



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

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

Normal

(≤ 16 µg/dL in puppies*)

14.1 - 19.9 µg/dL

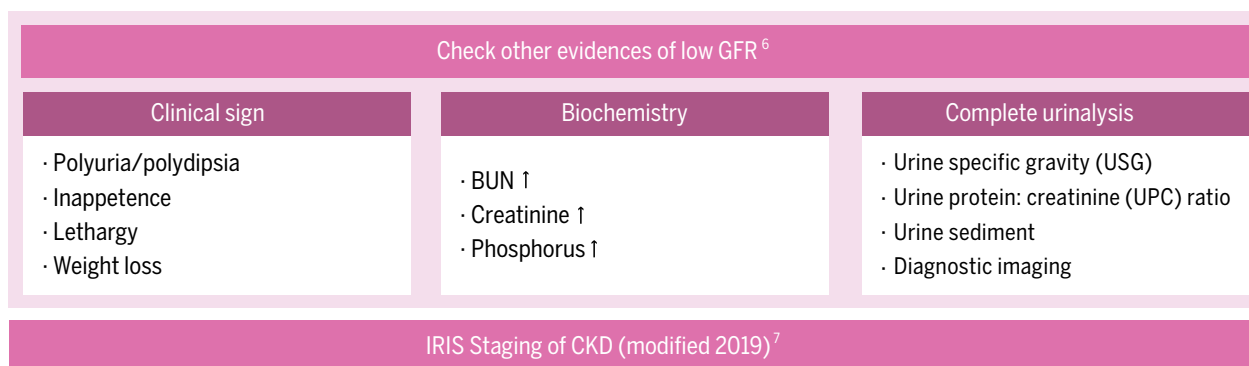
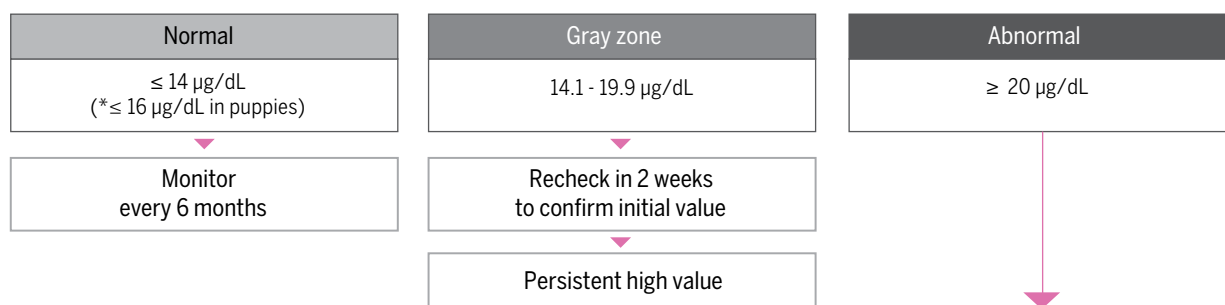
Elevated

(Check other evidence of kidney disease)

≥ 20 µg/dL

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.



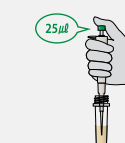
CKD Staging should be based on fasting creatinine or SDMA concentration or both measured (recommended) on at least 2 occasions in a hydrated and stable patient, preferably after 12h of fasting with free access to water.

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
6. ISFM consensus guidelines on the diagnosis and management of feline chronic kidney disease. Journal of Feline Medicine and Surgery 18, 219-239.
7. IRIS (International Renal Interest Society) Staging of CKD (Modified 2019).

Specifications

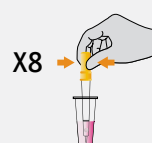
Species	Canine, Feline
Sample Type	Serum or Plasma (heparin) 25 μL
Measurement	Quantitative
Range	10.0 - 100.0 $\mu\text{g/dL}$
Testing Time	10 minutes
Storage Condition	2 - 8° C

Simple Testing Procedure



Dilute Sample

Add 25 μL of serum or plasma (heparin) to the assay diluent.



Mix

Using the tablet pipette, mix at least 8 times to fully dissolve the tablet



Measure

Apply 100 μL of the mixed sample, and read the result after 10 minutes.

Product Name

Vcheck SDMA 2.0

Product Number

VCF147DD

Product Type

Device

Packing Unit

10 Tests/Kit



For More Information on
Vcheck V200 or V2400
 analyzers visit:
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 800-727-5169

LEARN MORE
 about the SDMA test

