

Recombinant EHMT2 (G9A)-SET (913-1193) protein

Catalog No: 31425, 31825**Lot No:** 33815002**Expressed In:** *E. coli***Quantity:** 50, 1000 µg**Concentration:** 1.5 µg/µl**Source:** Human

Buffer Contents: Recombinant EHMT2 (G9A)-SET (913-1193) protein expressed in *E. coli* and supplied in 25 mM Tris-HCl pH 8.0, 300 mM NaCl and 5% glycerol.

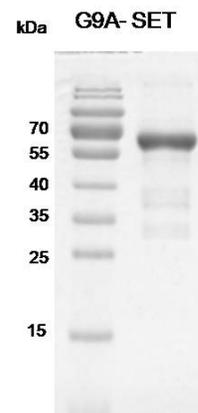
Background: EHMT2 (G9A)-SET, also known as **Euchromatic Histone-lysine N-methyltransferase 2 (EHMT2)**, is a histone methyltransferase that specifically mono- and dimethylates Lys9 of histone H3 (H3K9me1 and H3K9me2, respectively) in euchromatin. H3K9me represents a specific tag for epigenetic transcriptional repression by initiating recruitment of HP1 proteins to methylated histones. EHMT2 (G9A)-SET also mediates monomethylation of Lys56 of histone H3 (H3K56me1) in G1 phase and regulates DNA replication by promoting the interaction between histone H3 and PCNA. G9a also weakly methylates Lys27 of histone H3 (H3K27me). In addition, G9a is required for DNA methylation. However, the histone methyltransferase activity is not required for DNA methylation, suggesting that these 2 activities function independently. G9a is most likely targeted to histone H3 by different DNA-binding proteins like E2F6, MGA, MAX and/or DP1. G9a may also methylate histone H1. In addition to histone methyltransferase activity, G9a also methylates non-histone proteins. It has been shown to mediate dimethylation of Lys373 of p53 and also methylates CDYL, WIZ, ACIN1, DNMT1, HDAC1, ERCC6, KLF12 and itself.

Protein Details: The peptide corresponding to amino acids 913 - 1193 of the EHMT2 (G9A)-SET protein (accession number NP_006700.3) was expressed in *E. coli*. The peptide contains the SET domain of G9a that is responsible for methyltransferase activity. Recombinant EHMT2 (G9A)-SET contains N-terminal GST-Tag with an observed molecular weight of 58.7 kDa.

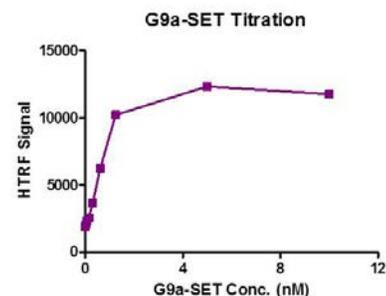
Application Notes: Recombinant EHMT2 (G9A)-SET (913-1193) is suitable for use in the study of enzyme kinetics, inhibitor screening, and selectivity profiling.

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 EHMT2 (G9A)-SET (913-1193) protein gel.**

EHMT2 (G9A)-SET (913-1193) protein was run on a 10% SDS-PAGE gel and stained with Coomassie Blue.

**Recombinant EHMT2 (G9A)-SET (913-1193) activity assay.**

3.3 µM H3 (1-21) peptide was incubated with EHMT2 (G9A)-SET (913-1193) protein in reaction buffer including 50 mM Tris-HCl, pH 8.6, 0.02% Triton X-100, 2 mM MgCl₂, 1 mM TCEP and 50 µM SAM for 3 hours at room temperature. H3K9me2 antibody is used to detect reaction product.