Vcheck SDMA

A Quantitative Biomarker for Renal Function

The presence of renal diseases has been reported in nearly 7% of dogs and 20% of cats.[1,2] Quantitative Vcheck SDMA tests by Bionote help detect kidney disease and are a more reliable marker than traditional creatinine and blood urea nitrogen (BUN) renal biomarkers. SDMA concentrations increase earlier than creatinine concentration in cats and dogs with both acute kidney injury and chronic kidney disease.[3,4,5] SDMA is also not influenced by lean body mass as creatinine is making it more specific for detecting illness or injury to the kidney. Creatinine and BUN are still used as complements to SDMA in evaluation of kidney function.

Clinical Applications

- Diagnosis of acute kidney injury (AKI) and chronic kidney disease (CKD)
- Staging of chronic kidney disease
- Monitoring of patients with renal disease
- Regular check-up: early screening of renal dysfunction

Specifications

Species	Canine, Feline
Sample Type	Serum or Plasma (heparin) 100 μl
Measurement	Quantitative
Range	10.0 - 100.0 μg/dL
Testing Time	11 minutes
Storage Condition	2 - 8° C

Simple Testing Procedure
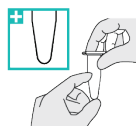
Pre Collected Sample

Sample
Sample 100 μl

Pretreatment
Pretreatment buffer 25 μl
* The end of pipette tip should be applied onto the inner wall of the tube to prevent the pipette tip from becoming clogged.

Mix
Mix well using vortex, if not, tap with fingers 6-8 times.
* Ensure that the sample and pretreatment buffer are well mixed to form white sediment.

Centrifuge
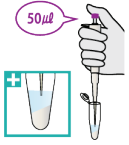Micro-centrifuge for 5 minutes at 10,000 RPMs

Product Name	Product Number	Product Type	Packing Unit
Vcheck SDMA	VCF125DD	Device	10 Tests/Kit

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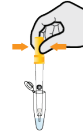**Post Collected Sample**

Collect Supernatant	Assay diluent	Mix	Apply
Collect 50 µl supernatant and transfer to a NEW 1.5ml tube.	Assay diluent 50 µl	Within one minute, use a disposable tablet pipette to mix well until the white tablet dissolves in the pipette completely.	Load all of the mixed sample.

A Closer Look: SDMA

SDMA (Symmetric Dimethylarginine) is a methylated form of the amino acid arginine which is physiologically produced in the body when the methylated proteins are degraded. SDMA is released into blood during protein degradation and is highly stable in serum and plasma.

Specific Clinical Application

SDMA is a novel biomarker for kidney function but cannot replace creatinine. Both are complementary to each other in diagnosing kidney dysfunction. Patient history, physical examination, CBC, chemistry profile (including SDMA), creatinine, electrolytes and urinalysis should be performed to evaluate kidney function.

≤ 14 µg/dL	14.1 - 19.9 µg/dL	≥ 20 µg/dL
Normal (≤ 16 µg/dL in puppies*)	Elevated (Check other evidence of kidney disease)	Kidney disease probable

* Mildly increased SDMA concentrations (14 - 16 µg/dL) in puppies should be interpreted in light of growth phase as well as other evidence of kidney disease.

SDMA	Creatinine	Interpretation
Normal	Normal	• Normal renal function • Early renal disease cannot be ruled out if SDMA and/or creatinine levels are at the upper end of the reference range.
Elevated	Normal	• Early renal disease probable
Normal	Elevated	• Not usual • Possible if the lean body mass is high • Further evaluation of renal function is recommended
Elevated	Elevated	• Renal disease strongly suspected

1. Lund, E. M., Armstrong, P. J., Kirk, C. A., Kolar, L. M. and Klausner, J. S. 1999. Health status and population characteristics of dogs and cats examined at private veterinary practices in the United States. J. Am. Vet. Med. Assoc. 214: 1336–1341.

2. Watson, A. 2001. Indicators of renal insufficiency in dogs and cats presented at a veterinary teaching hospital. Aust. Vet. Practit. 31: 54–58.

3. Hall JA, Yerramilli M, Obare E, et al. Comparison of serum concentrations of symmetric dimethylarginine and creatinine as kidney function biomarkers in cats with chronic kidney disease. J Vet Intern Med 2014;28:1676–1683

4. Nabity MB, Lees GE, Boggess M, et al. Symmetric dimethylarginine assay validation, stability, and evaluation as a marker for early detection of chronic kidney disease in dogs. J Vet Intern Med. 2015;29(4):1036–1044.

5. Hall JA, Yerramilli M, Obare E, Yerramilli M, Almes K, Jewell DE. Serum concentrations of symmetric dimethylarginine and creatinine in dogs with naturally occurring chronic kidney disease. J Vet Intern Med. 2016;30(3):794–802

Vcheck
from **BIONOTE**

For More Information on
Vcheck V200 or V2400
analyzers visit:

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LEARN MORE
about the SDMA test

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