Data Sheet (Cat.No.TMPY-00921)

TargetMol

SFRP4 Protein, Mouse, Recombinant (His)

General Information

Synonyms:	secreted frizzled-related protein 4
Protein Construction:	A DNA sequence encoding the mouse sFRP4 (NP_057896.1) (Met 1-Ser 351) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Ala 22
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	Q9Z1N6
Molecular Weight:	39.4 kDa (predicted); 55-60 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:	> 97 % 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:

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

SFRP family consists of five secreted glycoproteins in humans acting as extracellular signaling ligands. Each 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 act as soluble modulators of Wnt signaling, counteracting Wnt-induced effects at high concentrations and promoting them at lower concentrations. 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. SFRP4 is a member of the SFRP family that contains a cysteine-rich domain homologous to the putative Wnt-binding site of Frizzled proteins called FZ domain and a NTR domain. Mouse SFRP4 is highly expressed in the ovary, and is localized to granulosa cells of periovulatory follicles and corpora lutea. It plays a critical role in placental development and implantation, and is also an important factor in the development of the decidual fibrinoid zone, and in trophoblast apoptosis.

Reference

Abu-Jawdeh G.M., et al.,(1999), Differential expression of frpHE: a novel human stromal protein of the secreted frizzled gene family, during the endometrial cycle and malignancy. Lab. Invest. 79:439-447.
Berndt T., et al., (2003), Secreted frizzled-related protein 4 is a potent tumor-derived phosphaturic agent.J. Clin. Invest. 112:785-794.
Ota T., et al.,(2004), Complete sequencing and characterization of 21,243 full-length human cDNAs.Nat. Genet. 36: 40-45.

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