

Citrate Assay Kit ab83396

[10 References](#) [3 Images](#)

Overview

Product name	Citrate Assay Kit
Detection method	Colorimetric/Fluorometric
Sample type	Cell culture supernatant, Urine, Serum, Plasma, Other biological fluids, Tissue Extracts
Assay type	Quantitative
Sensitivity	> 0.002 mM
Range	0.002 mM - 10 mM
Assay time	0h 40m
Product overview	Citrate Assay Kit ab83396 provides a simple, sensitive and rapid means of quantifying citrate in biological samples.

In the citrate assay protocol, citrate is converted to pyruvate via oxaloacetate. The pyruvate is quantified by converting a nearly colorless probe to an intensely colored (570 nm) and fluorescent (Ex/Em, 535/587 nm) product.

The citrate assay kit can detect 0.1 to 10 nmoles (~2 μ M-10 mM) of citrate.

Citrate assay protocol summary:

- add samples and standards to wells
- add reaction mix and incubate for 30 min at room temp
- analyze with microplate reader

Notes This product is manufactured by BioVision, an Abcam company and was previously called K655 Citrate Colorimetric/Fluorometric Assay Kit. K655-100 is the same size as the 100 test size of ab83396.

Citric acid (HOOC-CH₂-C(-OH)(-COOH)-CH₂-COOH) is a key intermediate in the TCA cycle which occurs in mitochondria. It is formed by the addition of oxaloacetate to the acetyl group of acetyl-CoA derived from the glycolytic pathway. Citrate can be transported out of mitochondria and converted back to acetyl CoA for fatty acid synthesis.

Platform Microplate reader

Properties

Storage instructions

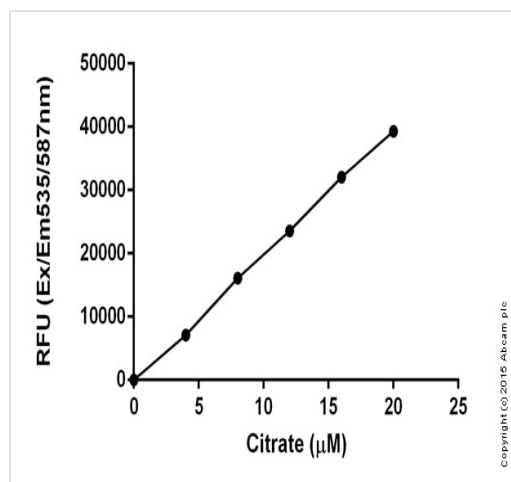
Store at -20°C. Please refer to protocols.

Components	Identifier	100 tests
Citrate Assay Buffer	WM	1 x 25ml
Citrate Developer (Lyophilised)	Green	1 vial
Citrate Enzyme Mix (Lyophilised)	Purple	1 vial
Citrate Probe	Red	1 x 0.2ml
Citrate Standard (10 µmol) (lyophilised)	Yellow	1 vial

Relevance

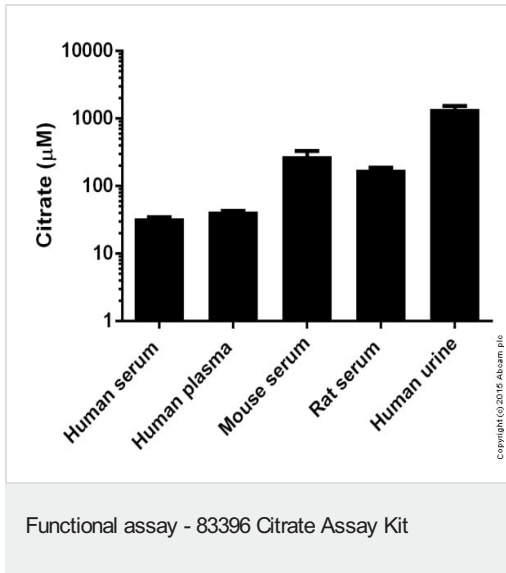
Citric acid ($\text{HOOC-CH}_2\text{-C(-OH)(-COOH)-CH}_2\text{-COOH}$) is a key intermediate in the TCA cycle which occurs in mitochondria. It is formed by the addition of oxaloacetate to the acetyl group of acetyl-CoA derived from the glycolytic pathway. Citrate can be transported out of mitochondria and converted back to acetyl CoA for fatty acid synthesis. Citrate is an allosteric modulator of both fatty acid synthesis (acetyl-CoA carboxylase) and glycolysis (phospho-fructokinase). Citrate is widely used industrially in foods, beverages and pharmaceuticals. Citrate metabolism and disposition can vary widely due to sex, age and a variety of other factors.

Images

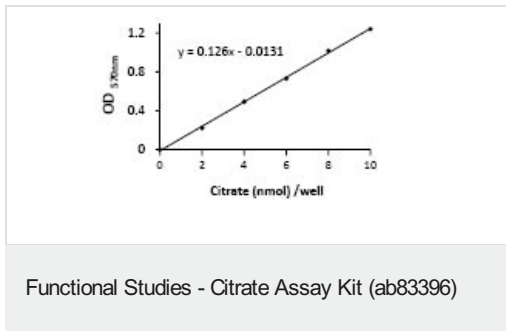


Fluorimetric standard curve: mean of duplicates (+/-SD) with background readings subtracted.

Functional assay - 83396 Citrate Assay Kit



Citrate measured fluorimetrically in various biofluids showing concentration (micromolar).



Citrate standard curve generated using this kit protocol

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