CREATIVE BIOMART®
Assay Kit

DNA Methyltransferase 1 Activity/Inhibitor Screening Assay Core Kit

Product Information

Cat.No. Kit-0300

Product Overview

DNA Methyltransferase 1 Activity/Inhibitor Screening Assay Core Kit is used for screening Dnmt 1 inhibitors.

Description

Epigenetic inactivation of genes plays a critical role in many important human diseases, especially in cancer. A core mechanism for epigenetic inactivation of the genes is methylation of CpG islands in genome DNA. Methylation of CpG islands involves the course in which DNA methyltransferases (Dnmts) transfer a methyl group from S-adenosyl-L-methionine to the fifth carbon position of the cytosines. Four active Dnmts have been identified in mammals. They are named Dnmt1, Dnmt2, Dnmt3A, and Dnmt3B. Dnmt1 methylates cytosine residues, preferably in hemimethylated DNA. Mammalian Dnmt1 is believed to be involved in carcinogenesis, embryonic development, and several other biological functions. Hypermethylation by Dnmt1 is believed to inactivate the tumor suppressor genes leading to neoplastic transformation. The selective inhibition of Dnmt1 may lead to demethylation and expression of the silenced tumor suppressor genes. Thus, selective Dnmt1 inhibitors could be a new addition to cancer therapeutic agents.

Applications

The DNA Methyltransferase 1 Activity/Inhibitor Screening Assay Core Kit is suitable for screening Dnmt 1 inhibitors which directly interact with Dnmt1. This "core" kit does not come with Dnmt1 enzymes.

Usage

For research use only (RUO)

Storage

(1) Store MO3, MO6, and Enhancer Solution at -20°C away from light;(2) Store MO1, MO2, MO5, MO7, and 8-Well Substrate-Coated Strips at 4°C.(3) Store MO8 at room temperature. The kit is stable for up to 6 months from the shipment date, when stored properly.Note: Check if wash buffer, MO1,

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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

MO1 (10x Wash Buffer) 11 mlMO2 (Dnmt Assay Buffer) 2 mlMO3 (Adomet, 8 mM)* 35 µlMO5 (Capture Antibody)* 5 µlMO6 (Detection Antibody)* 10 µlMO7 (Developing Solution) 6 mlMO8 (Stop Soultionr) 3 mlEnhancer Solution 6 µl8-well Substrate-Coated Strips (with frame) 6* For maximum recovery of the products, centrifuge the original vial after thawing prior to opening the cap.

Features & Benefits

Extremely fast procedure, which can be completed within 3.5 hours.Innovative colorimetric assay without radioactivity, extraction, and chromatography.Strip microplate format makes the assay flexible: manual or high throughput analysis.Simple, reliable, and consistent assay conditions.