Total Histone H3 Acetylation Detection Fast Kit (Fluorometric)

Cat. No. Kit-0442 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Total Histone H3 Acetylation Detection Fast Kit (Fluorometric) is used for measuring total acetylation of histone H3.
Description	Acetylation of histones, including histone H3, have been involved in the regulation of chromatin structure and the recruitment of transcription factors to gene promoters. Histone acetyltransferases (HATs) and histone deacetylases (HDACs) play a critical role in controlling histone H3 acetylation. Histone acetylation is tightly involved in cell cycle regulation, cell proliferation, and apoptosis. An imbalance in the equilibrium of histone acetylation has been associated with tumorigenesis and cancer progression. Histone H3 acetylation may be increased by inhibition of HDACs and decreased by HAT inhibition. The reversible lysine acetylation of histone H3 may play a vital role in the regulation of many cellular processes including chromatin dynamics and transcription, gene silencing, cell cycle progression, apoptosis, differentiation, DNA replication, DNA repair, nuclear import, and neuronal repression. Detecting if histone H3 is acetylated at its lysine residue would provide useful information for further characterizing the acetylation patterns or sites, thereby leading to a better understanding of epigenetic regulation of gene activation, and development of HAT or HDAC-targeted drugs.
Applications	The Total Histone H3 Acetylation Detection Fast Kit (Fluorometric) is suitable for specifically measuring total histone H3 acetylation 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: (1) Store F3, F4, and the Standard Control at –20°C away from light; (2) Store all other components at 4°C away from light. The kit is stable for up to 6 months from the shipment date, 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) 10 mlF2 (Antibody Buffer) 6 mlF3 (Detection Antibody, 1 mg/ml)* 5 ul F4 (Fluoro-Developer)* 12 ulF5 (Fluoro-Enhancer)* 12 ulF6 (Fluoro-Dilution) 4 mlStandard Control (100 ug/ml) 10 ul8-Well 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 without the need for radioactivity, electrophoresis, and chromatography.Captures histone H3 acetylated at any lysine site with the detection limit as low as 0.4 ng/well and detection range from 5 ng-2 µg/well of histone extracts.The control is conveniently included for the quantification of the amount of acetylated histone H3.Strip microplate format makes the assay flexible: manual or high throughput.Simple, reliable, and consistent assay conditions.

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