PRMT5(C449S)/MEP50 Complex (Protein Arginine Methyltransferase 5/Methylosome Protein 50)

**PRODUCT DATA SHEET**

**CATALOG NO.:** HMT-22-434  **LOT NO.:**

**DESCRIPTION:** Mutant human recombinant PRMT5 (residues 2-637 (C-terminus) with cysteine substituted for serine-449; Genbank Accession # NM_006109; N-terminal Strep and Flag-tags; MW = 73.7) in complex with human recombinant MEP50 (residues 2-342 (C-term.), NM_024102; MW = 39.9 kDa). Produced by co-expression in an insect cell/baculovirus expression system. PRMT5, a type II arginine methyltransferase, catalyzes the transfer of a methyl group from S-adenosyl-L-methionine (SAM) to an ω-nitrogen of the guanidine function of protein L-arginine residues (ω-monomethylation) and the transfer of a second methyl group to the other ω-nitrogen, yielding symmetric dimethylarginine (sDMA)². Structural studies show the PRMT5/MEP50 complex to consist of four heterodimers. PRMT5 catalytic activity is weak when not complexed with MEP50, which may be due to MEP50’s role in substrate binding. A component of multiple macromolecular complexes (e.g. 20S Methylosome, Swi/Snf), PRMT5/MEP50 is located in both the nucleus and cytoplasm, modifies a variety of substrates (e.g. histones, histone variants, transcription factors, RNA binding proteins), and regulates a variety of processes including gene expression, cell growth and differentiation (see reviews). Its pro-proliferative effects and their association with multiple cancers (lung, breast, ovarian, lymphoid) has led to increasing interest in PRMT5 as a target for anti-cancer therapy.

**ASSAY CONDITIONS:** RBC’s PRMT5(C449S)/MEP50 Complex displays substantial methyltransferase activity from [³²H]-SAM to several protein substrates (histone H2A, histone H4, GST-GAR); see Figure, below. Activity was determined as TCA-precipitated counts in a scintillation/filter plate assay (Multiscreen FB, Topcount). Reaction conditions: 50 mM Tris·HCl, pH 8.5, 50 mM NaCl, 5 mM MgCl₂, 1 mM DTT, 30°C, 60 min. with substrates as indicated.

**SUPPLIED AS:** __µg/µl total protein in 50 mM Tris·HCl, pH 8.0, 110 mM NaCl, 2.2 mM KCl, 3 mM TCEP, 20% (v/v) glycerol as determined by OD280

**STORAGE:** -70°C. Thaw quickly and store on ice before use. The remaining, unused, undiluted enzyme should be refrozen quickly by, for example, snap freezing in a dry/ice ethanol bath or liquid nitrogen. Freezing and storage of diluted enzyme is not recommended.


This product is NOT intended for therapeutic or diagnostic use in animals or in humans.

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