



Recombinant Human FRP-5, soluble

20230131DS



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	S01-077S
Size:	10 µg
Lot. No.:	According to product label

Scientific Background

Gene-ID (NCBI):	6425
Synonyms:	Secreted frizzled-related protein 5, Frizzled-related protein 1b, FRP-1b, Secreted apoptosis-related protein 3, SARP-3

Secreted Frizzled Related Proteins (sFRPs) are a family of glycosylated Wnt antagonists that inhibit Wnt signaling, either by directly binding to Wnt proteins to prevent their binding to Frizzled (Fz) family receptor proteins or by forming non-functional interactions with Frizzled receptors. sFRPs share homology with the cysteine-rich, extracellular domain of Frizzled proteins. sFRP-5 is secreted in a variety of embryonic and adult tissues. During embryonic development, sFRP-5 regulates formation of the retina, brain, trunk, foregut, anterior visceral endoderm, and epithelial structures through Wnt and BMP inhibition. In adults, sFRP-5 is expressed by adipocytes, particularly in white adipose tissue, and acts as an anti-inflammatory adipokine. Shown to improve metabolic function and reduce adipose tissue inflammation, sFRP-5 also acts in a cardio-protective manner after ischemia and reperfusion injury in the heart, suppressing the non-canonical Wnt5a/JNK signaling pathway in macrophages and myocytes. sFRP-5 levels are negatively correlated with obesity-related disorders including insulin resistance, type 2 diabetes, dyslipidemia, atherosclerosis, and coronary artery disease. Downregulation by promoter hypermethylation is observed in numerous cancers including gastric, cervical, hepatocellular carcinoma, pancreatic, oral squamous cell, breast, colon, bladder, and renal. sFRP-5 inhibits melanogenesis when expressed in vitiligo melanocytes. CHO cell-derived Recombinant Human sFRP5 is a 288-amino-acid length glycoprotein with a calculated molecular weight of 32.7 kDa; however, due to glycosylation, protein migration occurs at an apparent molecular weight of approximately 33-35 kDa by SDS-PAGE analysis under both reducing and non-reducing conditions.

Sequence

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EEYDYYGWQA EPLHGRYSYSK PPQCLDIPAD LPLCHTVGYK  
RMRLPNLLEH ESLAEVKQQA SSWLPLLAKR CHSDTQVFLC  
SLFAPVCLDR PIYPCRSLCE AVRAGCAPLM EAYGFPEPEM  
LHCHKFPLDN DLCIAVQFGH LPATAPPVTK ICAQCEMEHS  
ADGLMEQMCS SDFVVKMRK EIKIENGDRK LIGAQKKKKL  
LKPGLKRKD TKRLVLHMKN GAGCPCQLD SLAGSFLVMG  
RKVDGQLLLM AVYRWDKKNK EMKFAVKFMF SYPCSLYYPF FYGAAEPH
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Database References

Protein RefSeq:	NP_003006.2
Uniprot ID:	Q5T4F7
mRNA RefSeq:	NM_003015.3

Product Specifications

Expressed in	CHO cells
Purity	> 98% by SDS-PAGE & HPLC analyses
Endotoxin level	< 0.1 ng /µg of protein (<1EU/µg).
Formulation	lyophilized
Length (aa):	288
MW:	32.7 kDa



AVOID REPEATED FREEZE AND THAW CYCLES!

Biological Activity: Determined by its ability to decrease alkaline phosphatase activity in CCL-226 cells when treated with 25 ng/ml of Murine Wnt-3a.