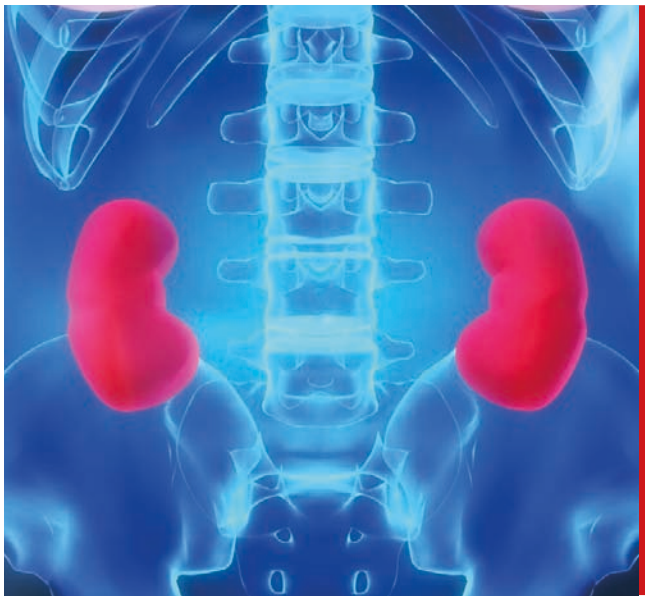
SDMA



SDMA:

Marker for renal dysfunction

Prognostic factor for kidney failure and heart attack

ELISA for the quantitative determination of SDMA (Symmetric Dimethylarginine) in in human, canine and feline serum, EDTA and Li-heparin plasma

- Microtiter plate ELISA
- No cross reaction with other arginines
- High precision

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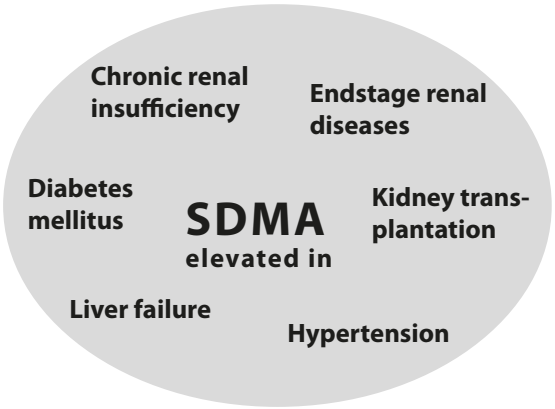
SDMA

Endogenous Marker for Renal Dysfunction

The dosage of most drugs must be adapted in renal insufficiency, making accurate assessment of renal function a prerequisite in clinical medicine. Furthermore, even a modest decline in renal function has been recognized as a cardiovascular risk.

In clinical practice serum creatinine is typically used to asses renal function, but this marker-does not increase at modest decline in renal function. Consequently, there is an ongoing search for suitable endogenous markers of renal function.

Symmetric dimethylarginine (SDMA) is a methylated derivative of L-arginine which is strictly eliminated by renal extraction. Therefore, SDMA plasma level strongly correlates with renal function. In 18 studies with more than 2136 patients systemic SDMA concentrations correlated highly with inuline clearance and with various clearance estimates combined, as well as with serum creatinine (Kielstein et al., 2006).



These data confirm that SDMA is a sensitive and reliable marker of renal dysfunction.

Moreover, increased SDMA level appear to correlate with sequential organ failure of liver and kidney and with an increased cardiovascular risk.

SDMA

- SDMA serum level correlate with inulin clearance and other parameters of glomerular filtration rate
- Elevated SDMA levels in diabetic patients are a risk factor for renal dysfunction
- SDMA level correlate significantly with the extent of arteriosclerosis in patients with renal insufficiency

SDMA ELISA (K 7780)

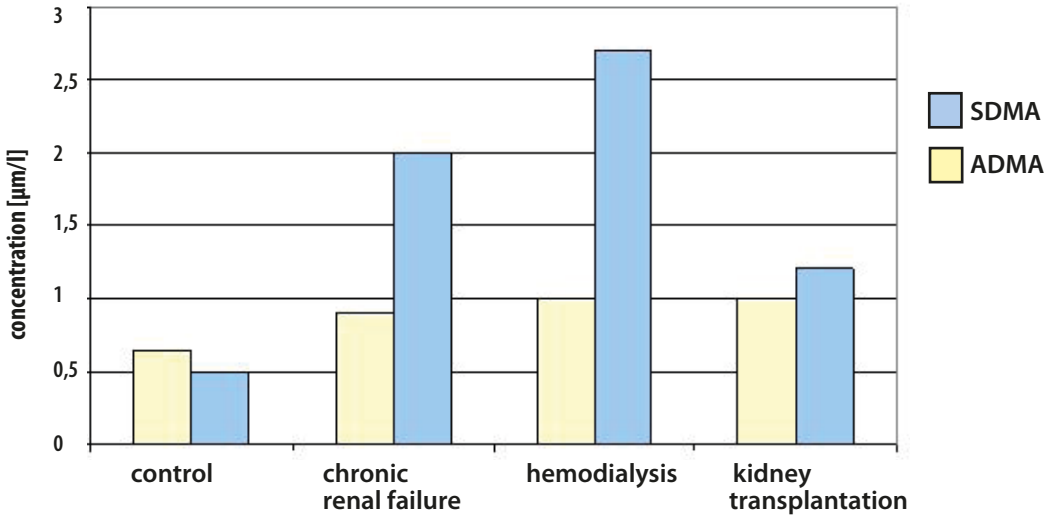
- Microtiter plate ELISA
- Sample volume: 50 µl per determination
- High precision
- Limit of detection: 0.05 µmol/l
- Good linearity between 0.1 µM - 2 µM
- No cross reactivity with L-arginine, ADMA and N-monomethylarginine

Correlation of SDMA with endogenous markers of renal dysfunction

	N	Correlation
SDMA and creatinine	956	0.75
1/SDMA clearance*	1407	0.77
Total	**2363**	**0.76**

*(Table excerpt from Kielstein et al., 2006), *Data from meta-analysis with different clearance determinations*

SDMA better marker for renal dysfunction than ADMA



(Table according to Fleck et al., 2003)

SDMA	
Matrix	Serum, EDTA Plasma, Li-Heparin Plasma
Sample volume	50 µL
Test principle	ELISA
Cat. No.	K 7780

Normal range (serum/plasma)
n = 40
0.47 µmol/l (0.45 ± 0.15 µmol/l)

CE US: all products: Research Use Only. Not for use in diagnostic procedures.

Literature

Fleck C et al. (2003) Serum concentrations of asymmetric (ADMA) and symmetric (SDMA) dimethylarginine in patients with chronic kidney diseases. Clinical Chimica Acta 336:1-12.

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