

SMYD3 Protein, Human, Recombinant (GST)

General Information

Synonyms:	SET and MYND domain containing 3;ZMYND1;KMT3E;ZNFN3A1;bA74P14.1
Protein Construction:	A DNA sequence encoding the human SMYD3 isoform 2 (NP_073580.1) (Lys 35-Ser 369) was fused with the GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	Q9H7B4-3
Molecular Weight:	656 kDa (predicted); 58 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 88 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, 150 mM NaCl, 0.5 mM DTT, 0.5 mM GSH, pH 8.0. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:
It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:
In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

SET and MYND domain-containing protein 3, also known as Zinc finger MYND domain-containing protein 1, SMYD3, and ZMYND, is a member of the histone-lysine methyltransferase family. SMYD3 contains one MYND-type zinc finger and one SET domain. SMYD3 is a histone H3 lysine-4-specific methyltransferase. It is expressed in skeletal muscles and testis. It is overexpressed in a majority of colorectal carcinoma (CRC) and hepatocellular carcinoma (HCC). SMYD3 plays an important role in transcriptional regulation in human carcinogenesis. It activates

the transcription of a set of downstream genes. Of these downstream genes, there are several oncogenes and genes associated with cell adhesion (including those of N-Myc, CrkL, Wnt1b, L-selectin, CD31 and galectin-4), which have been shown to have effects on cell viability, adhesion, migration and metastasis. Increased SMYD3 expression is essential for the proliferation of breast cancer cells. SMYD3 may be a promising new target of therapeutic intervention for the treatment of cancers or other pathological processes associated with cell adhesion and migration.

Reference

- Hamamoto, R. et al., 2006, Cancer Sci. 97 (2): 113-8.
Luo, XG. et al., 2007, J Biosci Bioeng. 103 (5): 444-50.
Wang, XQ. et al., 2007, Exp Oncol. 29 (1): 71-3.
Silva, FP. et al., 2008, Oncogene. 27 (19): 2686-92.

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