

Product datasheet

Acetyl CoA Assay Kit ab87546

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Overview

Product name	Acetyl CoA Assay Kit
Detection method	Fluorescent
Sample type	Cell Lysate, Tissue Lysate
Assay type	Quantitative
Sensitivity	> 0.01 nmol/well
Range	0.01 nmol/well - 0.5 nmol/well
Assay time	0h 20m
Product overview	<p>Acetyl CoA Assay Kit ab87546 is a highly sensitive assay for quantifying Acetyl CoA level in biological samples.</p> <p>In the Acetyl CoA assay protocol, free CoA is quenched then Acetyl CoA is converted to CoA. The CoA is reacted to form NADH which interacts with a probe to generate fluorescence (Ex=535/Em=587 nm).</p> <p>The assay can detect 10 to 500 pmol of Acetyl CoA (with detection limit ~0.4 μM).</p> <p>Acetyl CoA assay protocol summary:</p> <ul style="list-style-type: none"> - add samples and standards to wells - add CoA quencher to wells to remove background from free CoA and succ-CoA and incubate at room temp for 5 min - add quencher remover and incubate at room temp for 5 min - add reaction mix and incubate for 10 min at 37°C - analyze with microplate reader
Notes	<p>This product is manufactured by BioVision, an Abcam company and was previously called K317 PicoProbe™ Acetyl-CoA Fluorometric Assay Kit. K317-100 is the same size as the 100 test size of ab87546.</p> <p>Acetyl CoA is a central molecule of metabolism. It carries acetate, used in the build-up and breakdown of larger molecules.</p>
Platform	Microplate reader

Properties

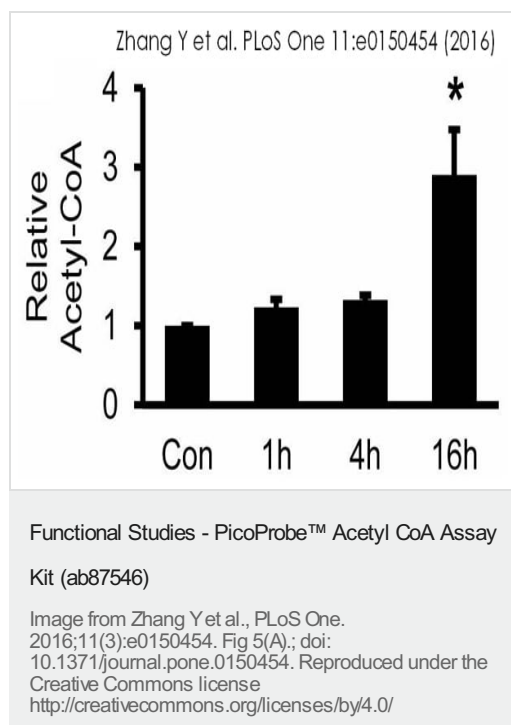
Storage instructions Store at -20°C. Please refer to protocols.

Components	100 tests	2000 tests
Acetyl CoA Enzyme Mix	1 x 500µl	20 x 500µl
Acetyl CoA Standard	1 vial	20 vials
Acetyl CoA Substrate Mix	1 vial	20 vials
Assay Buffer XXII	1 x 25ml	20 x 25ml
CoA Quencher	1 x 1ml	20 x 1ml
Converter Enzyme III	1 x 100µl	20 x 100µl
PicoProbe II	1 x 200µl	20 x 200µl
Quench Remover I	1 vial	20 vials

Relevance

Acetyl CoA (AcCoA) is the metabolic intermediate which transfers carbon atoms to the TCA cycle for energy production and is the link between fat and carbohydrate metabolism. When fatty acid levels are high, AcCoA levels rise beyond the energy requirements of the organism and the excess is converted to the ketone bodies acetone and β -hydroxybutyrate. AcCoA also contributes acetate to histone acetylation and isoprenoid synthesis.

Images



Induction of acetyl-CoA in mitochondria by palmitate. Mitochondria were isolated from cells after palmitate treatment (300 µM) at 1, 4 and 16 h, and then used in the concentration assay of acetyl-CoA.

The acetyl-CoA content was determined immediately after isolation of the mitochondria using ab87546. Briefly, acetyl-CoA standard curve was made in the range of 0–100 pM and the correlation coefficient was 0.990 or higher. Protein was removed in the sample using the perchloric acid protocol and the supernatant was neutralized with 3 M KHCO₃. The CoASH Quencher and Quencher remover were added into the sample to correct the background generated by free CoASH and succ-CoA. The sample was then diluted with the reaction mix, and the fluorescence signal was measured at Ex/Em = 535/589 nm with Spectra max Gemini XPS (Molecular Devices, Sunnyvale, CA). The relative acetyl-CoA concentration was normalized with the mitochondrial protein.

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