CREATIVE BIOMART®
Assay Kit

Histone Demethylase (H3-K9 Specific) Activity/Inhibition Fast Assay Kit

Product Information

Cat.No. Kit-0446

Product Overview

Histone Demethylase (H3-K9 Specific) Activity/Inhibition Fast Assay Kit is use for measuring activity/inhibition of H3-K9 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- K9 seems to be of particular significance, as it is associated with active regions of the genome. H3-K9 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-K9 specific histone demethylase - JMJD1 (JHDM2) and JMJD3 (JHDM3) - have been identified. JMJD1 family (including JMJD1A, JMJD1B, and JMJD1C) can remove di- and mono-methylation from H3-K9; while the JMJD2 family (including JMJD2A, JMJD2B, JMJD2C, and JMJD2D) can remove tri-methylation from H3-K9. Both, JMJD1 and JMJD2, catalyze the removal of methylation by using hydroxylation reaction with a required iron and a-ketoglutarate as cofactors. Lastly, H3-K9 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-K9 and activation of H3-K9 enriched repression genes. Currently, there are few methods available for measuring activity/inhibition of H3-K9 specific methylases using a variety of cells/ tissues.

Applications

The Histone Demethylase (H3-K9 Specific) Activity/Inhibition Fast Assay Kit is very suitable for measuring Histone Demethylase (H3-K9 Specific) Activity/Inhibition from a broad range of species including mammalian cells/tissues, plants, and bacteria.

Usage

For research use only (RUO)

Storage

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Fax:1-631-938-8127
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Upon receipt: (1) Store HL2 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: Tightly cap HL4 (Fluoro-Developer) after each use.

Kit Components

HL1 (HDM Assay Buffer) 4 mLHL2 (HDM Substrate)* 100 μLHL3 (HDM Standard, 10 mM)* 50 μLHL4 (Fluoro-Developer) 8 mLHL5 (Fluoro-Enhancer) 8 mLHDM Cofactor 1* 50 μLHDM Cofactor 2* 50 μLHDM Cofactor 3* 50 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

Fast one-step assay, which can be finished within 1.5 hours.Innovative fluorescent assay without need for radioactivity, extraction, and chromatography.Measurement of HDM (H3-K9 specific) activity and inhibition through quantifying by-product of the enzyme reaction, which makes the assay highly sensitive.Strip microplate format makes the assay flexible: manual or high throughput analysis.Simple, reliable, and consistent assay conditions.

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