DNMT Activity/Inhibition Fluorometric Assay Ultra Kit

Cat. No. Kit-0307 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	DNMT Activity/Inhibition Assay Ultra Kit (Fluorometric) is use for screening DNMT inhibitors.
Description	DNA methylation occurs by a covalent addition of a methyl group at the 5-carbon of the cytosine ring, resulting in 5-methylcytosine. These methyl groups project into the major grooves of DNA and inhibit transcription. In human DNA, 5-methylcytosine is found in approximately 1.5% of genomic DNA, primarily at CpG sites. There are clusters of CpG sites at 0.3 to 2 kb stretches of DNA known as CpG islands that are typically found in or near promoter regions of genes, where transcription is initiated. In the bulk of genomic DNA, most CpG sites are heavily methylated. However, CpG islands in germ-line tissue and promoters of normal somatic cells remain unmethylated, allowing gene expression to occur. When a CpG island in the promoter region of a gene is methylated, the expression of the gene is repressed. The repression can be caused by directly inhibiting the binding of specific transcription factors, and indirectly by recruiting methyl-CpG-binding proteins and their associated repressive chromatin remodeling activity. In addition to the effect on gene transcription, DNA methylation is also involved in genomic imprinting, which refers to a parental origin specific expression of a gene, and the formation of a chromatin domain.
Applications	DNMT Activity/Inhibition Assay Ultra Kit (Fluorometric) is suitable for measuring total DNMT activity or inhibition using nuclear extracts or purified enzymes from a broad range of species such as mammalians, plants, fungi, bacteria, and viruses in a variety of forms including, but not limited to, cultured cells and fresh and frozen tissues.

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	Nuclear extracts can be prepared by using your own successful method.
Usage	For research use only (RUO)
Storage	Upon receipt: (1) Store MK3, MK4, MK6, MK7 and MK8 at -20°C away from light; (2) Store MK1, MK5, MK9, and the 8-Well Assay Strips at 4°C away from light; (3) Store all remaining components (MK2, MK10, and the Adhesive Covering Film) at room temperature away from light.All components of the kit are stable for 6 months from the date of shipment, when stored properly.Note: (1) Check if MK1 (10X Wash Buffer) contains salt precipitates before use. If so, warm (at room temperature or 37°C) and shake the buffer until the salts are re-dissolved.
Kit Components	MK1 (10X Wash Buffer) 14 ml 4°CMK2 (DNMT Assay Buffer) 4 ml RTMK3 (Adomet, 50X)* 60 µ-20°CMK4 (DNMT Enzyme Control, 50 g/ml)* 6 µ-20°CMK5 (Capture Antibody, 1000 g/ml)* 5 µ4°CMK6 (Detection Antibody, 400 g/ml)* 6 µ-20°CMK7 (Enhancer Solution)* 6 µ-20°CMK8 (Fluoro Developer)* 6 µ-20°CMK9 (Fluoro Enhancer)* 6 µ4°CMK10 (Fluoro Dilutor) 4 ml RT8-Well Assay Strips (With Frame) 6 4°CAdhesive Covering Film 1 RT* Spin the solution down to the bottom prior to use.
Detection method	Fluorometric
Compatible Sample Types	Nuclear Extract, Purified Enzyme

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