

Recombinant PRMT1 protein

Catalog No: 31411, 31811**Lot No:** 10918003**Expressed In:** Baculovirus**Quantity:** 20 µg**Concentration:** 0.2 µg/µl**Source:** Human

Buffer Contents: Recombinant PRMT1 protein is supplied in 25 mM HEPES-NaOH pH 7.5, 300 mM NaCl, 10% glycerol, 0.04% Triton X-100, and 0.5 mM TCEP.

Background: PRMT1 (protein arginine N-methyltransferase 1) is a member of the protein arginine N-methyltransferase (PRMT) family capable of monomethylating and asymmetrically dimethylating arginine residue in proteins such as ESR1, histone H2, H3 and H4, PIAS1, HNRNPA1, HNRNPD, NFATC2IP, SUPT5H, TAF15 and EWS. PRMT1 specifically methylates arginine 3 on histone H4 (H4R3), a specific tag for epigenetic transcriptional activation. Together with dimethylated PIAS1, PRMT1 represses STAT1 transcriptional activity in the late phase of interferon gamma (IFN-gamma) signaling. PRMT1 may be involved in the regulation of TAF15 transcriptional activity and may act as an activator of estrogen receptor (ER)-mediated transactivation. It may also play a key role in neurite outgrowth and act as a negative regulator of megakaryocytic differentiation by modulating p38 MAPK pathways.

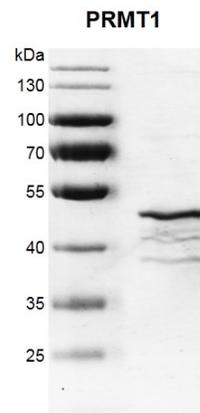
Protein Details: Recombinant PRMT1 was expressed in a baculovirus expression system as the full length protein (accession number NP_938074.2) with an N-terminal FLAG tag. The molecular weight of PRMT1 is 42 kDa.

Application Notes: Recombinant PRMT1 is suitable for use in the study of enzyme kinetics, inhibitor screening, and selectivity profiling.

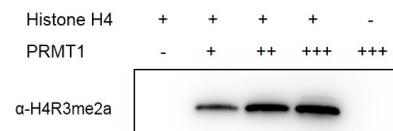
HMT Assay Conditions: 0.5 µg Histone H4 (Cat. No. 31493) was incubated with 0 µg (-), 0.05 µg (+), 0.1 µg (++), 0.2 µg (+++) PRMT1 in 30 µl reaction system containing 50 mM Tris-HCl pH 8.6, 2 mM MgCl₂, 1 mM TCEP, 0.02% Triton X-100 and 25 µM SAM for 2 hours at room temperature. 7 µl sample of each reaction was run on a 13% SDS-PAGE gel, and products were detected by Western blot. H4R3me2a (asymmetric) antibody (Cat. No. 39705) was used to recognize the dimethyl-Arg3 (asymmetric) of histone H4.

Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is guaranteed for 6 months from date of receipt.

This product is for research use only and is not for use in diagnostic procedures.



Recombinant PRMT1 protein gel. PRMT1 protein was run on a 10% SDS-PAGE gel and stained with Coomassie blue.



Western blot for PRMT1 methyltransferase activity

0.5 µg Histone H4 was incubated with 0 µg (-), 0.05 µg (+), 0.1 µg (+), 0.2 µg (+++) PRMT1 system for 2 hr at room temperature. Products were detected by Western blot using H4R3me2a (asymmetric) antibody.