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Produktinformation

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- Laborgeräte & Service

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

StressXpress®

Urine Creatinine Detection Kit

Quantitative colorimetric detection of creatinine in urine samples
Catalog No. SKT-200

StressMarq Biosciences INC.
Discovery through partnership | Excellence through quality

Overview

Product Name

Urine Creatinine Detection Kit

Description

Quantitative colorimetric detection of creatinine in urine samples

Species Reactivity

Dog, Human, Monkey, Rat

Platform

Microplate

Sample Types

Urine

Detection Method

Colorimetric Assay

Assay Type

Direct Quantitative Assay

Utility

Detection kit used to quantitatively measure creatinine in samples.

Sensitivity

0.019 mg/dl

Assay Range

0.3125- 20 mg/dl

Precision

Intra Assay Precision: Three human urine samples were diluted 1:20 with deionized water and run in replicates of 20 in an assay. The mean and precision of the calculated creatinine concentrations were:
Sample 1- 1174.3 pg/mL, 6% CV
Sample 2- 475.9 pg/mL, 5.6% CV
Sample 3- 177.4 pg/mL, 14.7% CV
Inter Assay Precision: Three human urine samples were diluted 1:20 with deionized water and run in duplicates in 20 assays run over five days by three operators. The mean and precision of the calculated creatinine concentrations were:
Sample 1- 1188.1 pg/mL, 7.2% CV
Sample 2- 508.7 pg/mL, 6.3% CV
Sample 3- 199.7 pg/mL, 10.9% CV

Number Of Samples

88 samples in duplicate

Other Resources

Kit Booklet, MSDS

Properties

Storage Temperature

4ºC

Shipping Temperature

Blue Ice

Product Type

Detection Kits

Assay Overview

The Urine Creatinine Detection kit is designed to quantitatively measure creatinine present in urine samples. A creatinine standard, calibrated to a NIST creatinine standard, is provided to generate a standard curve for the assay and all samples should be read off the standard curve. Standards or diluted samples are pipetted into a clear microtiter plate. The color generating reaction is initiated with the StressXpress® Creatinine Reagent, which is pipetted into each well. After a short incubation the intensity of the generated color is detected in a microtiter plate reader capable of measuring 490nm wavelength. The concentration of the creatine in the sample is calculated, after making a suitable correction for the dilution of the sample, using software available with most plate readers. The Jaffe reaction used in this kit has been modified to read creatinine levels in urine(7,8).

Kit Components

Component No.	Item	Quantity / Size
SKC-200A		
	Clear Microtitre Plates	
		2 Plates
SKC-200B		
	Creatinine Standard	
		1 ml
SKC-200C		
	StressXpress®Creatinine Reagent	
		20 ml
SKC-200D		
	Plate Sealer	
		2 each

Cite This Product

Urine Creatinine Detection Kit (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SKT-200)

Biological Description

Alternative Names

N-Carbamimidoyl-N-methylglycine Detection Kit, Methylguanidoacetic acid Detection Kit

Research Areas

Cardiovascular System, Cell Signaling

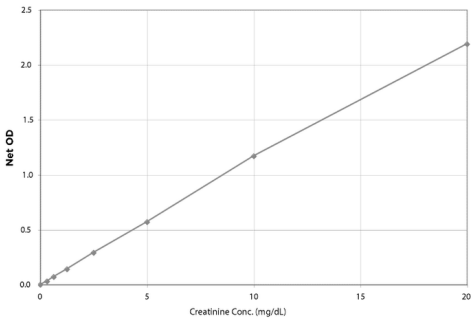
Scientific Background

Creatinine (2-amino-1-methyl-5H-imadazol-4-one) is a metabolite of phosphocreatine (p-creatine), a molecule used as a store for high-energy phosphate that can be utilized by tissues for the production of ATP (1). Creatine either comes from the diet or synthesized from the amino acids arginine, glycine, and methionine. This occurs in the kidneys and liver, although other organ systems may be involved and species-specific differences may exist (2). 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 (3). Under normal conditions, its formation occurs at a rate that is relatively constant and as intra-individual variation is <15% from day to day, creatinine is a useful tool for normalizing the levels of other molecules found in urine. Additionally altered creatinine levels may be associated with other conditions that result in decreased renal blood flow such as diabetes and cardiovascular disease (4-6).

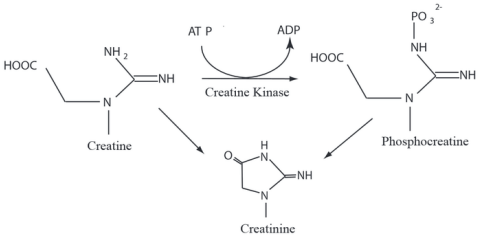
References

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.

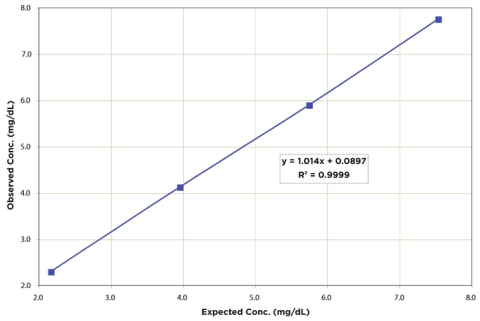
Product Images



Typical Standard Curve of Urine Creatinine Detection Kit StressXpress® – SKT-200. Assay Type: Quantitative. Detection Method: Colorimetric Assay. Assay Range: 0.3125- 20 mg/dl



Conversion of creatine and p-creatine to creatinine. 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 pH. Creatinine forms spontaneously from p-creatine.



Product Citations (0)

Currently there are no citations for this product.

Reviews

There are no reviews yet.