Mono-Methyl Histone H4K20 Quantification Kit (Fluorometric)

Cat. No. Kit-0602 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Mono-Methyl Histone H4K20 Quantification Kit (Fluorometric) is used for measuring mono-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 ASH1are histone methyltransferases that catalyze methylation of histone H4 at lysine 20 (H4K20) in mammalian cells. H4K20 mono-methylation is involved in the maintenance of the proper higher order structure of DNA and is consequently essential for chromosome condensation, it also functions in gene silencing. The H4K20 mono-methylation can also be changed by inhibition or activation of HMTs, making quantitative detection of mono-methyl histone H4K20 useful in developing a better understanding of epigenetic regulation of gene activation/repression and for developing HMT-targeted drugs. The Mono-Methyl Histone H4K20 Quantification Kit (Colorimetric) provides a tool for measuring Mono-methylation of histone H4K20.
Applications	The Mono-Methyl Histone H4K20 Quantification Kit (Fluorometric) is suitable for specifically measuring histone H4K20 mono-methylation using a variety of mammalian cells (human, mouse, etc.), including fresh and frozen tissues, and cultured adherent and suspension cells.

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Usage	For research use only (RUO)
Storage	Upon receipt, store F4 and standard control at –20°C. Store all other components at 4°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°C) and shake the buffers until the salts are re-dissolved.
Kit Components	F1 (10X wash buffer) 10 mlF2 (antibody buffer) 6 mlF3 (detecting antibody, 1 mg/ml)* 5 µlF4 (fluoro developer)* 12 µlF5 (fluoro enhancer)* 12 µlF6 (fluoro dilution) 4 mlStandard control (100 ng/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	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 mono-methylated H4K20 with the detection limit as low as 1 ng/well and a detection range from 10 ng-2 ng/well of histone extracts.The control is conveniently included for quantification of mono-methylated H4K20.Strip microplate format makes the assay flexible: manual or high throughput.Simple, reliable, and consistent assay conditions.

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