

Recombinant KMT2A (MLL1)-SET protein

Catalog No: 31419, 31819**Lot No:** 14615002**Expressed In:** *E. coli***Quantity:** 50 µg**Concentration:** 0.5 µg/µl**Source:** Human

Buffer Contents: 20 µg of Recombinant KMT2A (MLL1)-SET expressed in *E. coli* and supplied in 25 mM Tris pH 8.0, 300 mM NaCl, 5% glycerol, 0.04% Triton X-100.

Background: Myeloid/lymphoid or mixed-lineage leukemia (trithorax homolog, *Drosophila*), or **MLL**, also known as **KMT2A** or **HRX**, is a Trithorax-group protein that function collectively to promote gene expression. MLL is a transcriptional coactivator that plays an essential role in regulating gene expression during early development and hematopoiesis. The protein contains multiple conserved functional domains. In particular, the **SET** domain is a conserved C-terminal domain that characterizes proteins of the MLL (mixed-lineage leukemia) family. The SET domain is responsible for its histone H3 lysine 4 (H3K4) methyltransferase activity which mediates chromatin modifications associated with epigenetic transcriptional activation. This protein is processed by the enzyme Taspase 1 into two fragments, MLL-C and MLL-N. These fragments reassociate and further assemble into different multiprotein complexes that regulate the transcription of specific target genes, including many of the HOX genes. Multiple chromosomal translocations involving this gene are the cause of certain acute lymphoid leukemias and acute myeloid leukemias. Alternate splicing results in multiple transcript variants.

Protein Details: The peptide corresponding to amino acids 3735 - 3973 of the KMT2A (MLL1)-SET protein (accession number NP_001184033.1) was expressed in *E. coli*. The peptide contains the SET domain of MLL that is responsible for methyltransferase activity. Recombinant KMT2A (MLL1)-SET contains an N-terminal GST-Tag with a molecular weight of 53.7 kDa. The recombinant protein is >92% pure by SDS-PAGE.

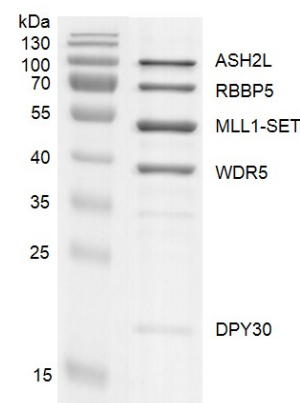
Application Notes: Recombinant KMT2A (MLL1)-SET is suitable for use in the study of enzyme kinetics, inhibitor screening, and selectivity profiling.

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 KMT2A (MLL1)-SET protein gel.**

KMT2A (MLL1)-SET protein was run on a 10% SDS-PAGE gel and stained with Coomassie Blue.

**Recombinant KMT2A (MLL1)-SET binding assay.**

KMT2A (MLL1)-SET was incubated with 4 equimolar components of MLL1 complex (ASH1L, RBBP5, WDR5 and DPY30) for 2 hours at 4°C. All the components were pulled down by GST beads. The sample was run on a 10% SDS-PAGE gel and stained with Coomassie Blue.