CREATIVE BIOMART®
Assay Kit

# Di-Methyl Histone H3-K9 Quantification Kit (Fluorometric)

## Product Information

**Cat.No.** Kit-0288

**Product Overview**

Di-Methyl Histone H3-K9 Quantification Kit (Fluorometric) is use for measuring di-methylation of histone H3-K9.

**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. ESET, G9a, SUV39-h1, SUV39- h2, SETDB1, Dim-5 and Eu-HMTase are histone methyltransferases that catalyze methylation of histone H3 at lysine 9 (H3-K9) in mammalian cells. H3-K9 dimethylation mediates heterochromatin formation by forming a binding site for HP1 and also participates in silencing gene expression at euchromatic sites. Increased H3-K9 methylation is also found to be involved in some pathological processes such as cancer progression. The H3-K9 di-methylation can also be changed by inhibition or activation of HMTs. Thus quantitative detection of di-methyl histone H3-K9 would provide useful information for better understanding epigenetic regulation of gene activation/silencing and for developing HMT-targeted drugs. The Di-Methyl Histone H3-K9 Quantification Kit (Colorimetric) provides a tool for measuring dimethylation of histone H3-K9.

**Applications**

For specifically measuring histone H3-K9 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**

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Upon receipt, store F3, F4 and Standard control at –20°C. Store all other components at 4°C away from light.The components of the kit are stable for up to 6 months from date of shipment when stored properly.Note: Check if buffers F1 and F2 contain salt precipitates before using. If so, warm (at room temperature or 37°C) and shake the buffers until the salts are redissolved.

## Kit Components

F1 (10X wash buffer) 20 mlF2 (antibody buffer) 12 mlF3 (detection antibody, 1 mg/ml)* 10 µlF4 (fluoro-developer)* 24 µlF5 (fluoro enhancer)* 24 µlF6 (fluoro-dilution) 8 mlStandard control (100 µg/ml)* 20 µl8 well sample strips (with frame) 98 well standard control strips* 3* For maximum recovery of the products, centrifuge the original vial after thawing prior to opening the cap.

## Features & Benefits

Quick and efficient procedure, which can be finished within 2.5 hours.Innovative fluorometric assay with no need for radioactivity, electrophoresis, and chromatography.Specifically capture di-methyl H3-K9 with the detection limit as low as 0.2 ng/well and detection range from 5 ng-2 µg/well of histone extracts.The control is conveniently included for quantification of the amount of di-methylated H3-K9.Strip microplate format makes the assay flexible: manual or high throughput. Simple, reliable, andconsistent assay conditions.

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