CREATIVE BIOMART®
Assay Kit

Histone H3 (Total) Quantification Kit (Colorimetric)

Product Information

Cat.No. Kit-0453

Product Overview

Histone H3 (Total) Quantification Kit (Colorimetric) is designed for quantifying levels of histone H3 proteins independent of its modified state and can also be used for normalizing the modified histone H3 content of samples when run in parallel with other histone modification quantification kit series.

Description

Histone H3 along with H2A, H2B and H4 is involved in the structure of chromatin in eukaryotic cells. Histone H3 can undergo several different types of epigenetic modifications that influence cellular processes such as transcription activation/ inactivation, chromosome packaging and DNA damage/repair. These modifications, including acetylation, phosphorylation, methylation, ubiquitination, and ADP-ribosylation, occur on the N-terminal tail domains of histone H3 through catalyzing of histone modifying enzymes, which result in remodeling of the nucleosome structure into an open conformation more accessible to transcription complexes. In most species, histone H3 is primarily acetylated at lysine 9, 14, 18, 23, and 56, and methylated at lysine 4, 9, 27, 36 and 79, and phosphorylated at ser10, ser28, Thr3 and Thr11, respectively. Thus, quantitative detection of various histone modifications would provide useful information for better understanding epigenetic regulation of cellular processes and for developing HMT-targeted drugs.

Applications

The Histone H3 (Total) Quantification Kit (Colorimetric) is suitable for specifically measuring total histone H3 using human, mouse and rat samples, including fresh and frozen tissues, and cultured adherent and suspension cells.

Usage

For research use only (RUO)

Storage

Upon receipt:1. Store C3 and Standard control at –20°C.2. Store all other components at 4°C away

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from light. The kit should be stable for 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) 20 mlC2 (Antibody Buffer) 12 mlC3 (Detection Antibody, 1 mg/ml)* 10 µlC4 (Color Developer) 10 mlC5 (Stop Solution) 6 mlStandard Control (100 µg/ml)* 20 µl8 Well Sample Strips (With Frame) 9 strips8 Well Standard Control Strips 3 strips* For maximum recovery of the products, centrifuge the original vial prior to opening the cap.

Features & Benefits

Quick and efficient procedure, which can be finished within 2.5 hours.Innovative colorimetric assay without need for radioactivity, electrophoresis, or chromatography.Specifically captures histone H3 with the detection limit as low as 10 ng/ well and detection range from 20 ng-1 µg/well of histone extracts.The unmodified histone H3 control is conveniently included for quantification of the amount of total histone H3.Strip microplate format makes the assay flexible: manual or high throughput.Simple, reliable, and consistent assay conditions.