



# Mono-Methyl Histone H3-K9 Quantification Kit (Colorimetric)

## Product Information

### Cat.No.

Kit-0599

### Product Overview

Mono-Methyl Histone H3-K9 Quantification Kit (Colorimetric) is use for measuring mono-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, mono-methyl H3-K9 is enriched in certain euchromatic domains, which have been postulated to be transcriptionally silent. The H3-K9 mono-methylation can be also changed by inhibition or activation of HMTs. Thus quantitative detection of mono-methyl histone H3-K9 would provide useful information for better understanding epigenetic regulation of gene activation/silencing and for developing HMT-targeted drugs. The Mono-Methyl Histone H3-K9 Quantification Kit (Colorimetric) provides a tool for measuring mono-methylation of histone H3-K9.

### Applications

For specifically measuring histone H3-K9 monomethylation 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 C3 and Standard control at  $-20^{\circ}\text{C}$ . Store all other components at  $4^{\circ}\text{C}$  away



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from light. The components of the kit should be stable for 6 months 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 redissolved.

### Kit Components

C1 (10X wash buffer) 20 ml C2 (antibody buffer) 12 ml C3 (detection antibody, 1 mg/ml)\* 10 µl C4 (color developer) 10 ml C5 (stop solution) 6 ml Standard control (100 µg/ml)\* 20 µl 8 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 colorimetric assay without need for radioactivity, electrophoresis, and chromatography. Specifically capturing mono-methylated H3-K9 with the detection limit as low as 2 ng/well and detection range from 20 ng-5 µg/well of histone extracts. The control is conveniently included for quantification of the amount of mono-methylated H3-K9. Strip microplate format makes the assay flexible: manual or high throughput. Simple, reliable, and consistent assay conditions.