CREATIVE BIOMART®
Assay Kit

Mono-Methyl Histone H3-K27 Quantification Kit (Colorimetric)

Product Information

Cat.No. Kit-0591

Product Overview

Mono-Methyl Histone H3-K27 Quantification Kit (Colorimetric) is use for measuring mono-methylation of histone H3-K27.

Description

Epigenetic activation or inactivation of genes plays a critical role in many important human diseases, especially in cancer. A major mechanism for epigenetic inactivation of the genes is methylation of CpG islands in genome DNA caused by DNA methyltransferases. Histone methyltransferases (HMTs) control or regulate DNA methylation through chromatin-dependent transcription repression or activation. HMTs transfer 1-3 methyl groups from S-adenosyl-L-methionine to the lysine and arginine residues of histone proteins. G9a and polycomb group enzymes such as EZH2 are histone methyltransferases that catalyze methylation of histone H3 at lysine 27 (H3-K27) in mammalian cells. Histone H3-K27 monomethylation, a modification enriched at pericentromeric heterochromatin, was observed to be broadly distributed throughout all euchromatic sites and participates in silencing gene expression. Increased H3-K27 methylation is also found to be involved in some pathological processes such as cancer progression. The H3-K27 mono-methylation can be also changed by inhibition or activation of HMTs. Thus quantitative detection of monomethyl histone H3-K27 would provide useful information for better understanding epigenetic regulation of gene activation/repression and for developing HMTtargeted drugs. The Mono-Methyl Histone H3-K27 Quantification Kit (Colorimetric) provides a tool for measuring mono-methylation of histone H3-K27.

Applications

For specifically measuring histone H3-K27 monomethylation 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

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Upon receipt, store C3 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: 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 redissolved.

Kit Components

C1 (10X wash buffer) 20 mlC2 (antibody buffer) 12 mlC3 (detection antibody, 1 mg/ml)* 10 µlC4 (color developer) 10 µlC5 (stop solution) 6 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 capture mono-methylated H3-K27 with the detection limit as low as 2 ng/well and detection range from 20 ng-5 µg/well of histone extracts.The control is conveniently included for quantification of monomethylated H3-K27.Strip microplate format makes the assay flexible: manual or high throughput.Simple, reliable, and consistent assay conditions.

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