Data Sheet (Cat.No.TMPY-01469)

TargetMol

Frizzled 5 Protein, Human, Recombinant (His)

General Information

Synonyms:	C2orf31;frizzled class receptor 5;HFZ5
Protein Construction:	A DNA sequence encoding the extracellular domain (Met 1-Pro 167) of human frizzled 5 (NP_003459.2) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Ala 27
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q13467
Molecular Weight:	17.6 kDa (predicted); 25-30 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Immobilized Recombinant Human Frizzled-5 / FZD5 Protein (His Tag) at 2μg/mL (100μL/well) can bind pan-FZD antibody, Human IgG2 , the EC50 is 12-36 ng/mL.
Purity:	≥ 97 % as determined by SDS-PAGE. ≥ 90 % as determined by SEC-HPLC.
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:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

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

Wnt signaling is involved in a variety of embryonic development processes of nonvertebrates and vertebrates, where it determines cell motility, cell polarity, differentiation, proliferation and apoptosis, as well as formation of neural synapses. Various homologs of the Wingless protein, termed WNT factors, represent key mediators and act through a receptor complex comprised of members of the Frizzled and low density lipoprotein-related receptors

(LRP). 19 WNTs, 1 Frizzled, and 2 LRP proteins have been identified. Frizzled is a family of G protein-coupled receptor proteins consisting of a divergent signal peptide, a highly conserved extracellular cysteine-rich domain (CRD), a variable-length linker region, a seven-pass transmembrane domain, and a variable-length C-terminal tail.Frizzled 5 (FZD5) is believed to be the receptor for the Wnt5A ligand, and also interactions with Wnt1B, Wnt2B, and Wnt 7A functionally. Recent studies of WNT5A/Frizzled-5 signaling have revealed an unexpected and novel role in orchestrating adaptive immunity in response to microbial stimulation. In addition, FZD5 is also implicated in the survival of mature neurons in the parafascicular nucleus of the thalamus.

Reference

Wang Y.,et al.,(1996), A large family of putative transmembrane receptors homologous to the product of the Drosophila tissue polarity gene frizzled. J. Biol. Chem. 271:4468-4476.

Saitoh T.,et al., (2001), Molecular cloning and characterization of human Frizzled-5 gene on chromosome 2q33.3-q34 region.Int. J. Oncol. 19:105-110.

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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