CREATIVE BIOMART®
Assay Kit

Di-Methyl Histone H4K20 Quantification Kit (Colorimetric)

Product Information

Cat.No. Kit-0289

Product Overview

Di-Methyl Histone H4K20 Quantification Kit (Colorimetric) is used for measuring di-methylation of histone H4K20.

Description

Epigenetic activation or inactivation of genes play 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 transcriptional repression or activation. HMTs transfer 1-3 methyl groups from S-adenosyl-L-methionine to the lysine and arginine residues of histone proteins. PR-SET7, SET9, SUV4.20h, and ASH1are histone methyltransferases that catalyze methylation of histone H4 at lysine 20 (H4K20) in mammalian cells. Di-methylation of H4K20 has been de-scribed as another repressive chromatin domain and is involved in DNA damage response. The H4K20 di-methylation can also be changed by inhibiton or activation of HMTs, making quantitative detection of di-methyl histone H4K20 a useful tool for better understanding epigenetic regulation of gene activation/repression. This information is also useful for developing HMT-targeted drugs. Di-Methyl Histone H4K20 Quantification Kit (Colorimetric) provides a tool for measuring di-methylation of histone H4K20.

Applications

Di-Methyl Histone H4K20 Quantification Kit (Colorimetric) is suitable for specifically measuring histone H4K20 di-methylation using a variety of mammalian cells (human, mouse, etc.) including fresh and frozen tissues, cultured adherent and suspension cells.

Usage

For research use only (RUO)

Storage

Upon receipt, store standard control at –20°C. Store all other components at 4°C away from light.

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The components of the kit are stable for up to 6 months from date of shipment when stored properly.Note: Check if buffers C1 and C2 contain salt precipitates before using. If so, warm (at room temperature or 37°C) and shake the buffers until the salts are re-dissolved.

Kit Components

C1 (10X wash buffer) 10 mlC2 (antibody buffer) 6 mlC3 (detecting antibody, 1 mg/ml)* 5 µlC4 (color developer) 5 mlC5 (stop solution) 3 mlStandard control (100 µg/ml)* 10 µlSignal report solution* 5 µlSignal enhancer* 120 µl8 well sample strips (with frame) 48 well standard control strips 2* For maximum recovery of the products, centrifuge the original vial prior to opening the cap.

Detection method Colorimetric

Compatible Sample Types

Histone Extract

Features & Benefits

Quick and efficient procedure, which can be finished within 2.5 hours.Innovative colorimetric assay without the need for radioactivity, electrophoresis, or chromatography.Specifically captures di-methylated H4K20 with the detection limit as low as 5 ng/well and detection range from 20 ng-2 µg/well of histone extracts.The control is conveniently included for quantification of di-methylated H4K20.Strip microplate format makes the assay flexible: manual or high throughput.Simple, reliable, and consistent assay conditions.

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