

FZD1/Frizzled 1 Protein, Mouse, Recombinant (His)

General Information

Synonyms:	Fzd1;AW227548;frizzled class receptor 1;FZ-1;Fz1
Protein Construction:	A DNA sequence encoding the mouse FZD1 (NP_067432.2) extracellular domain (Met 1-His 248) was expressed with a polyhistidine tag at the C-terminus. Predicted N terminal: Val 69
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	O70421
Molecular Weight:	21 kDa (predicted); 35-40 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
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

Frizzled-1, also known as FZD1, belongs to the G-protein coupled receptor Fz/Smo family. FZD1 contains a signal peptide, a cysteine-rich domain in the N-terminal extracellular region, 7 transmembrane domains, and a C-terminal PDZ domain-binding motif. FZD1 is expressed in adult heart, placenta, lung, kidney, pancreas, prostate, and ovary and in fetal lung and kidney. Frizzled is a family of G protein-coupled receptor proteins that serve as receptors in the Wnt signaling pathway and other signaling pathways. When activated, Frizzled leads to activation

of Dishevelled in the cytosol. Frizzled proteins and the genes encoding them have been identified in an array of animals, from sponges to humans. Frizzled proteins play key roles in governing cell polarity, embryonic development, formation of neural synapses, cell proliferation, and many other processes in developing and adult organisms. Most of frizzled receptors are coupled to the beta-catenin canonical signaling pathway, which leads to the activation of disheveled proteins, inhibition of GSK-3 kinase, nuclear accumulation of beta-catenin and activation of Wnt target genes.

Reference

Gazit A., et al.,(1999), Human frizzled 1 interacts with transforming Wnts to transduce a TCF dependent transcriptional response. *Oncogene* 18:5959-5966.

Sagara N., et al., (1998), Molecular cloning, differential expression, and chromosomal localization of human frizzled-1, frizzled-2, and frizzled-7. *Biochem. Biophys. Res. Commun.* 252:117-122.

Scherer S.W., et al.,(2003), Human chromosome 7: DNA sequence and biology. *Science* 300:767-772.

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