

Acetoacetate Colorimetric Assay Kit

Cat. No. Kit-0009 Lot. No. (See product label)

SPECIFICATION

Product Overview

Acetoacetate Assay Kit (Colorimetric) is used for measuring acetoacetate using colorimetric methods.

Description

Acetoacetate (AcAc), a β -ketoacid, is one of the three ketone bodies and is formed via condensation of two molecules of acetyl-CoA in liver mitochondria. AcAc can be enzymatically reduced to 3- β -hydroxybutyrate (β -HB), or decarboxylated producing acetone ($\text{CH}_3)_2\text{CO}$). Ketone bodies (β HB: 78%; AcAc: 20% & $\text{CH}_3)_2\text{CO}$: 2%) are mainly used as an alternative energy source when glucose cannot be delivered to the system. Excessive concentration of ketone bodies (ketoacidosis) is observed in patients with Type I diabetes, severe starvation or alcoholism. Traditionally, AcAc levels have been qualitatively detected using dipsticks that use sodium nitroferricyanide as a chromophore. Acetoacetate Assay Kit (Colorimetric) has adapted that principle with a modification that provides a sensitive method to quantitate endogenous levels of AcAc in human blood, and urine. In this non-enzymatic assay, AcAc reacts with a substrate to generate a colored product that can be measured at 550 nm. The reaction is specific for AcAc and does not detect 3- β -hydroxybutyrate. The assay kit can detect samples containing acetoacetate as low as 25 μM .

Applications

Measurement of acetoacetate in various biological samples
Analysis of acetoacetate in pathological conditions such as Type I diabetes, alcoholism, etc.

Usage

For research use only (RUO)

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Storage	Store kit at -20°C, protected from light. Warm Assay Buffer to room temperature before use. Briefly centrifuge small vials prior to opening. Read entire protocol before performing the experiment.
Kit Components	Acetoacetate Assay Buffer 15 ml Acetoacetate Standard (Lyophilized) 1 vial Acetoacetate Substrate 1 ml
Detection method	Colorimetric
Compatible Sample Types	Bood, Plasma, Serum, Urine, Other body fluids

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