SFRP4 Recombinant Protein

PRODUCT OVERVIEW

Product Name	SFRP4, Recombinant Protein
Full Product Name	SFRP4 Protein, Mouse, Recombinant (His Tag)
Product Gene Name	SFRP4 recombinant protein
Product Synonym Names	Mouse sFRP4 Protein (His Tag); secreted frizzled-related protein 4
Sequence	Met1-Ser35 1
Host	HEK293 Cells
Form/Format	Lyophilized from sterile PBS, pH7.4. Normally 5%-8% trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the hard copy of CoA.
Purity/Purification	>97% as determined by SDS-PAGE
Preparation and Storage	Samples are stable for up to twelve months from date of receipt at -20 degree C to -80 degree C. Store it under sterile conditions at -20 degree C to -80 degree C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles. In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice.
Molecular Weight	40,342 Da
3D Structure	ModBase 3D Structure for Q9Z1N6
Species	Mouse
Endotoxin	<1.0EU per ug of the protein as determined by the LAL method
Predicted N Terminal	Ala 22
Tag	C-His
Protein Construction	A DNA sequence encoding the mouse sFRP4 (NP_057896.1)(Met 1-Ser 351) was expressed with a C-terminal polyhistidine tag.
Reconstitution	A hardcopy of COA with reconstitution instruction is sent along with the products. Please refer to it for detailed information.
Related Product Information for SFRP4 recombinant 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.
Product References and Citations for SFRP4 recombinant protein	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.

Other Notes	Small volumes of SFRP4 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for SFRP4 purchase	MBS8122502 is a recombinant protein targeting SFRP4. Also known as SFRP4 Protein, Mouse, Recombinant (His Tag). Host: HEK293 Cells.



SDS-Page of SFRP4 recombinant protein

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for SFRP4. It may not necessarily be applicable to this product.

NCBI GI #	7710094
NCBI GeneID	20379
NCBI Accession #	NP_057896.1
UniProt Primary Accession #	Q9Z1N6
UniProt Secondary Accession #	Q91ZX9
UniProt Related Accession #	Q9Z1N6
GenBank Nucleotide #	NM_016687.3
NCBI Official Full Name	secreted frizzled-related sequence protein 4
NCBI Official Synonym Full Names	secreted frizzled-related protein 4
NCBI Official Symbol	Sfrp4
UniProt Protein Name	Secreted frizzled-related sequence protein 4
Protein Family	Secreted frizzled-related protein
UniProt Gene Name	Sfrp4
UniProt Synonym Gene Names	FRP-4; sFRP-4
NCBI Protein Information	secreted frizzled-related sequence protein 4
UniProt Comments for SFRP4	Soluble frizzled-related proteins (sFRPS) function as modulators of Wnt signaling through direct interaction with Wnts. They have a role in regulating cell growth and differentiation in specific cell types (PubMed:27355534). SFRP4 plays a role in bone morphogenesis (PubMed:27355534). May also act as a regulator of adult uterine morphology and function. May also increase apoptosis during ovulation possibly through modulation of FZ1/FZ4/WNT4 signaling (). Has phosphaturic effects by specifically inhibiting sodium-dependent phosphate uptake ().
Research Articles on SFRP4	**1.** Our study showed that Pyle's disease was caused by a deficiency of sFRP4 and that sFRP4-mediated cross-regulation between Wnt and BMP signaling was critical for achieving proper cortical-bone thickness and stability.
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