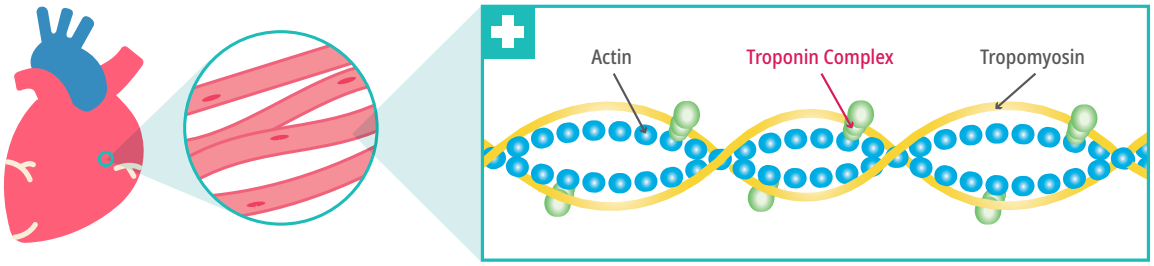
Vcheck Feline TnI

Quantitative marker of myocardial injury, Troponin I

BIONOTE

What is Feline TnI?

Troponin consists of 3 subunits (troponin I, T, and C) which together function as the molecular switch of cardiomyocyte contraction. Among them, cardiac Troponin I (TnI) is a sensitive and specific circulating marker of cardiac injury for cats.
Cardiac injury causes the release of TnI into the circulation, where its concentration is correlated to the severity of the damage.



What TnI levels tell us?

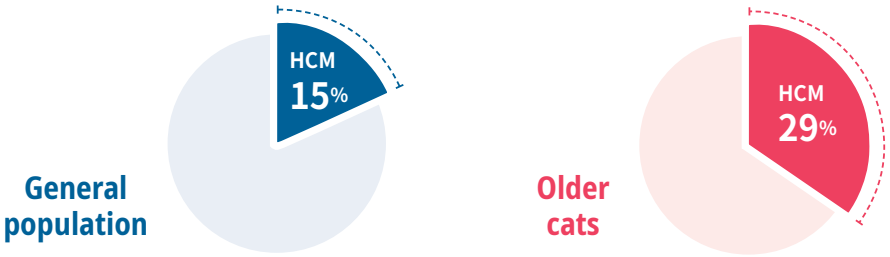
Hypertrophic cardiomyopathy (HCM) is the most common heart disease and one of the 10 most common causes of death in cats. Measuring TnI concentrations can be useful in detecting subclinical HCM and predicting cardiac death in cats with HCM.

Detects HCM in apparently healthy cats

- Annual check-up, Prior to anesthesia, Cats suspected for heart diseases
- Differentiates between normal cats and cats with subclinical HCM[1]

Predicts cardiac death in cats with HCM

- Increased TnI level is associated with high risk of cardiovascular death[2] with high level of evidence.



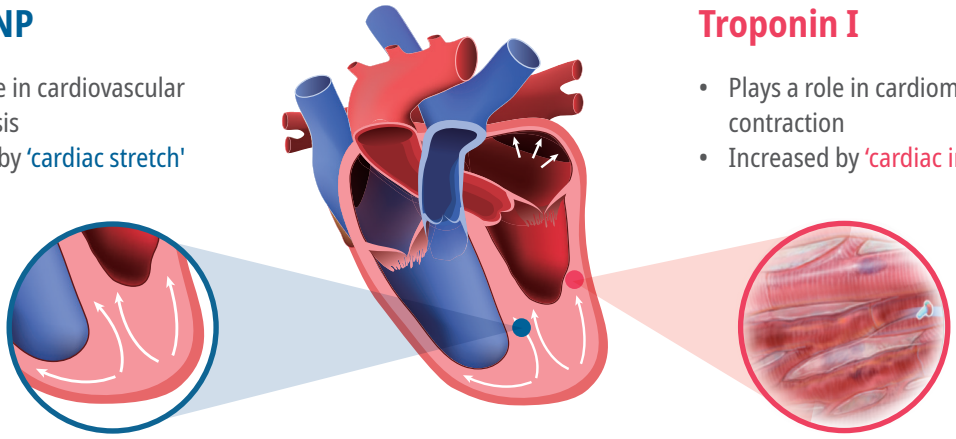
High prevalence of HCM even in apparently healthy cats[3]

Screen for the possibility of HCM with a cardiac biomarker, Troponin I

Two Useful Cardiac Biomarkers

NT-proBNP

- Plays a role in cardiovascular homeostasis
- Increased by 'cardiac stretch'



Troponin I

- Plays a role in cardiomyocyte contraction
- Increased by 'cardiac injury' itself

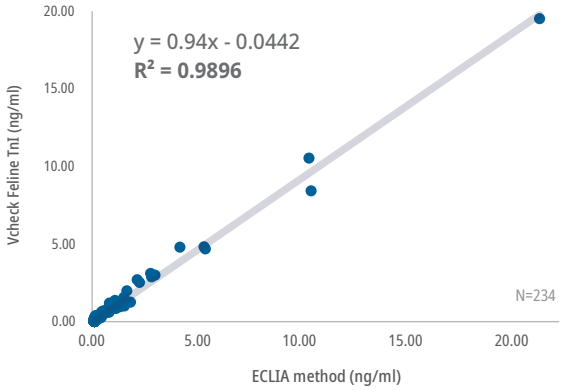
Indications	NT-proBNP	Troponin I
Screens for HCM in apparently healthy cats	○[4]	○[1]
Discriminates between cardiac and non-cardiac causes of respiratory distress	○[5]	△[6]
Evaluates increased risk of cardiac death	○[7]	○[2]
Differentiates grades of severity of HCM	○[8]	○[1]

Performance

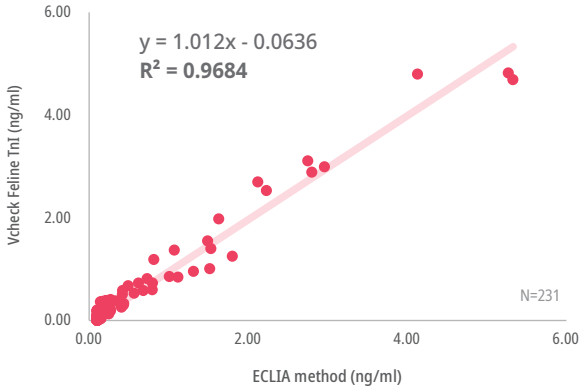
High correlation with a reference method

Vcheck Feline TnI has a strong correlation (y=0.94x-0.0442, **R^2=0.9896** in entire concentration; y=1.012x -0.0636, **R^2=0.9684** in low concentration) with the ECLIA method from 'R' multinational healthcare company.

Entire concentration (0~20 ng/ml)



Low concentration (0~6 ng/ml)



*Internal Evaluation Data

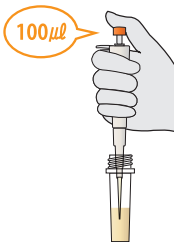
Vcheck Feline TnI

Specifications

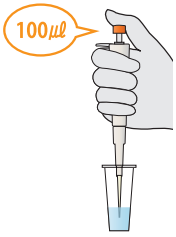
- Species : Cat
- Sample : Serum 100 µl
- Testing Time : 10 minutes
- Measurement : Quantitative
- Measurement Range : 0.01 ~ 20 ng/ml
- Storage Condition : 1 ~ 30 °C

Test Procedure

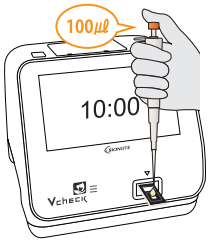
1 Add 100 µl of the sample to the assay diluent tube



2 Mix well 5~6 times by using a 100 µl pipette



3 Add 100 µl of the mixed sample into the test device



Samples should be tested immediately after collection.

(If not, freeze the samples at -20 °C or below for storage. Do not freeze and thaw repeatedly.)

Reference Ranges

< 0.03 ng/ml	0.03 ~ 0.12 ng/ml	> 0.12 ng/ml
Normal	Suspected Possibility of myocardial injury	Abnormal High possibility of myocardial injury

* TnI concentrations should not be used to either confirm or exclude primary cardiac disease without the simultaneous use of echocardiography.

Ordering Information

Product No.	Product Name	Storage Condition	Packing Unit
VCF139DC	Vcheck Feline TnI	1 ~ 30 °C	5 Tests/Kit

Reference : 1. J Vet Intern Med. 2019;May;33(3):1242-1250. **2.** J Vet Intern Med. 2014;28:1731-1737. **3.** J Vet Cardiol. 2015;Dec;17 Suppl 1:S244-57. **4.** J Vet Cardiol. 2014;16:245-255. **5.** J Vet Cardiol. 2009;11(Suppl 1):S51-S61. **6.** J Am Vet Med Assoc. 2008;233:1261-1264. **7.** J Vet Intern Med. 2018;32:922-929. **8.** Vet Clin Pathol. 2011 Jun;40(2):237-44. Image: JAMA. 2013 Jun 5;309(21):2262-9.

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