

StressXpress®
Creatinine
Serum
Detection Kit

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Colorimetric measurement of creatinine
Catalog No. SKT-217

Product Name

Creatinine Serum Detection Kit

Description

Colorimetric measurement of creatinine

Species Reactivity

Human, Mouse, Rabbit, Rat, Sheep

Platform

Microplate

Sample Types

Plasma, Serum

Detection Method

Colorimetric Assay

Assay Type

Direct Quantitative Assay

Utility

Colorimetric assay used to measure creatinine in samples.

Sensitivity

0.085 mg/dL

Assay Range

0.5 - 4 mg/dL

Precision

Intra Assay Precision: Four human serum samples were run in triplicate on a same-day assay determined that the mean and precision of the calculated concentrations were: Sample 1- 0.75 mg/dL, 5% CV Sample 2- 0.78 mg/dL, 6% CV Sample 3- 0.6 mg/dL, 4% CV Sample 4- 0.76 mg/dL, 6% CV **Inter Assay Precision:** Four human serum samples were run in triplicate on a same-day assay determined that the total range of 4-6% represents the variation between different assays.

Number Of Samples

91 samples in duplicate

Other Resources

Kit Booklet Lot No. KM486744 , Kit Booklet , Kit Booklet Lot No. SC188754 , MSDS , Creatinine Serum Kit Excel Analysis Worksheet

Field Of Use

Not for use in humans. Not for use in diagnostics or therapeutics. For in vitro research use only.

Properties

Storage Temperature

4°C

Shipping Temperature

Blue Ice

Product Type

Detection Kits

Assay Overview

The Creatinine Serum Detection Kit is designed to quantitatively measure creatinine present in serum samples. A creatinine standard, calibrated to a creatinine standard, is provided to generate a standard curve for the assay and all samples should be read off the standard curve. Standards or samples are pipetted into a clear microtiter plate. An assay diluent is added to all standards, controls and samples. The color generating reaction is initiated with the StressXpress® Creatinine Reagent, which is pipetted into each well. The assay utilizes a kinetic absorbance method to overcome interference by colored compounds in serum. The absorbance of the colored product is read in a microtiter plate reader capable of measuring 490nm wavelength. For a total of 30 minutes, the optical density is read at 1 minute intervals. The concentration of creatinine is calculated using the Kinetic Mode software and samples are compared to the curve generated from the standards, or by using the Excel worksheet available for free download at our web site. The Jaffe reaction used in this kit has been modified to read creatinine levels in serum (8).

Kit Overview

Component No.**Item****Quantity / Size****SKC-217A**

Clear 96 well Half Area Plates

2 Plates

SKC-217B

Creatinine Standard

100 μ l**SKC-217C**

Assay Diluent

6 ml

SKC-217D

StressXpress® Creatinine Reagent

20 ml

Cite This Product

Creatinine Serum Detection Kit (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SKT-217)

Biological Description**Alternative Names**

Methylguanidoacetic acid, N-Carbamimidoyl-N-methylglycine

Research Areas

Cardiovascular System, Cell Signaling

Scientific Background

Creatinine is a metabolic byproduct of phosphocreatine, a high-energy phosphate reservoir used in ATP production. It is produced at a relatively constant rate and excreted by the kidneys without reabsorption, making it a reliable marker of renal function.

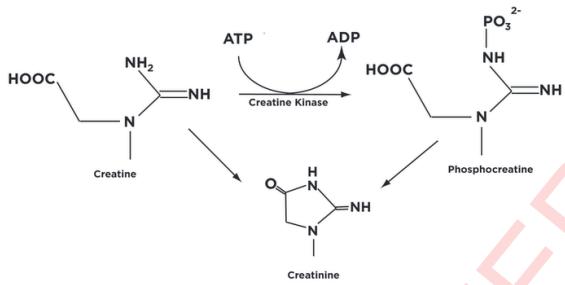
In neuroscience, creatinine is widely used to normalize urinary biomarker levels—such as 8-OHdG or nitrotyrosine—ensuring accurate comparisons across individuals and time points. Its stability and low intra-individual variability (<15%) make it ideal for longitudinal studies.

Altered creatinine levels may also reflect systemic conditions like diabetes or cardiovascular disease, which are known to impact brain health and increase the risk of neurodegeneration.

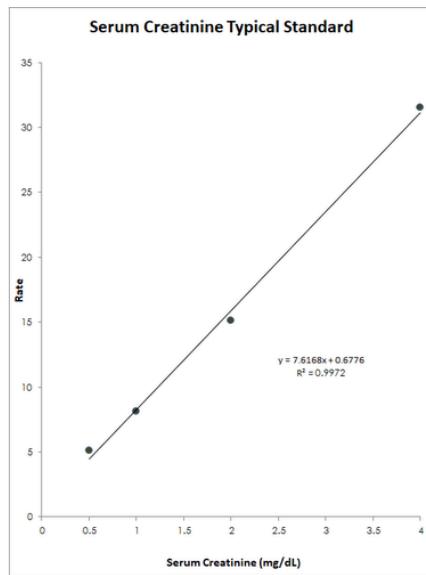
References

1. Wallimann, T. et al., *Biochem. J.*, 2000, 281, 21-40.
2. Wyss, M. and Kaddurah-Daouk, R., *Physiol. Rev.*, 2000, 80, 1107-1213.
3. Raja Iyengar, M. et al., *J. Biol. Chem.*, 1985, 260, 7562-7567.
4. Manjunath, G. et al., *Postgrad. Med.* 2001, 110, 55-62.
5. Gross, J.L. et al., *Diabetes Care*, 2005, 28, 164-176.
6. Anavekar, N.S. et al., *New Engl. J. Med.*, 2004, 351, 1285-1295.

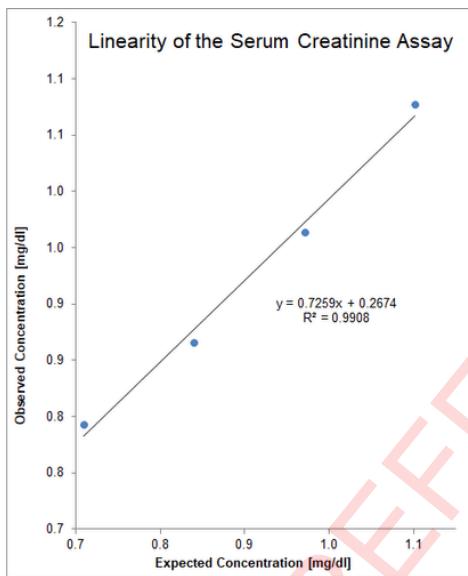
Product Images



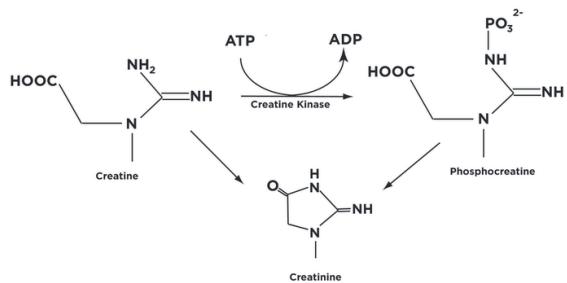
Creatine and p-creatine are converted non-enzymatically to the metabolite creatinine, which diffuses into the blood and is excreted by the kidneys. In vivo, this conversion appears to be irreversible and in vitro it is favored by higher temperatures and lower pH2. Creatinine forms spontaneously from p-creatine.



Typical Standard Curve for the Creatinine Serum Detection Kit () StressXpress® - SKT-217. Assay Type: Direct Enzyme. Detection Method: Colorimetric Assay. Assay Range: 0.5 – 4 mg/dl.



Linearity was determined by taking two human serum samples, one with a low diluted creatinine level of 0.58 mg/dL and one with a higher level of 1.23 mg/dL and mixing them in given ratios. The measured concentrations were compared to the expected values.



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Reviews

Based on validation through cited publications.



StressMarq Biosciences

June 11, 2019:

Product Citations

FOR REFERENCE USE ONLY

x

93/100 Bioz Rating

25 Citations 2 Images



- Export this page of citations
- Export first 100 citations
- Export first 100 citations (Mendeley)

Bioz AI Summary: The Creatinine Serum Detection Kit from StressMarq has been extensively utilized in various studies across multiple disciplines, including pharmacology, immunology, and renal research.

Techniques ▾

- Search for Techniques
- Enzyme-linked Immunosorbent Assay (ELISA)
- Staining (STAIN)
- Microscopy (MICRO)
- CCK-8 Assay (CCK-8)
- Concentration Assay (CO-A)

Bruceine A derivative P1 alleviates renal inflammation via the ERK1/2 pathway in diabetic nephropathy.
Jiayan He, Yuci Liu, ..., Hudan Pan

International immunopharmacology | 2025 Sep 02 | 40902397 | [Read Article](#) | [Bioz AI Brief](#)

"Bioz AI Summary The Creatinine Serum Detection Kit from StressMarq played a pivotal role in the study by levels, which is essential for evaluating renal function ..." [More](#)

CCK-8

- Lactate Dehydrogenase Assay (LDH)

- Modification

Cited 1 time

Jian-Ping Shu et al. RT-PCR improves kidney function by regulating gut microbiome in rats with chronic kidney disease.
Yuzhi Wang, Peidong Lu, ..., Shudong Yang

Frontiers in Cellular and Infection Microbiology | 2025 Jul 09 | 40703671 | [Read Article](#) | [Bioz AI Brief](#) 

".. by centrifugation and stored at -80°C. Serum was isolated by centrifugation and stored at -80°C.. Serum creatinine assay kit (StressMarq Biosciences, British Columbia, Canada), following the manufacturer's protocol were collected at T1, T2, and .." [More...](#)

- Sequencing (SEQ)



- Software



Cited 2 times

Huangqi-Danshen Decoction Against Renal Fibrosis in UUO Mice via TGF- β 1 Induced Downstream Signaling Pathway

Xi Huang, Yu Peng, ..., Xinhui Liu

Drug Design, Development and Therapy | 2024 Sep 14 | 39296670 | [Read Article](#) | [Bioz AI Brief](#) 

"Serum creatinine (Scr) and blood urea nitrogen (BUN) were assayed with the corresponding detection kits (#SKT-217, StressMarq Biosciences, British Columbia, Canada).. Dehydrated and paraffin embedded kidney samples were fixed in 4% paraformaldehyde and processed for immunohistochemical staining." [More...](#)

[STAIN](#)

[MOD](#)

Cited 1 time

Jian-Pi-Yi-Shen formula ameliorates renal fibrosis-induced anemia in rats with chronic kidney disease.

Haipiao Huang, Shiying Huang, ..., Jianping Chen

Journal of ethnopharmacology | 2024 Sep 03 | 39069029 | [Read Article](#) | [Bioz AI Brief](#) 

"Bioz AI Summary In the study, the Creatinine Serum Detection Kit from StressMarq facilitated the quantitative analysis of serum creatinine levels, a vital parameter for assessing kidney function. T..." [More...](#)

Delineation of renal protein profiles in aristolochic acid I-induced nephrotoxicity in mice by label-free quantification

Xinhui Liu, Shanshan Wu, ..., Jiandong Lu

Frontiers in Pharmacology | 2024 May 09 | [Read Article](#) | [Bioz AI Brief](#) 

Article Snippet

".. new clean EP tube. Then, the supernatant was transferred to a new clean EP tube.. The levels of serum creatinine (SCR) and blood urea nitrogen (BUN) were measured using commercially available kits (SKT-217 and SKT-213, StressMarq Biosciences, Victoria, British Columbia, Canada), according to the manufacturer's protocols."

[More...](#)

Figure Legend

"... (A) Serum creatinine levels (n = 6). (B) Blood urea nitrogen levels (n = 6). Data are ..." [More...](#)

[CON](#)

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