Tri-Methyl Histone H3-K79 Quantification Kit (Fluorometric)

Cat. No. Kit-0825 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Tri-Methyl Histone H3-K79 Quantification Kit (Fluorometric) is use for measuring tri-methylation of histone H3-K79.
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. Dot1 is a histone methyltransferase that catalyzes methylation of histone H3 at lysine 79 (H3-K79) in mammalian cells. H3-K79 tri-methylation is widespread histone modification and associated with transcriptionally active genes.Increased H3-K79 trimethylation is also found to be involved in some pathological processes such as leukemogenesis in human. The H3-K79 tri-methylation can be also changed by inhibiton or activation of HMTs. Thus quantitative detection of tri-methyl histone H3-K79 would provide useful information for better understanding epigenetic regulation of gene activation and for developing HMT targeted drugs. The Tri-Methyl Histone H3-K79 Quantification Kit (Colorimetric) provides a tool for measuring tr-methylation of histone H3- K79.
Applications	For specifically measuring histone H3-K79 trimethylation using a variety of mammalian cells (human, mouse, etc.) including fresh and frozen tissues, cultured adherent and suspension cells.

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Usage	For research use only (RUO)
Storage	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 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 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 ng/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 capturing tri-methylated H3-K79 with the detection limit as low as 0.4 ng/well and detection range from 5 ng-2 ng/well of histone extracts.The control is conveniently included for quantification of the amount of tri-methylated H3-K79.Strip microplate format makes the assay flexible: manual or high throughput.Simple, reliable, and consistent assay conditions.

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