



## Tri-Methyl Histone H4K20 Quantification Kit (Fluorometric)

### Product Information

---

#### Cat.No.

Kit-0829

---

### Product Overview

---

Tri-Methyl Histone H4K20 Quantification Kit (Fluorometric) is used for measuring tri-methylation of histone H4K20.

---

### 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 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 ASH1 are histone methyltransferases that catalyze methylation of histone H4 at lysine 20 (H4K20) in mammalian cells. Tri-methylation of H4K20 acts as a passive feature or structure determinant for chromatin degradation and release, as well as being an Epigenetic marker of early apoptosis. Tri-methylation of H4K20 is also considered as a common hallmark of human cancer. The H4K20 tri-methylation can be changed by inhibition or activation of HMTs. Therefore, quantitative detection of tri-methyl histone H4K20 would provide useful information for better understanding Epigenetic regulation of tumorigenesis and apoptosis, as well as for developing HMT-targeted drugs. Tri-Methyl Histone H4K20 Quantification Kit (Colorimetric) provides a tool for measuring tri-methylation of histone H4K20.

---

### Applications

---

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

---

### Usage

---



## Tri-Methyl Histone H4K20 Quantification Kit (Fluorometric)

For research use only (RUO)

### Storage

Upon receipt, store F4 and Standard control at  $-20^{\circ}\text{C}$ . Store all other components at  $4^{\circ}\text{C}$  away from light. The components of the kit should be stable for 6 months when stored properly. Note: Check if buffers F1 and F2 contain salt precipitates before using. If so, warm (at room temperature or  $37^{\circ}\text{C}$ ) and shake the buffers until the salts are redissolved.

### Kit Components

F1 (10X wash buffer) 10 ml F2 (antibody buffer) 6 ml F3 (detecting antibody, 1 mg/ml)\* 5  $\mu\text{l}$  F4 (fluoro developer)\* 12  $\mu\text{l}$  F5 (fluoro enhancer)\* 12  $\mu\text{l}$  F6 (fluoro dilution) 4 ml Standard control (100  $\mu\text{g}/\text{ml}$ )\* 10  $\mu\text{l}$  Signal report solution\* 5  $\mu\text{l}$  Signal enhancer\* 120  $\mu\text{l}$  8 well sample strips (with frame) 48 well standard control strips 2 User guide 1\* For maximum recovery of the products, centrifuge the original vial prior to opening the cap.

**Detection method** Fluorometric

### Compatible Sample Types

Histone Extract

### Features & Benefits

Quick and efficient procedure, which can be finished within 2.5 hours. Innovative fluorometric assay with no need for radioactivity, electrophoresis, or chromatography. Specifically capture tri-methylated H4K20 with the detection limit as low as 1 ng/well and detection range from 10 ng-2  $\mu\text{g}/\text{well}$  of histone extracts. The control is conveniently included for quantification of tri-methylated H4K20. Strip microplate format makes the assay flexible: manual or high throughput. Simple, reliable, and consistent assay conditions.