CREATIVE BIOMART®
Assay Kit

Total Histone H3 Acetylation Detection Fast Kit (Colorimetric)

Product Information

Cat.No. Kit-0441

Product Overview

Total Histone H3 Acetylation Detection Fast Kit (Colorimetric) is used for measuring total acetylation of histone H3.

Description

Acetylation of histones, including histone H3, have been involved in the regulation of chromatin structure and the recruitment of transcription factors to gene promoters. Histone acetyltransferases (HATs) and histone deacetylases (HDACs) play a critical role in controlling histone H3 acetylation. Histone acetylation is tightly involved in cell cycle regulation, cell proliferation, and apoptosis. An imbalance in the equilibrium of histone acetylation has been associated with tumorigenesis and cancer progression. Histone H3 acetylation may be increased by inhibition of HDACs and decreased by HAT inhibition. The reversible lysine acetylation of histone H3 may play a vital role in the regulation of many cellular processes including chromatin dynamics and transcription, gene silencing, cell cycle progression, apoptosis, differentiation, DNA replication, DNA repair, nuclear import, and neuronal repression. Detecting if histone H3 is acetylated at its lysine residue would provide useful information for further characterizing the acetylation patterns or sites, thereby leading to a better understanding of epigenetic regulation of gene activation, and development of HAT or HDAC-targeted drugs.

Applications

The Total Histone H3 Acetylation Detection Fast Kit (Colorimetric) is suitable for specifically measuring total histone H3 acetylation using a variety of mammalian cells (human, mouse, etc.) including fresh and frozen tissues, cultured adherent and suspension cells.

Usage

For research use only (RUO)

Storage

Upon receipt: (1) Store C3 and the Standard Control at -20°C; (2) Store all other components at 4°C

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away from light. The kit is stable for up to 6 months from the shipment date, when stored properly.Note: Check if buffers, C1 and C2, contain salt precipitates before using. If so, warm (at room temperature or 37°C) and shake the buffers until the salts are re-dissolved.

Kit Components

C1 (10X Wash Buffer) 10 mLC2 (Antibody Buffer) 6 mLC3 (Detection Antibody, 1 mg/mL)* 5 μLC4 (Color Developer) 5 mLC5 (Stop Solution) 3 mLStandard Control (100 µg/mL)* 10 μL8-Well Sample Strips (with Frame) 4 strips8-Well Standard Control Strips 2 strips* For maximum recovery of the products, centrifuge the original vial prior to opening the cap.

Detection method Colorimetric

Compatible Sample Types

Histone Extract

Features & Benefits

Quick and efficient procedure, which can be finished within 2.5 hours.Innovative colorimetric assay without the need for radioactivity, electrophoresis, and chromatography.Captures histone H3 acetylated at any lysine site with the detection limit as low 2 ng/well and detection range from 5 ng-2 µg/well of histone extracts.The control is conveniently included for the quantification of the amount of acetylated histone H3.Strip microplate format makes the assay flexible: manual or high throughput.Simple, reliable, and consistent assay conditions.