CREATIVE BIOMART®
Assay Kit

Histone Methyltransferase Activity/Inhibition Assay Kit (H3-K9)

Product Information

Cat.No. Kit-0463

Product Overview

Histone Methyltransferase Activity/Inhibition Assay Kit (H3-K9) is use for measuring HMT activity/inhibition.

Description

Epigenetic 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. Inhibition of HMTs may lead to expression of the silenced genes and HMT inhibitors are currently developed for various therapeutic or experimental applications. ESET, G9a, SUV39-h1, SUV39-h2, SETDB1, Dim-5 and Eu-HMTase are histone methyltransferases that catalyze methylation of histone H3 at lysine 9 (H3-K9) in mammalian cells. H3-K9 methylation mediates heterochromatin formation by forming a binding site for HP1 and also participates in silencing gene expression at euchromatic sites. 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-K9) addresses these problems by using a unique procedure to measure HMT activity/inhibition.

Applications

For specifically measuring activity/inhibition of individual histone methyltransferase targeting to lysine residues at different sites.

Usage

For research use only (RUO)

Storage

Upon receipt, store HK3, HK4, HK5, HK7, and control enzyme at –20°C away from light. Store all other

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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, HK1, contains salt precipitates before using. If so, warm (at room temperature or 37°C) and shake the buffer until the salts are re-dissolved.

Kit Components

HK1 (10X wash buffer) 22 mlHK2 (histone assay buffer) 3 mlHK3 (Adomet)* 50 µlHK4 (biotinylated substrate, 25 µg/ml)* 200 µlHK5 (HMT standard, 10 µg/ml)* 20 µlHK6 (capture antibody, 100 µg/ml)* 50 µlHK7 (detection antibody, 200 µg/ml)* 20 µlHK8 (developing solution) 12 mlHK9 (stop solution) 6 mlControl enzyme (150 µg/ml)* 26 µl8 well assay strip (with frame) 12* For maximum recovery of the products, centrifuge the original vial after thawing prior to opening the cap.

Features & Benefits

Quick and efficient, which can be finished within 3 hours.Innovative colorimetric assay with no need for radioactivity, electrophoresis, and chromatography.Specific measurement of activity/inhibition of H3-K9 histone methyltransferases.Strip microplate format makes the assay flexible: manual or high throughput analysis.Simple, reliable, and consistent assay conditions.