CREATIVE BIOMART®
Assay Kit

Histone H3-K4 Methylation Assay Kit

Product Information

Cat.No. Kit-0457

Product Overview

Histone H3-K4 Methylation Assay Kit is use for measuring methylation of histone H3-K4.

Description

Epigenetic activation or 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. 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. Increased H3-K4 methylation is also found to be involved in some pathological processes such as cancer progress. There are only a few methods such as western blot used for measuring histone H3-k4 methylation. The methods available so far are time consuming, labor intensive, or have low throughput. The Histone H3-K4 Methylation Assay Kit addresses these problems by using a unique procedure to measure methylation of histone H3-K4.

Applications

For specifically measuring histone H3-K4 methylation using a variety of mammalian cells including fresh and frozen tissues, and cultured adherent and suspension cells.

Usage

For research use only (RUO)

Storage

Upon receipt: (1) Store GD8 and Methylated H3-K4 Control at –20°C; (2) Store GD3, GD5, GD7, GD9, and 8-Well Assay Strips at 4°C away from light; (3) Store all other components at room temperature. The kit is stable for up to 6 months from the shipment date, when stored properly.Note: Check if

Tel: 1-631-559-9269 1-516-512-3133
Email:info@creative-biomart.org
Fax:1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

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wash buffer, GD3, 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

GD1 (10X Lysis buffer) 10 mlGD2 (Extraction buffer) 16 mlGD3 (10X wash buffer) 28 mlGD4 (Histone buffer) 1 mlGD5 (Blocking buffer) 20 mlGD6 (Antibody buffer) 12 mlGD7 (Capture antibody, 100 µg/ml)* 50 µlGD8 (Detection antibody, 400 µg/ml)* 20 µlGD9 (Developing solution) 10 mlGD10 (Stop solution) 6 mlMethylated H3-K4 control (60 µg/ml)* 20 µl8-Well Assay Strip (with frame) 12* For maximum recovery of the products, centrifuge the original vial prior to opening the cap.

Features & Benefits

Quick and efficient procedure, which can be finished within 5 hours.Innovative colorimetric assay with no need for radioactivity, electrophoresis, or chromatography.Strip microplate format makes the assay flexible: manual or high throughput.Simple, reliable, and consistent assay conditions.