Data Sheet (Cat.No.TMPY-00920)

TargetMol

SFRP2 Protein, Mouse, Recombinant (His)

General Information

Synonyms:	secreted frizzled-related protein 2;AI851596;Sdf5
Protein Construction:	A DNA sequence encoding the mouse sFRP2 (NP_033170.1) (Met 1-Cys 295) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Leu 25
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	P97299
Molecular Weight:	32.5 kDa (predicted); 36 kDa (reducing condition, due to glycosylation)

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:	> 95 % 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 PBS, pH 7.4. 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:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

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

The Secreted frizzled-related protein (SFRP) family consists of five secreted glycoproteins in humans (SFRP1~5) that act as extracellular signaling ligands. Each SFRP is approximately 3 amino acids in length and contains a cysteine-rich domain (CRD) that shares 3-5% sequence homology with the CRD of Frizzled (Fz) receptors, a putative signal sequence, and a conserved hydrophilic carboxy-terminal domain. SFRPs are able to bind Wnt proteins and Fz receptors in the extracellular compartment. The interaction between SFRPs and Wnt proteins

prevents the latter from binding the Fz receptors. The Wnt pathway plays a key role in embryonic development, cell differentiation and cell proliferation. sFRP2 is a member of the SFRP family acting as soluble modulators of Wnt signaling and contains a cysteine-rich domain homologous to the putative Wnt-binding site of Frizzled proteins called FZ domain and a NTR domain.sFRP2 inhibites hypoxia induced endothelial cell apoptosis and increases endothelial cell migration. It prevents mesoderm specification and maintains the cells in the undifferentiated state. SFRP2 is also a novel stimulator of angiogenesis that stimulates angiogenesis via a calcineurin/NFAT pathway, thus is regarded as a favorable target for the inhibition of angiogenesis in solid tumors. Mouse sFRP2 is highly expressed in the eye and is also detected in heart and lung at low level.

Reference

Hu E., et al.,(1998), Tissue restricted expression of two human Frzbs in preadipocytes and pancreas. Biochem. Biophys. Res. Commun. 247:287-293.

Blackshaw S., et al., (2004), Genomic analysis of mouse retinal development.PLoS Biol. 2:1411-1431.

Clark H.F., et al.,(2003), The secreted protein discovery initiative (SPDI), a large-scale effort to identify novel human secreted and transmembrane proteins: a bioinformatics assessment.Genome Res. 13:2265-2270.

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