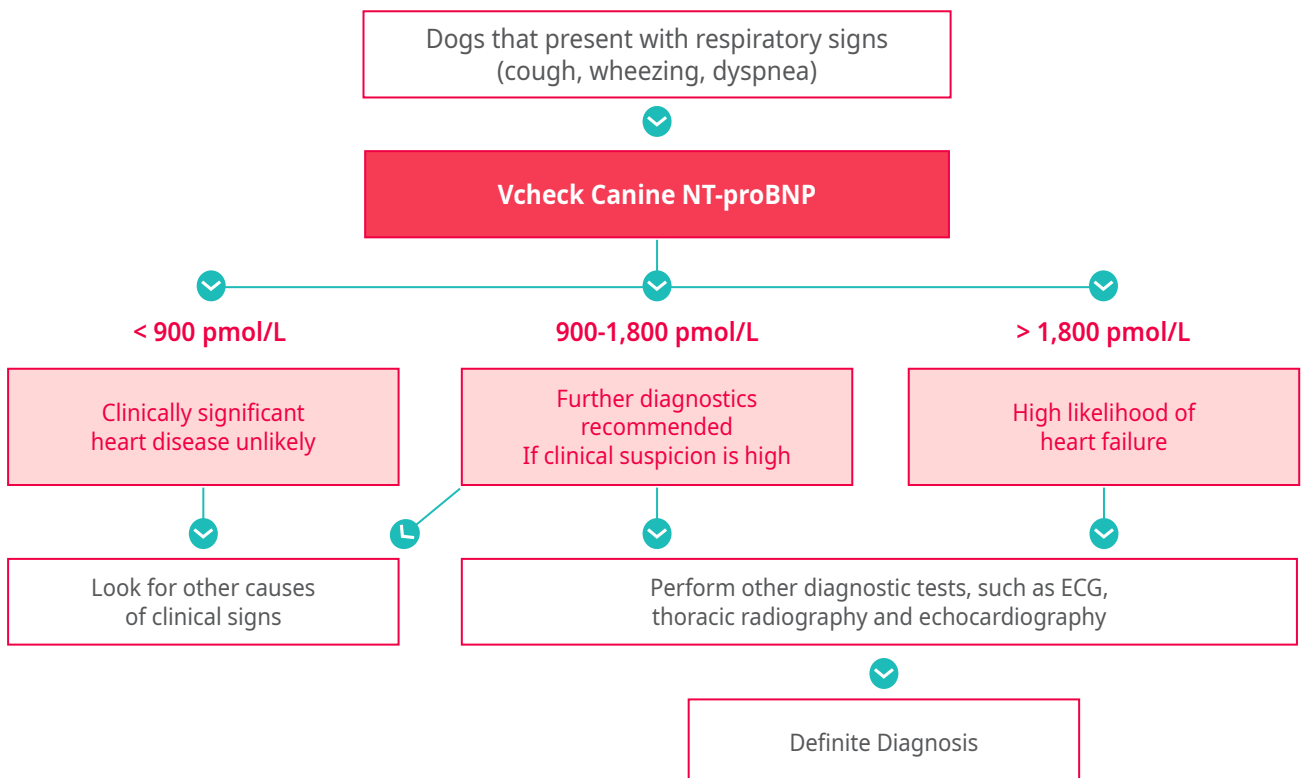
NT-proBNP predicts the survival time of Dobermans

With low NT-proBNP, 6.1 times longer !

Chart: Proportion alive (%) vs Days after NT-proBNP testing

[< 900 pmol/L] **1743 days**

[> 900 pmol/L] **284 days**

Clinical Algorithm

NT-proBNP testing in dogs

Dogs that present with respiratory signs
(cough, wheezing, dyspnea)

⌄

Vcheck Canine NT-proBNP

< 900 pmol/L	900-1,800 pmol/L	> 1,800 pmol/L
Clinically significant heart disease unlikely	Further diagnostics recommended If clinical suspicion is high	High likelihood of heart failure

Look for other causes of clinical signs

Perform other diagnostic tests, such as ECG, thoracic radiography and echocardiography

Definite Diagnosis

NT-proBNP provides insights to distinguish cardiac from non-cardiac respiratory distress
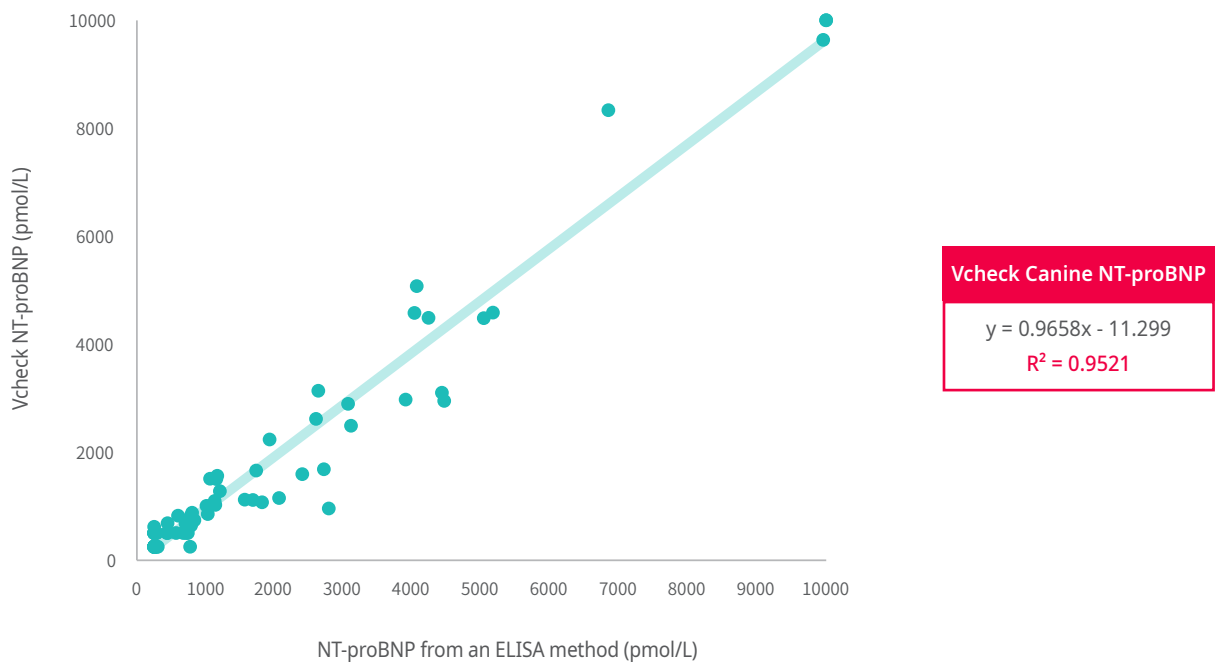
Vcheck Canine NT-proBNP

Key Features

- ### Quantitative Analysis
  Actual results (instead of an estimate like others)

- ### Proven Accuracy and Reproducibility
  Correlated against an ELISA method from laboratories

- ### Rapid and accurate results
  Simple procedure and quick results within 15 min.
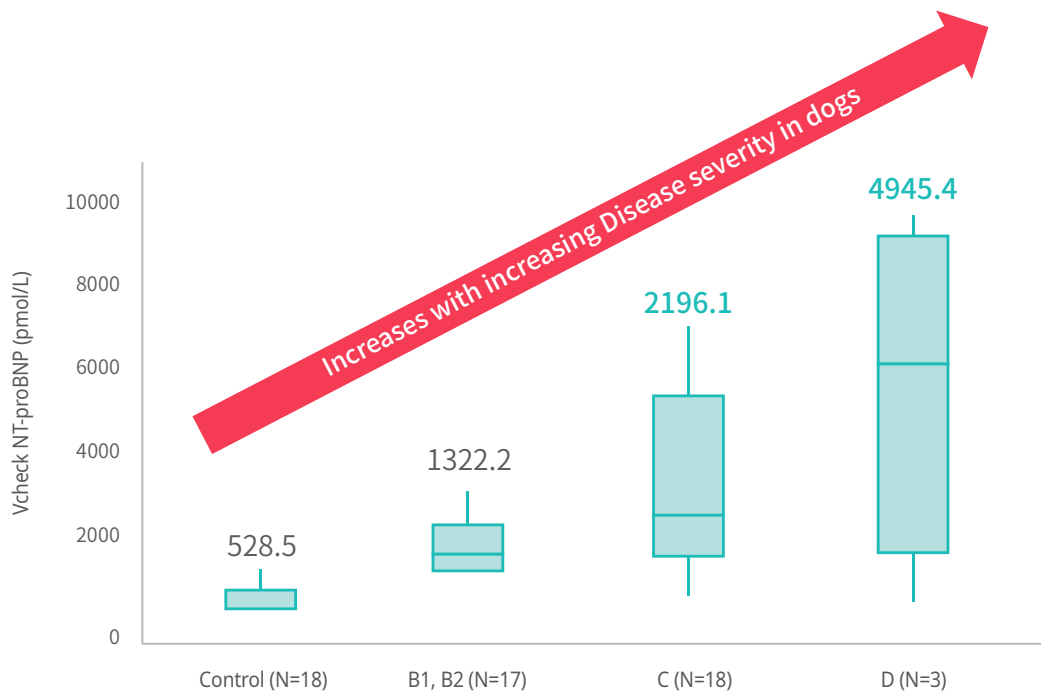
Performance

- Strong correlation (R^2=0.952) with an ELISA method (from company 'I' laboratories)

Vcheck Canine NT-proBNP

y = 0.9658x - 11.299
R^2 = 0.9521

Vcheck NT-proBNP (pmol/L)

NT-proBNP from an ELISA method (pmol/L)

Vcheck Canine NT-proBNP

Performance

- Vcheck NT-proBNP levels based on stages of ACVIM System

	Control	Stage B1, B2	Stage C	Stage D
ACVIM Stage	Healthy	Asymptomatic (+ Left heart volume increased)	CHF signals	Terminal stage

Ordering Information

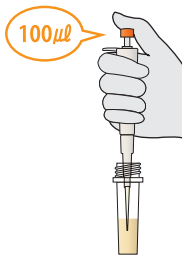| Product No.	Product Name	Product Type	Packing Unit
VCF132DC	Vcheck Canine NT-proBNP	Device	5 Tests/Kit

Vcheck Canine NT-proBNP

Specifications

- **Species :** Dog
- **Sample :** Serum 100 µl
- **Testing Time :** 15 minutes
- **Measurement :** Quantitative
- **Measurement Range :** 500 – 10,000 pmol/L
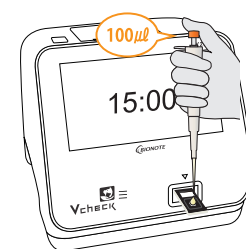- **Storage Condition :** 2 - 8 °C

Test Procedure

1 Add 100 µl of the sample to the assay diluent tube

100㎕

2 Mix well by using a 100 µl pipette

100㎕

3 Add the mixed sample (100 µl) into the test device

100㎕

15:00

**Samples should be centrifuged and tested immediately after collection.
Alternatively, refrigerate and use within 24 hours or freeze.**

* * Degradation of NT-proBNP may occur if stored at room temperature or refrigerated for more than 24 hours, causing false negative results.

Reference Ranges

< 900 pmol/L	900 – 1,800 pmol/L	> 1,800 pmol/L
Normal	Suspected* Additional diagnostics are recommended	Abnormal* Additional diagnostics are recommended

* 'Abnormal' or 'Suspected' NT-proBNP test results should always be interpreted in combination and other diagnostic findings, such as an echocardiogram.

** Concentration over 735 pmol/L in Doberman Pinschers indicates an increased risk for occult dilated cardiomyopathy.