CREATIVE BIOMART®
Assay Kit

Histone Methyltransferase Activity/Inhibition Assay Kit (H3-K4)

Product Information

Cat.No. Kit-0462

Product Overview

Histone Methyltransferase Activity/Inhibition Assay Kit (H3-K4) is use for measuring HMT activity/inhibition.

Description

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. Inhibition of HMTs may lead to expression of the silenced genes, and HMT inhibitors are currently developed for various therapeutic or experimental applications. SET1, SET7/9, Ash1, ALL-1, MLL, ALR, Trx, and SMYD3 are histone methyltransferases that catalyze methylation of histone H3 at lysine 4 (H3-K4) in mammalian cells. H3-K4 methylation may serve as a epigenetic mark in euchromatin and mediates activated transcription. There is only the radioisotopic method currently available for measuring HMT activity/ inhibition, which is time consuming, labor-intensive, and has low throughput or produces radioactive waste. The Histone Methyltransferase Activity/ Inhibition Assay Kit (H3-K4) addresses these problems by using a unique procedure to measure HMT activity/ inhibition.

Applications

Histone Methyltransferase Activity/Inhibition Assay Kit (H3-K4) is very suitable for specifically measuring activity/inhibition of individual histone methyltransferase targeting lysine residues at different sites.

Usage

For research use only (RUO)

Storage

Store HM3, HM4, HM5, HM7, and the Control Enzyme at -20°C away from light.Store all other components at 4°C away from light.The kit is stable for up to 6 months from the shipment date, when stored properly.Note: Check if wash buffer, HM1, contains salt precipitates before using. If so,

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warm (at room temperature or 37°C) and shake the buffer until the salts are re-dissolved.

Kit Components

HM1 (10X Wash Buffer) 22 mLHM2 (Histone Assay Buffer) 3 mLHM3 (Adomet)* 50 μLHM4 (Biotinylated Substrate, 25 µg/mL)* 200 μLHM5 (HMT Standard, 10 µg/mL) 20 μLHM6 (Capture Antibody, 100 µg/mL) 50 μLHM7 (Detection Antibody, 200 µg/mL) 20 μLHM8 (Developing Solution) 12 mLHM9 (Stop Solution) 6 mLControl Enzyme (200 µg/mL)* 10 μL8 well assay strips (with frame) 12 strips* 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 3 hours.Innovative colorimetric assay without the need for radioactivity, electrophoresis, or chromatography.Specific measurement of activity/inhibition of H3-K4 histone methyltransferases.Strip microplate format makes the assay flexible: manual or high throughput analysis.Simple, reliable, and consistent assay conditions.