CREATIVE BIOMART®
Assay Kit

Histone Demethylase (H3-K4 Specific) Activity/Inhibition Assay Kit

Product Information

Cat.No. Kit-0445

Product Overview

Histone Demethylase (H3-K4 Specific) Activity/Inhibition Assay Kit is use for measuring activity/inhibition of H3-K4 specific histone demethylases using cell/tissue extracts.

Description

Lysine histone methylation is one of the most robust epigenetic marks and is essential for the regulation of multiple cellular processes. The methylation of H3- K4 seems to be of particular significance, as it is associated with active regions of the genome. H3-K4 methylation was considered irreversible until the identification of a large number of histone demethylases indicated that demethylation events play an important role in histone modification dynamics. So far at least 2 classes of H3-K4 specific histone demethylase, LSD1 and JARIDs have been identified. LSD1 can remove di- and mono-methylation from H3-K4 by using an amine oxidase reaction, while JARIDs such as RBP2, PLU-1, SMCX, and SMCY catalyzes the removal of methylation by using a hydroxylation reaction and required iron and a-ketoglutarate as cofactors. H3-K4 specific demethylases are found to be involved in some pathological processes such as cancer progression. Inhibition of the enzymes may lead to re-methylation of H3-K4 and silencing of H3-K4 enriched active genes, there is few methods currently available for measuring activity/inhibition of H3-K4 specific methylases using a variety of cells/tissues. The Histone Demethylase (H3-K4 Specific) Activity/Inhibition Assay Kit uses a proprietary and unique procedure to measure activity/inhibition of H3-K4 specific histone demethylases using cell/ tissue extracts.

Applications

The Histone Demethylase (H3-K4 Specific) Activity/Inhibition Assay Kit is very suitable for measuring Histone Demethylase (H3-K4 Specific) Activity/Inhibition from a broad range of species including mammalian cells/tissues, plants, and bacteria.

Usage

For research use only (RUO)

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Storage

Upon receipt: (1) Store HD3, HD4, HD6 and HD7 at –20°C away from light; (2) 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, HD1, 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

HD1 (10X Wash Buffer) 30 mLHD2 (HDM Assay Buffer) 3 mLHD3 (HDM Substrate)* 100 μLHD4 (HDM Standard, 20 μg/mL)* 50 μLHD5 (Capture Antibody, 1000 μg/mL*) 10 μLHD6 (Detection Antibody, 200 μg/mL)* 16 μLHD7 (Fluoro Developer)* 24 μLHD8 (Fluoro Enhancer)* 24 μLHD9 (Fluoro Dilution) 8 mL8-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

Fast procedure, which can be finished within 3 hours.Innovative fluorescent assay without need for radioactivity, extraction, and chromatography.Direct measurement of HDM (H3-K4 specific) activity and inhibition without interference by thiol-containing chemicals such as DTT, GSH and 2-mercaptoethanol.Strip microplate format makes the assay flexible: manual or high throughput analysis.Simple, reliable, and consistent assay conditions.

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