

SMYD2 Protein, Human (sf9, His)

Cat. No.:	HY-P76079
Synonyms:	N-lysine methyltransferase SMYD2; HSKM-B; Lysine N-methyltransferase 3C; SMYD2; KMT3C
Species:	Human
Source:	Sf9 insect cells
Accession:	Q9NRG4 (M1-H433)
Gene ID:	56950
Molecular Weight:	Approximately 48 kDa

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of 50 mM Tris, 100 mM NaCl, 10% Glycerolcedrol, pH 8.0. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	SMYD2 protein, a versatile protein-lysine N-methyltransferase, exhibits the capability to methylate both histones and non-histone proteins, such as p53/TP53 and RB1. Notably, it specifically trimethylates histone H3 at 'Lys-4' (H3K4me3) in vivo, a crucial modification associated with gene activation. The enzymatic activity of SMYD2 requires interaction with HSP90alpha, further highlighting its functional dependence on cellular regulatory networks. Strikingly, SMYD2 demonstrates heightened methyltransferase activity on p53/TP53, where it monomethylates 'Lys-370,' leading to a consequential reduction in DNA-binding activity and subsequent transcriptional regulation. Furthermore, SMYD2 plays a role in the epigenetic modification of RB1 by monomethylating 'Lys-860,' showcasing its broad impact on both histone and non-histone proteins, thereby contributing to the intricate landscape of epigenetic regulation within the cellular milieu.
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Caution: Product has not been fully validated for medical applications. For research use only.

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