

Product datasheet

Human SDMA ELISA kit ab213973

1 Image

Overview

Product name Human SDMA ELISA kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Sample 1	12	0.27µM		7.5%
Sample 2	12	0.67µM		4.8%

Inter-assay

Sample	n	Mean	SD	CV%
Sample 1	6	0.22µM		6%
Sample 2	6	0.63µM		7%

Sample type Serum, EDTA Plasma

Assay type Competitive

Sensitivity 0.05 µM

Range 0.001 µM - 1.1 µM

Recovery

Sample specific recovery

Sample type	Average %	Range
Spike	101.5	101% - 102%

Assay time 21h 00m

Assay duration Multiple steps standard assay

Species reactivity **Reacts with:** Human

Product overview The Human SDMA ELISA kit (ab213973) is intended for the quantitative determination of symmetric dimethylarginine (SDMA) in human EDTA-plasma and serum.

This assay is based on the method of competitive enzyme linked immunoassays. The sample preparation includes the addition of a derivatization reagent for SDMA derivatization. Afterwards, the treated samples and the polyclonal SDMA antiserum are incubated in wells of a microtiter plate coated with SDMA derivative (tracer). During the incubation period, the target SDMA in the sample competes with the tracer immobilized on the wall of the microtiter wells for the binding of the polyclonal antibodies. The SDMA in the sample displaces the antibodies out of the binding to the tracer. Therefore the concentration of the tracer-bound antibody is inverse proportional to the SDMA concentration in the sample. During the second incubation step, a peroxidase conjugated antibody is added to each microtiter well to detect the anti-SDMA antibodies. After washing away the unbound components tetramethylbenzidine (TMB) is added as a peroxidase substrate. Finally, the enzymatic reaction is terminated by an acidic stop solution. The color changes from blue to yellow and the absorbance is measured in a photometer at 450 nm. The intensity of the yellow color is inverse proportional to the SDMA concentration in the sample; this means high SDMA concentration in the sample reduces the concentration of tracer-bound antibodies and lowers the photometric signal.

A dose response curve of absorbance unit (optical density, OD at 450 nm) vs. concentration is generated using the values obtained from the standards. SDMA present in the samples is determined directly from this curve.

Notes

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 assess renal function, but this serum creatinine does not increase at modest decline in renal function. Consequently, there is an ongoing search for suitable endogenous markers of renal function.

SDMA is a methylated derivative of L-Arginine which is strictly eliminated by renal extraction, thus SDMA plasma level is strongly correlated to renal function. In 18 studies with more than 2136 patients systemic SDMA concentrations correlated highly with inulin clearance, as well as with various clearance estimates combined and serum creatinine. With respect to this SDMA exhibits properties of a reliable marker of renal dysfunction.

Moreover, there are hints that increased SDMA correlates with total sequential organ failure indicating both renal and hepatic failure and an increased cardiovascular risk.

Indication

Renal failure

Cardiovascular risk in renal dysfunction

Hypertension in renal dysfunction

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Platform

Pre-coated microplate (12 x 8 well strips)

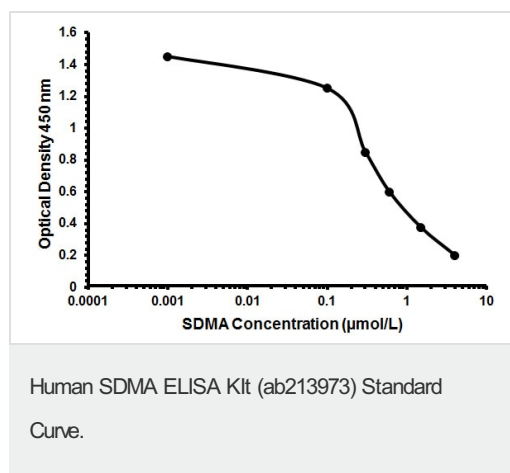
Properties

Storage instructions

Please refer to protocols.

Components	1 x 96 tests
Conjugate	1 x 12ml
Control 1	1 x 500µl
Control 2	1 x 500µl
Derivatization Reagent	1 x 6ml
Reaction Buffer	1 x 15ml
SDMA Antibody	1 x 6ml
SDMA Coated Microplate (12x 8 well strips)	1 unit
Standard 1 (0.0 µM)	1 x 500µl
Standard 2 (0.1 µM)	1 x 500µl
Standard 3 (0.3 µM)	1 x 500µl
Standard 4 (0.6 µM)	1 x 500µl
Standard 5 (1.5 µM)	1 x 500µl
Standard 6 (4.0 µM)	1 x 500µl
Stop Solution	1 x 15ml
TMB Substrate	1 x 15ml
Wash Buffer Concentrate (10X)	2 x 100ml

Images



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