abcam

Product datasheet

Isocitrate Dehydrogenase Assay Kit (Colorimetric) ab102528

1 Abreviews 17 References 2 Images

Overview

Product name	Isocitrate Dehydrogenase Assay Kit (Colorimetric)
Detection method	Colorimetric
Sample type	Cell culture supernatant, Urine, Serum, Plasma, Other biological fluids, Tissue Extracts
Assay type	Enzyme activity
Sensitivity	> 0.01 mU/well
Assay time	0h 45m
Product overview	Abcam's Isocitrate Dehydrogenase Assay Kit (Colorimetric) provides a convenient tool for sensitive detection of NAD(+) / NADP(+)-dependent or both IDHs in a variety of samples. The IDHs utilize isocitrate as a specific substrate leading to a proportional color development and can be easily quantified colorimetrically (λ = 450 nm) with detection sensitivity as low as 0.01 mU. Visit our **FAQs page** for tips and troubleshooting. Isocitrate dehydrogenase assay protocol summary: - add samples and standards to wells - incubate for 3 min and analyze with microplate reader - incubate for 30 min - 2 hr and analyze again
Notes	This product is manufactured by BioVision, an Abcam company and was previously called K756 Isocitrate Dehydrogenase Activity Colorimetric Assay Kit. K756-100 is the same size as the 100 test size of ab102528.
Platform	Microplate reader

Properties

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

Components	100 tests
β-NADP Stock	1 vial
Developer Solution II	1 vial

Components	100 tests
IDH Positive Control	1 x 20µl
IDH Substrate Mix	1 vial
Isocitrate Assay Buffer	1 x 25ml
NAD+	1 vial
NADH Standard I	1 vial

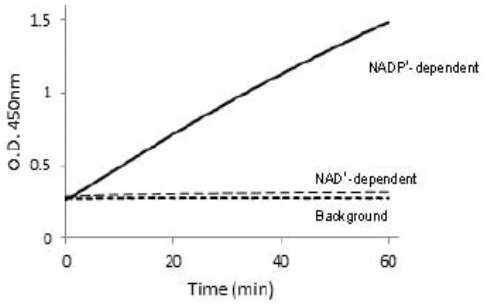
Relevance

Isocitrate dehydrogenase (IDH; EC 1.1.1.41, NAD+) is an enzyme that participates in the citric acid cycle. These IDH3 isoforms catalyze the oxidative decarboxylation of isocitrate, producing alpha-ketoglutarate and CO_2 while converting NAD+ to NADH. This is a two-step process, which involves oxidation of isocitrate to oxalosuccinate, followed by the decarboxylation of the beta-carboxyl group to form the ketone, alpha-ketoglutarate. Other isoforms (EC 1.1.1.42, NADP+) catalyze the same reaction, but unrelated to the citric acid cycle. It is carried out in the mitochondrion (IDH2) as well as in the cytosol and peroxisome (IDH1) and use NADP+ as a cofactor instead of NAD+.

Cellular localization

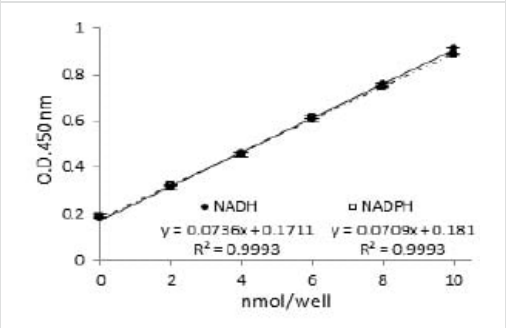
Cytoplasm. Peroxisome

Images



Functional Studies - Isocitrate Dehydrogenase Detection Kit (ab102528)

Isocitrate Dehydrogenase detection in Bovine Liver Extraction Sample using ab102528



Functional Studies - Isocitrate Dehydrogenase Detection Kit (ab102528)

Example of NADH and NADPH Standard Curve obtained using ab102528

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