

# Histone H3-K4 Methylation Assay Kit

Cat. No. Kit-0457 Lot. No. (See product label)

## SPECIFICATION

<b>Product Overview</b>	Histone H3-K4 Methylation Assay Kit is use for measuring methylation of histone H3-K4.
<b>Description</b>	<p>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.</p>
<b>Applications</b>	For specifically measuring histone H3-K4 methylation using a variety of mammalian cells including fresh and frozen tissues, and cultured adherent and suspension cells.
<b>Usage</b>	For research use only (RUO)

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**Storage**

Upon receipt: (1) Store GD8 and Methylated H3-K4 Control at  $-20^{\circ}\text{C}$ ; (2) Store GD3, GD5, GD7, GD9, and 8-Well Assay Strips at  $4^{\circ}\text{C}$  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 wash buffer, GD3, contains salt precipitates before using. If so, warm (at room temperature or  $37^{\circ}\text{C}$ ) and shake the buffer until the salts are re-dissolved.

**Kit Components**

GD1 (10X Lysis buffer) 10 ml  
GD2 (Extraction buffer) 16 ml  
GD3 (10X wash buffer) 28 ml  
GD4 (Histone buffer) 1 ml  
GD5 (Blocking buffer) 20 ml  
GD6 (Antibody buffer) 12 ml  
GD7 (Capture antibody, 100  $\mu\text{g/ml}$ )\* 50  $\mu\text{l}$   
GD8 (Detection antibody, 400  $\mu\text{g/ml}$ )\* 20  $\mu\text{l}$   
GD9 (Developing solution) 10 ml  
GD10 (Stop solution) 6 ml  
Methylated H3-K4 control (60  $\mu\text{g/ml}$ )\* 20  $\mu\text{l}$   
8-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.

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