

Recombinant DOT1L (1-416) protein

Catalog No: 31474, 31874

Expressed In: *E. coli*

Quantity: 50, 1000 µg

Concentration: 0.35 µg/µl

Source: Human

Buffer Contents: Recombinant DOT1L (1-416) protein is supplied at a concentration of 0.35 µg/µl in 25 mM Tris pH 8.0, 300 mM NaCl, 5% glycerol.

Background: DOT1L (Disruptor of Telomeric silencing 1-like, also known as KMT4) is the mammalian homologue of the yeast Dot1 protein and the *Drosophila* Grappa protein. DOT1L is the enzyme responsible for lysine 79 methylation of histone H3. DOT1L can promote an oncogenic pattern of gene expression through binding with several MLL fusion partners found in acute leukemia, thus leading to aberrant methylation of lysine 79 at MLL target genes. In contrast to most other histone lysine methyltransferases, DOT1L does not contain a SET domain. Biochemical studies suggest that recombinant DOT1L is active on recombinant nucleosomes.

Protein Details: Recombinant DOT1L (1-416) protein that includes amino acids 1-416 that contains the SET domain sequence of the human DOT1L protein (accession number NP_115871.1) was expressed in *E. coli* cells and contains an N-terminal GST tag with an observed molecular weight of 72 kDa.

Application Notes: Recombinant DOT1L (1-416), active protein is suitable for use in the study of enzyme kinetics, inhibitor screening, and selectivity profiling.

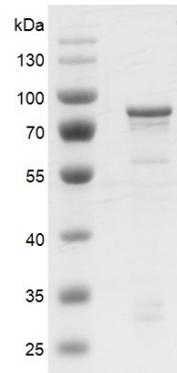
Specific Activity: H3K79 methyltransferase

HMT Assay Conditions:

2 µg recombinant nucleosomes were incubated with DOT1L in reaction buffer including 50 mM Tris-HCl, pH 8.6, 0.02% Triton X-100, 2 mM MgCl₂, 1 mM TCEP, 50 µM SAM for 3 hours at room temperature. Western blot was used for activity detection. Western Blot was used to detect the generation of reaction products (Anti-H3K79me1, Cat. No. 39921, 1:1000 dilution). DOT1L only was used as negative control.

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 for research use only and is not for use in diagnostic procedures. This product is guaranteed for 6 months from date of arrival.

DOT1L (1-416)



Recombinant DOT1L (1-416) protein gel.

Recombinant DOT1L (1-416), protein was run on a 10% SDS-PAGE gel and stained with Coomassie Blue.

MW: 72 kDa

Purity: > 80%



Recombinant DOT1L (1-416) protein activity.

2 µg recombinant nucleosomes were incubated with DOT1L protein for 3 hours at RT and reaction products detected by Western Blot (Anti-H3K79me1) with DOT1L protein alone as a negative control. The activity of DOT1L with nucleosomes as substrates is greater than with histone octamer substrates.