CREATIVE BIOMART®
Assay Kit

Histone H3 (Total) Quantification Kit (Fluorometric)

Product Information

Cat.No. Kit-0454

Product Overview

Histone H3 (Total) Quantification Kit (Fluorometric) 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 results 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

For specifically measuring total histone H3 using human, mouse and rat samples including fresh and frozen tissues, cultured adherent and suspension cells.

Usage

For research use only (RUO)

Storage

Upon receipt, store F3, F4 and standard control at –20°C. Store all other components at 4°C away from light.The components of the kit should be stable for 6 months when stored properly.Note:

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Check if buffers F1 and F2 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

F1 (10X wash buffer) 20 mlF2 (antibody buffer) 12 mlF3 (detection antibody, 1 mg/ml)* 10 µlF4 (fluoro developer)* 24 µlF5 (fluoro enhancer)* 24 µlF6 (fluoro dilution) 8 mlStandard control (100 µg/ml)* 20 µl8 well sample strips (with frame) 98 well standard control strips* 3* For maximum recovery of the products, centrifuge the original vial after thawing 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, and chromatography.Specifically captures histone H3 with the detection limit as low as 2 ng/ well and detection range from 10 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.

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