

Human sFRP4 Protein (His Tag)

Catalog Number: 10717-H08H



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

FRP-4; FRPHE; sFRP-4

Protein Construction:

A DNA sequence encoding the human sFRP4 (NP_003005.2) (Met 1-Val 346) was expressed with a C-terminal polyhistidine tag.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Bio Activity:

Measured by its ability to inhibit Wnt3a-induced alkaline phosphatase production by C3H10T 1/2 2A6 mouse embryonal fibroblast cells. The ED_{50} for this effect is typically 1-6 $\mu\text{g/mL}$ in the presence of 20 ng/mL of Wnt3a.

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70°C

Predicted N terminal: Ala 22

Molecular Mass:

The recombinant human sFRP4 consists of 336 amino acids after removal of the signal peptide and has a predicted molecular mass of 39 kDa. In SDS-PAGE under reducing conditions, it migrates with an apparent molecular mass of 55-60 kDa due to glycosylation.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

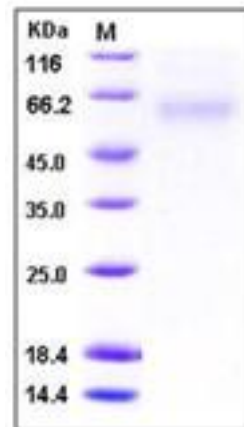
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

SFRP family consists of five secreted glycoproteins in humans acting as extracellular signaling ligands. Each is approximately 300 amino acids in length and contains a cysteine-rich domain (CRD) that shares 30-50% 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 preovulatory 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.

References

1. 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.
2. Berndt T., *et al.*, (2003), Secreted frizzled-related protein 4 is a potent tumor-derived phosphatase agent. *J. Clin. Invest.* 112:785-794.
3. 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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