

Recombinant NSD2 (MMSET)-SET protein

Catalog No: 31476, 31776

Lot No: 32916003

Expressed In: *E. coli*

Quantity: 50, 1,000 µg

Concentration: 0.8 µg/µl

Source: Human

Buffer Contents: Recombinant NSD2 (MMSET)-SET (aa 942-1240) is supplied in 25 mM Tris pH 8.0, 300 mM NaCl, 5% glycerol, 0.04% Triton X-100.

Background: NSD2 (MMSET)-SET (Multiple Myeloma SET domain-containing protein, WHSC1/Wolf-Hirschhorn Syndrome Candidate 1, Nuclear Receptor binding SET domain protein 2, TRX5, Trithorax 5) is a SET domain-containing histone methyltransferase specific for lysine 36 of histone H3. The NSD2 (MMSET)-SET gene is deleted in Wolf-Hirschhorn syndrome, a disorder characterized by developmental defects and mental retardation. In 15% of patients with Multiple Myeloma (MM), a chromosomal translocation leads to NSD2 (MMSET)-SET gene being aberrantly placed under the control of the IgH intronic µ enhancer and expressed at very high levels. This event is apparently a key component in cellular transformation leading to MM. Reduction in NSD2 (MMSET)-SET expression in a myeloma cell line suppressed its growth, suggesting a role for NSD2 (MMSET)-SET in maintaining the transformed state.

NSD2 (MMSET)-SET includes the SET domain of NSD2 (MMSET)-SET. The SET domain is a 130 to 140 amino acid, evolutionary conserved motif that was initially characterized in the *Drosophila* proteins Su(var)3-9, EZH2 and TrxG and plays a crucial role in substrate recognition and enzymatic activity.

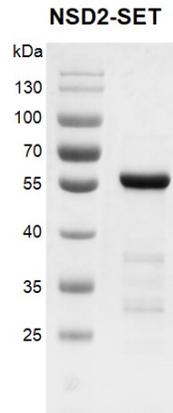
Protein Details: Recombinant NSD2 (MMSET)-SET peptide that includes amino acids 942-1240 that contains the SET domain sequence of the human NSD2 (MMSET)-SET protein (accession number NP_579877.1) was expressed in *E. coli* cells and contains an N-terminal GST-Tag with an observed molecular weight of 60 kDa. The recombinant protein is >90% pure by SDS-PAGE.

Application Notes: Recombinant NSD2 (MMSET)-SET protein is suitable for use in the study of enzyme kinetics, inhibitor screening, and selectivity profiling.

HMT Assay Conditions:

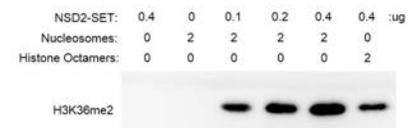
0.6 µM recombinant nucleosomes were incubated with 0.1 µM recombinant NSD2 (MMSET)-SET protein in reaction buffer including 50 mM Tris-HCl, pH 8.6, 0.02% Triton X-100, 2 mM MgCl₂, 1 mM TCEP, 50 µM SAM for 3 hours at room temperature. Activity was detected by Western Blot.

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.



Recombinant NSD2 (MMSET)-SET protein gel.

Recombinant NSD2 (MMSET)-SET run on a 10% SDS-PAGE gel and stained with Coomassie Blue.



Recombinant NSD2 (MMSET)-SET activity assay.

2 µg recombinant nucleosomes (Cat. No. 31468) were incubated with NSD2 (MMSET)-SET protein in reaction buffer for 3 hours at room temperature. Western blot was used to detect the generation of reaction products (H3K36me₂, Cat. No. 39891). NSD2 (MMSET)-SET only was used as negative control.