

PRODUCT INFORMATION



FZD₅ Extracellular Domain (human, recombinant)

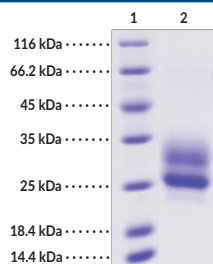
Item No. 44189

Overview and Properties

Synonyms:	Frizzled-5, Fz5
Source:	Active recombinant human C-terminal His-tagged FZD ₅ extracellular domain expressed in HEK293 cells
Amino Acids:	27-167
Uniprot No.:	Q13467
Molecular Weight:	17.6 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥97% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing:	<1.0 EU/μg, determined by the LAL endotoxin assay
Protein Concentration:	<i>batch specific</i> mg/ml
Activity:	<i>batch specific</i> U/ml
Specific Activity:	<i>batch specific</i> U/mg

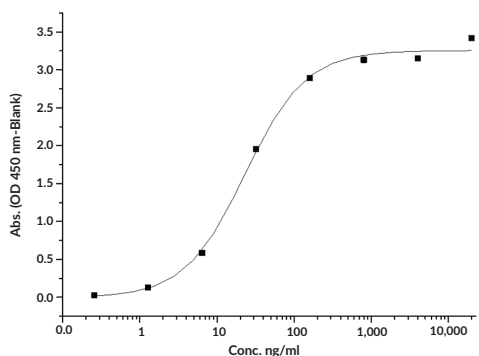
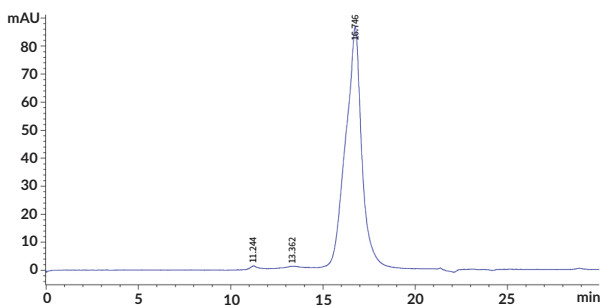
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images

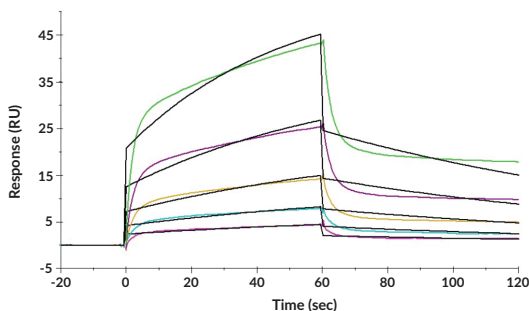


Lane 1: MW Markers
Lane 2: FZD₅ Extracellular Domain

SDS-PAGE Analysis of FZD₅ Extracellular Domain (human, recombinant). This protein has a calculated molecular weight of 17.6 kDa. It has an apparent molecular weight of approximately 25-30 kDa by SDS-PAGE under reducing conditions due to glycosylation.



Immobilized FZD₅ Extracellular Domain (human, recombinant) at 2 μg/ml (100 μl/well) binds to a human IgG2-based pan-FZD antibody with an EC₅₀ value of 12-36 ng/ml.



Vantictumab captured on a protein A chip binds to FZD₅ Extracellular Domain (human, recombinant) with an affinity constant (K_d) of 161.1 nM as determined in an SPR assay (Biacore T200) (routinely tested).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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PRODUCT INFORMATION



Description

Frizzled family G protein-coupled receptor 5 (FZD₅) is a Wnt receptor involved in canonical and non-canonical Wnt/ β -catenin signaling.¹ It is composed of an extracellular cysteine-rich ligand-binding domain, seven transmembrane domains, and an intracellular C-terminal domain that binds the PDZ domain of dishevelled (Dvl) and G proteins.²⁻⁴ Fzd₅ is expressed in the yolk sac, eye, and lung during development and primarily in the eye, kidney, lung, and testis in adults.^{5,6} Upon ligand-binding, FZD₅ associates with LDL receptor-related protein 5/6 (LRP5/6) and recruits Dvl, which leads to phosphorylation of LRP5/6, recruitment of Axin, and subsequent accumulation of β -catenin.^{3,7} It is involved in ocular development, mesenchymal stem cell senescence, and intestinal crypt homeostasis, and plays pro- and anti-tumorigenic roles in a context-dependent manner.^{1,4,5,8-10} A frameshift mutation in *FZD5* that results in production of a secreted FZD₅ extracellular domain is associated with autosomal dominant coloboma.¹ Cayman's FZD₅ Extracellular Domain (human, recombinant) protein can be used for binding assays. This protein consists of 152 amino acids, has a calculated molecular weight of 17.6 kDa, and a predicted N-terminus of Ala27 after signal peptide cleavage. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is 25-30 kDa due to glycosylation.

References

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2. Lagerström, M.C. and Schiöth, H.B. Structural diversity of G protein-coupled receptors and significance for drug discovery. *Nat. Rev. Drug Discov.* **7(4)**, 339-357 (2008).
3. Hua, Y., Yang, Y., Li, Q., *et al.* Oligomerization of Frizzled and LRP5/6 protein initiates intracellular signaling for the canonical WNT/ β -catenin pathway. *J. Biol. Chem.* **293(51)**, 19710-19724 (2018).
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10. Sun, Y., Wang, Z., Na, L., *et al.* FZD5 contributes to TNBC proliferation, DNA damage repair and stemness. *Cell Death Dis.* **11(12)**, 1060 (2020).

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