

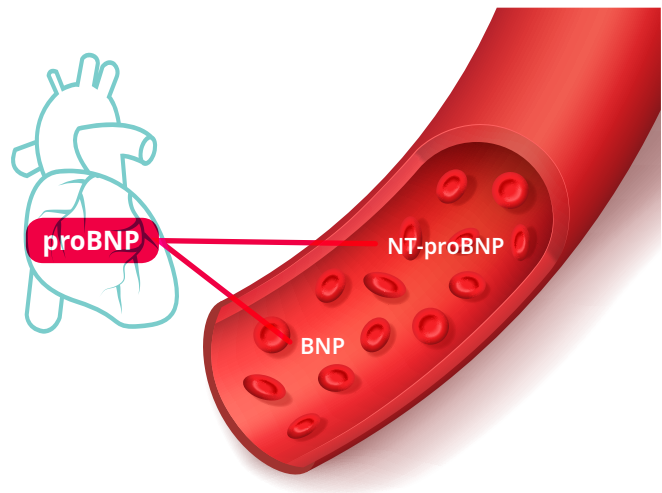
Vcheck Feline NT-proBNP

Initial Cardiac Biomarker
Screening for Heart Disease in cats



What is NT-proBNP?

B-type natriuretic peptide (BNP) which is produced in the cardiac myocytes increases with excessive stretching of the cells.² This proBNP is cleaved into BNP and a by-product called N-terminal pro-B type natriuretic peptide (NT-proBNP).¹ NT-proBNP is stable and has a long half-life, making it a more desirable biomarker.



What NT-proBNP levels tell us

NT-proBNP concentration reflects the degree of cardiac activation secondary to stimulus, such as stretching², allowing this marker to be used to assess the magnitude of cardiac muscle stretching.

To screen for asymptomatic heart disease

- Prior to anesthesia
- In apparently healthy cats with heart murmurs
- At risk breeds - Maine Coon, Ragdoll, Birman, Persian

To determine cardiac or respiratory disease

- In cats with respiratory signs such as dyspnea, tachypnea
- To differentiate cardiac and respiratory causes of dyspnea

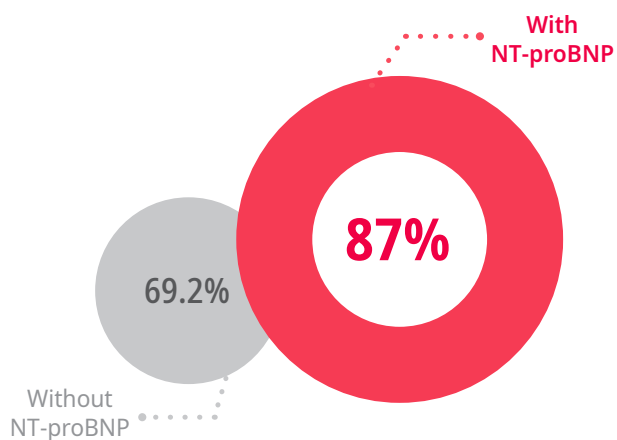
To determine the severity of heart disease

- For monitoring stabilization of CHF during hospitalization
- For predicting survival in cats with CHF⁴

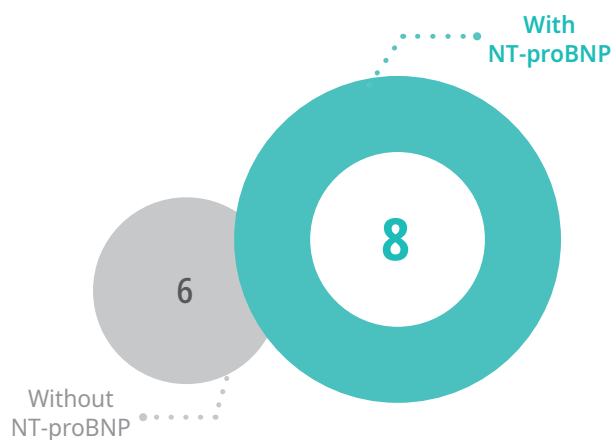
*CHF: Congestive Heart Failure

NT-proBNP should be interpreted in the context of other appropriate information, such as echocardiography, thoracic radiography, history and evaluation of clinical signs, to improve the accuracy of diagnosis.

The accuracy of diagnosis



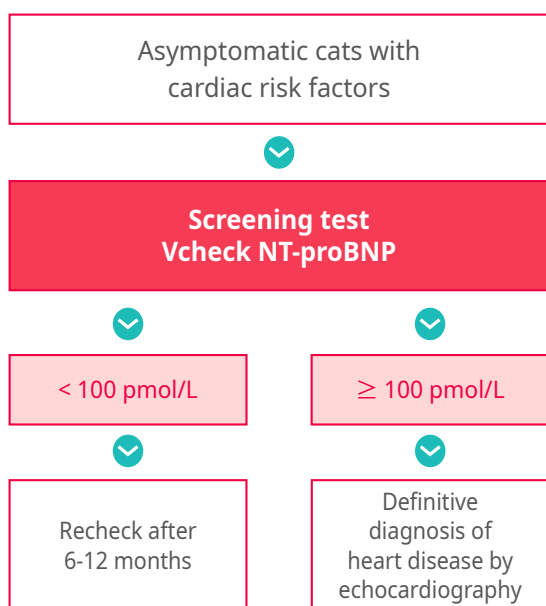
The confidence score of diagnosis



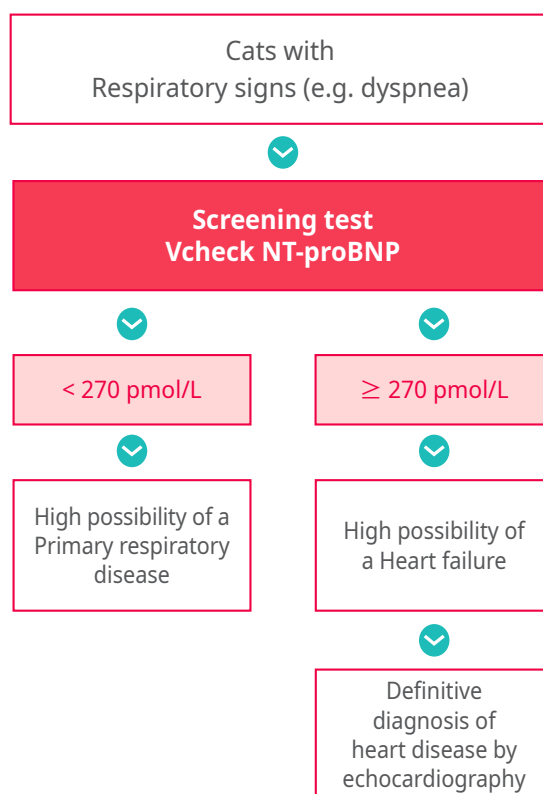
The ability to differentiate cardiac from non-cardiac causes of respiratory signs is a vital initial step in achieving an accurate diagnosis and appropriate treatment.³

Clinical Algorithm

NT-proBNP testing in asymptomatic cats,



NT-proBNP testing in cats with respiratory signs,



Vcheck Feline NT-proBNP

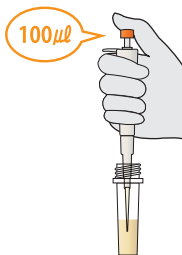
Specifications

- Species : Cat
- Sample : Serum 100 µl
- Testing Time : 10 minutes
- Measurement : Quantitative
- Measurement Range : 50 – 1,500 pmol/L
- Storage Condition : 1 - 30 °C



Test Procedure

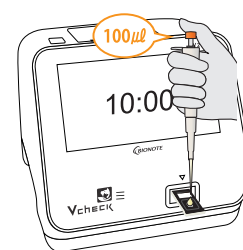
- 1 Add 100 µl of the sample to the assay diluent tube



- 2 Mix well by using a 100 µl pipette



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



**Samples should be tested immediately after collection.
Alternatively, freeze the samples at -20 °C or below.**

* Degradation of NT-proBNP may occur if stored at room temperature or refrigerated, leading to false negative results.

Reference Ranges

< 100 pmol/L

Normal

≥ 100 pmol/L

Abnormal

Additional diagnostics are recommended

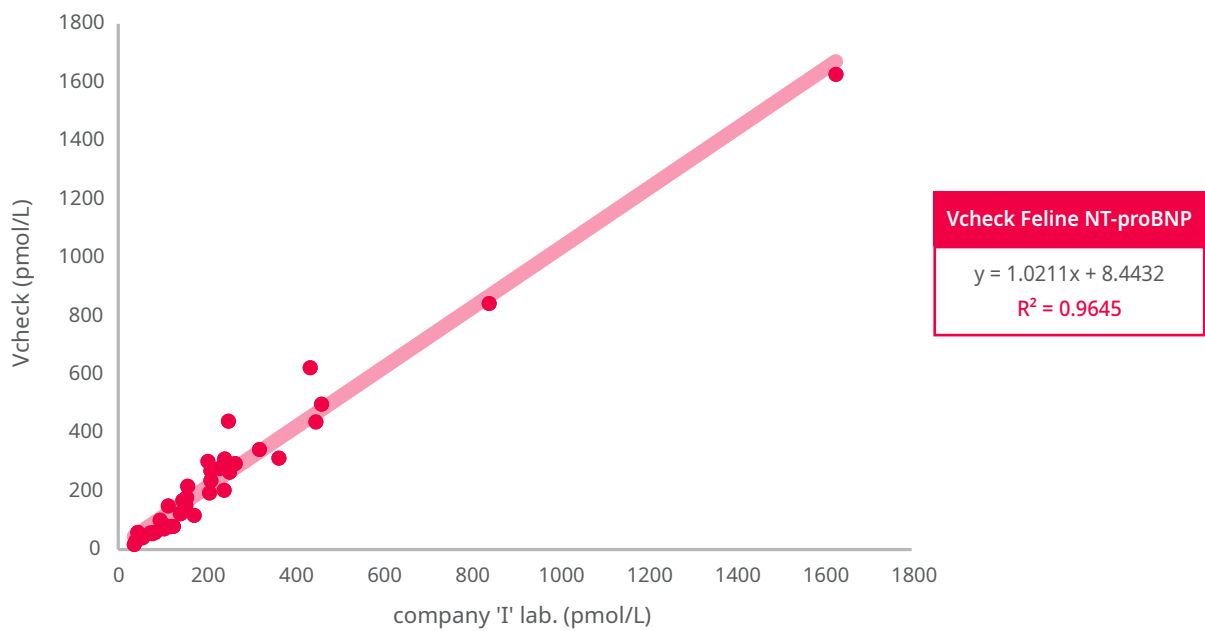
- A positive NT-proBNP test result should always be interpreted in combination and other diagnostic findings.
- In cats with respiratory signs, if the NT-proBNP is >270 pmol/L, CHF is the most likely cause of the clinical signs.

Vcheck Feline NT-proBNP

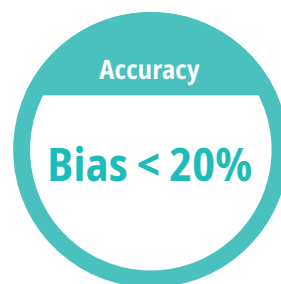
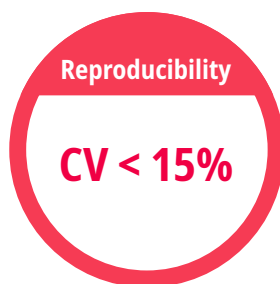
Performance

- Strong correlation with an ELISA method from 'I' laboratories

Comparative evaluation of Feline NT-proBNP (N=37)



Reproducibility and Accuracy



Ordering Information

Product No.	Product Name	Product Type	Packing Unit
VCF130DC	Vcheck Feline NT-proBNP	Device	5 Tests/Kit

Vcheck Feline NT-proBNP

Key Features

- **Quantitative measurement**
Quantitative NT-proBNP results can be obtained for more accurate evaluation
- **High correlation with company 'I' lab**
Vcheck Feline NT-proBNP has a strong correlation ($R^2 = 0.96$) with an ELISA method from 'I' laboratories
- **A wide range of measurement**
Detailed measurement of 50 - 1,500 pmol/L can be obtained
- **A user-friendly procedure & Fast results**
Improved user convenience by having a simple 1-step procedure and quick results within 10 min.



Indications

- In cats with Respiratory signs or Cardiac risk factors
- In high-risk cat breeds
- Preanesthesia evaluation
- For monitoring during hospitalization
- For predicting a survival time

Cardiac risk factors in cats

- Gallop rhythm
- Heart murmurs
- Arrhythmia
- Radiographic cardiomegaly
- Left axis shift on an ECG

Reference

1. Mark Oyama. Cardiac Blood Tests in Cats: Another Tool for Detection of Heart Disease. Today's Veterinary Practice. September/October 2011
2. Natalie Stilwell, MVC 2018: Advances in Feline Heart Disease Diagnosis
3. Connolly DJ, Soares Magalhaes RJ, Fuentes VL, et al. Assessment of the diagnostic accuracy of circulating natriuretic peptide concentrations to distinguish between cats with cardiac and non-cardiac causes of respiratory distress. J Vet Cardiol 2009;11(Suppl 1):S41-S50
4. K.V. Pierce, J.E. Rush, V.K. Yang, et al. Association between Survival Time and Changes in NT-proBNP in Cats Treated for Congestive Heart Failure. J Vet Intern Med. 2017 May-Jun; 31(3): 678-684.
5. Dr. Sonya G Gordon. Cardiac Education Group. October 2014
6. Fox PR, Rush JE, Reynolds CA, et al. Multicenter evaluation of plasma N-terminal pro-brain natriuretic peptide (NT-pro BNP) as a biochemical screening test for asymptomatic (occult) cardiomyopathy in the cat. J Vet Intern Med 2011; in press.
7. Connolly, DJ , et al. The effect of protease inhibition on the temporal stability of NT-proBNP in feline plasma at room temperature. J Vet Cardiol 2011;13:13-19.



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