Data Sheet (Cat.No.TMPY-00918)

TargetMol

SFRP1 Protein, Human, Recombinant (His)

General Information

Synonyms:	SARP2;secreted frizzled-related protein 1;FRP-1;FRP1;FRP;FrzA
Protein Construction:	A DNA sequence encoding the human sFRP1 (NP_003003.3) (Met 1-Lys 314) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Ser 32
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q8N474
Molecular Weight:	34 kDa (predicted); 38 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by its ability to inhibit proliferation of HeLa human cervical epithelial carcinoma cells. The ED50 for this effect is typically 5-30 μg/ml.
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

Secreted frizzled-related protein 1, also known as sFRP1, is a 35 kDa prototypical member of the SFRP family. 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. The deregulation of this critical developmental pathway occurs in several human tumor entities. Mouse sFRP1 is highly expressed in kidney and embryonic heart, as well as in the eye, where it is principally localized to the ciliary body and the lens epithelium.

Reference

Finch P.W., et al.,(1997), Purification and molecular cloning of a secreted, Frizzled-related antagonist of Wnt action. Proc. Natl. Acad. Sci. U.S.A. 94:6770-6775.

Melkonyan H.S., et al., (1997), SARPs: a family of secreted apoptosis-related proteins.Proc. Natl. Acad. Sci. U.S.A. 94:13636-13641.

Zhou Z., et al.,(1998), Up-regulation of human secreted frizzled homolog in apoptosis and its down-regulation in breast tumors.Int. J. Cancer 78:95-99.

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