

PRMT6 Protein, Human (HEK293, His-Flag)

Cat. No.:	HY-P75983
Synonyms:	Protein arginine N-methyltransferase 6; PRMT6; HRMT1L6
Species:	Human
Source:	HEK293
Accession:	Q96LA8 (M1-D375)
Gene ID:	55170
Molecular Weight:	43-46 kDa

PROPERTIES

Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μ m filtered solution of PBS, pH 7.5. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/ μ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μ g/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

PRMT6, a versatile arginine methyltransferase, demonstrates the capability to catalyze the formation of omega-N monomethylarginine (MMA) and asymmetrical dimethylarginine (aDMA), exhibiting a strong preference for aDMA formation. It predominantly methylates arginyl residues within a glycine and arginine-rich domain and shows a bias toward monomethylated substrates. Notably, PRMT6 orchestrates the asymmetric dimethylation of histone H3 'Arg-2,' leading to the creation of H3R2me2a, a distinctive epigenetic tag associated with transcriptional repression. This modification is mutually exclusive with methylation on histone H3 'Lys-4' (H3K4me2 and H3K4me3). PRMT6 serves as a transcriptional repressor for various genes, including HOXA2, THBS1, and TP53, where repression of TP53 impedes cellular senescence. Additionally, PRMT6 methylates histone H2A and H4 'Arg-3' (H2AR3me and H4R3me) and acts as a regulator of DNA base excision during repair by methylating DNA polymerase beta (POLB), enhancing its polymerase activity. It functions as a transcriptional coactivator for steroid hormone receptors, participating in gluconeogenic program activation and regulating alternative splicing events. PRMT6 also plays a role in innate immunity against HIV-1 by methylating and impairing the function of various HIV-1 proteins. Furthermore, it methylates GPS2, providing protection from ubiquitination and degradation, and targets SIRT7, inhibiting its histone deacetylase activity and promoting mitochondria biogenesis.

Caution: Product has not been fully validated for medical applications. For research use only.

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