

Recombinant NSD2-SET (E1099K) Protein

Catalog No: 31574, 31974

Lot No: 28816001

Expressed In: *E. coli*

Quantity: 50, 1000 µg

Concentration: 0.8 µg/µl

Source: Human

Buffer Contents: Recombinant NSD2-SET (E1099K) protein is supplied at a concentration of 0.8 µg/µl in 50 mM Tris pH 8.0, 300 mM NaCl, 5% glycerol.

Background: NSD2 (nuclear receptor binding SET domain protein 1; also known as WHSC1; MMSET; TRX5) is a SET domain-containing histone methyltransferase specific for lysine 36 of histone H3. The NSD2 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 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 expression in a myeloma cell line suppressed its growth, suggesting a role for NSD2 in maintaining the transformed state.

NSD2 p.Glu1099Lys (p.E1099K) variant was identified in nontranslocated acute lymphoblastic leukemia (ALL) cell lines.

Protein Details: Recombinant human NSD2-SET (E1099K) that includes amino acids 942-1240 (accession number NP_579877.1) was expressed in *E. coli* cells with a point mutation (Glu1099Lys) and an N-terminal GST tag. The molecular weight of the protein is 60 kDa. NSD2-SET (E1099K) protein is >85% pure by SDS-PAGE.

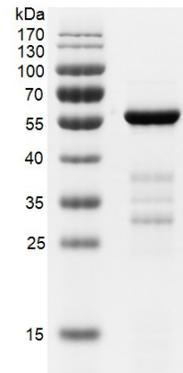
Application Notes: Recombinant NSD2-SET (E1099K) is suitable for use in the study of enzyme kinetics, inhibitor screening, and selectivity profiling.

Protein Function: H3K36me2 methyltransferase activity.

HMT Assay Conditions: 60 ng/µl recombinant nucleosomes was incubated with 30 ng/µl NSD2-SET (E1099K) protein in reaction buffer including 50 mM TrisCl, 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.

NSD2-SET (E1099K)

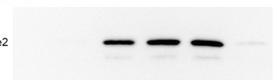


Recombinant NSD2-SET (E1099K) protein gel.

NSD2-SET (E1099K) protein was run on a 12% SDS-PAGE gel and stained with Coomassie Blue. The purity of NSD2-SET (E1099K): ≥ 85%

NSD2-SET (E1099K):	0	1	0.25	0.5	1	1	µg
Nucleosomes:	2	0	2	2	2	2	0
Histone Octamers:	0	0	0	0	0	0	2

H3K36me2



Recombinant NSD2-SET (E1099K) activity assay.

2 µg recombinant nucleosomes (Cat #: 31468) were incubated with NSD2-SET (E1099K) in reaction buffer for 3 hours at room temperature. 2 µg histone octamer (Cat #: 31472) was used as a control substrate. Reaction product (H3K36me2) was detected by Western Blot.