abcam

Product datasheet

# Fumarate Assay Kit ab102516

1 Abreviews 18 References 5 Images

## Overview

| | |
|---|---|
| **Product name** | Fumarate Assay Kit |
| **Detection method** | Colorimetric |
| **Sample type** | Cell culture supernatant, Urine, Serum, Plasma, Other biological fluids, Tissue Extracts |
| **Assay type** | Quantitative |
| **Sensitivity** | > 1 nmol/well |
| **Assay time** | 0h 40m |
| **Product overview** | Fumarate Assay Kit ab102516 provides a convenient tool for sensitive detection of Fumarate in biological samples.<br><br>In the fumarate assay protocol, the fumarate enzyme mix recognizes fumarate as a specific substrate leading to proportional color development. The amount of fumarate can therefore be easily quantified using a colorimetric assay (λ = 450 nm). It can detect as low as 1 nmol of fumarate per well (20 µM).<br><br>Fumurate assay protocol summary:<br>- add samples and standards to wells<br>- add reaction mix and incubate for 1 hr<br>- analyze with a microplate reader |
| **Notes** | This product is manufactured by BioVision, an Abcam company and was previously called K633 Fumarate Colorimetric Assay Kit. K633-100 is the same size as the 100 test size of ab102516.<br><br>Fumarate (HO2CCH=CHCO2H-) is an intermediate in the Kreb's cycle used by cells to metabolize food to form ATP. In the mammalian liver, Fumarate is also a product of the Urea cycle where its release in the cytosol leads to its conversion into malate and subsequently oxaloacetate while generating NADH in the cytosol. |
| **Platform** | Microplate reader |

## Properties

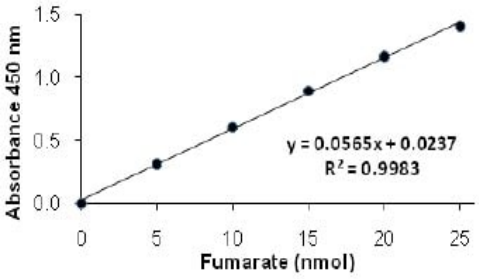
| | |
|---|---|
| **Storage instructions** | Store at -20°C. Please refer to protocols. |

| Components | 100 tests |
|---|---|
| Assay Buffer LXIV | 1 x 25ml |
| Developer Solution III | 1 vial |
| Fumarate Enzyme Mix | 1 vial |
| Fumarate Solution | 1 x 0.2ml |

**Relevance**

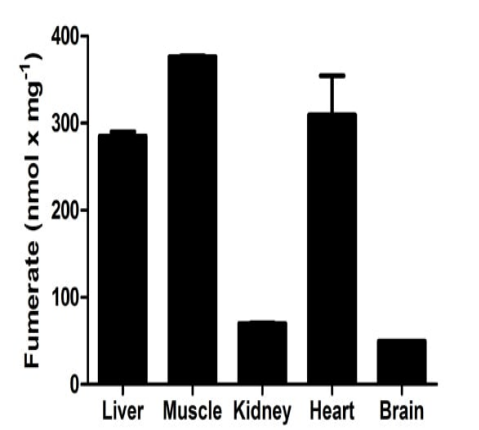
Fumarate ($HO_2CCH=CHCO_2H^-$) is an intermediate in the Kreb's cycle used by cells to metabolize food to form ATP. In the mammalian liver, Fumarate is also a product of the Urea cycle where its release in the cytosol leads to its conversion into malate and subsequently oxaloacetate while generating NADH in the cytosol. The human skin naturally produces fumaric acid when exposed to sunlight. In fact, fumaric acid esters have been used to treat psoriasis, possibly due to an impaired production of fumaric acid in the skin. Fumaric acid has also been used in beverages, baking powders and candy.

## Images



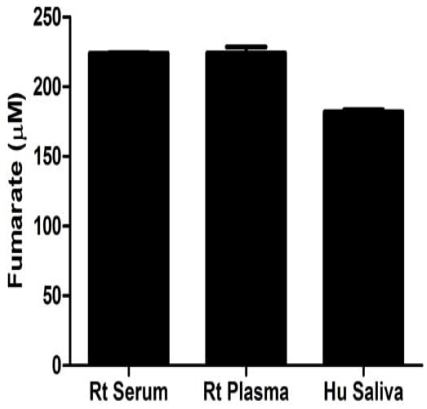

Functional Studies - Fumarate Detection Kit (ab102516)

Fumurate Standard Curve



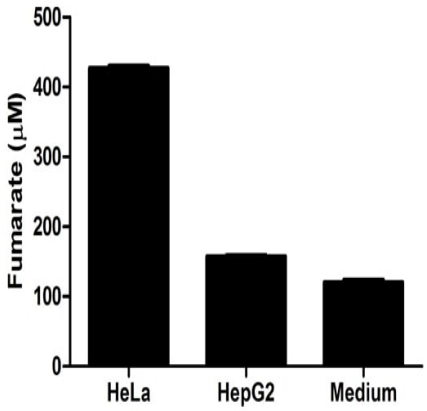

Functional Studies - Fumarate Detection Kit (ab102516)

Fumarate measured in mouse tissue lysates (mg of extracted protein), background signal subtracted (duplicates +/- SD).



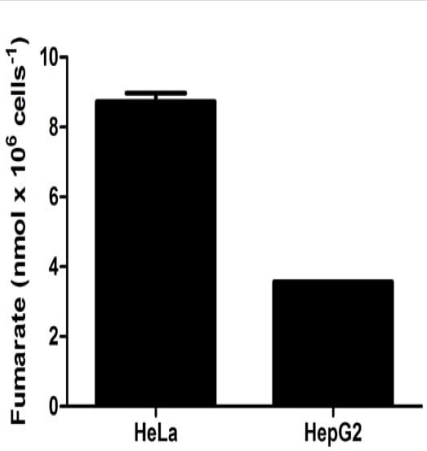

Functional Studies - Fumarate Detection Kit (ab102516)

Fumarate measured in biological fluids, background signal subtracted (duplicates +/- SD).




Functional Studies - Fumarate Detection Kit (ab102516)

Fumarate measured in cell culture medium and control medium, background signal subtracted (duplicates +/- SD).




Functional Studies - Fumarate Detection Kit (ab102516)

Fumarate measured in cell lysates, background signal subtracted (duplicates +/- SD).

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

## Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

## Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors