Human Frizzled-5 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1617

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Frizzled-5 in direct ELISAs and Western blots. In direct ELISAs, less than 5% cross-reactivity with recombinant mouse (rm) Frizzled-1, rmFrizzled-2, rmFrizzled-3, rmFrizzled-6, rmFrizzled-7, and rmFrizzled-8 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Frizzled-5 Ala27-Pro167 Accession # AAC50385
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Human Frizzled-5 Fc Chimera (Catalog # 1617-FZ)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Wnt signaling is involved in variety of developmental processes including cell fate determination, cell polarity, tissue patterning and control of cell proliferation. Members of the Frizzled family of proteins serve as receptors for the Wnt signaling pathway. The founding member of this family was identified in Drosophila based on its role in tissue polarity in the adult cuticle and named for the disorganized appearance of bristle hairs on the mutant. The predicted structure of Frizzled proteins is similar among all family members, containing a divergent N-terminal signal peptide, a highly conserved extracellular cysteine-rich domain, a variable-length linker region, a seven-pass transmembrane domain, and a variable-length C-terminal tail. One of the most conserved regions of the Frizzled (Frz) proteins is the extracellular cysteine-rich domain (CRD) which spans approximately 120 amino acid (aa) and contains 10 invariant cysteines (1). Human Frz-5 shows 95% aa identity to mouse Frz-5 in the CRD region. In the mouse, Frz-5 is expressed in adult tissues (heart and kidney), as well as embryonic tissues (telencephalon, eye, and lung bud) (2, 3). Null mutations in Frz-5 reveal that it plays a role in the formation and maintenance of the extra-embryonic vasculature (3). Functional interactions with Frz-5 have been reported for Wnt-5a, Wnt-10b, Wnt-2b, and Wnt-7a, implicating these Wnts as ligands for the Frz-5 receptor (3-5).

Two distinct Wnt signal transduction pathways have been characterized. One is the canonical Wnt/β-catenin pathway that is involved in diverse biological mechanisms such as dorsal/ventral development in *Xenopus* embryos and mammalian tumor formation. Frz-5 is implicated in this pathway based on its ability to induce β-catenin target genes in the presence of ligand (5). However, Frz-5 is also implicated in β-catenin independent pathways (4, 6).

References:

1. Wang, Y. *et al.* (1996) J. Biol. Chem **271**:4468.
2. Borello, U. *et al.* (1999) Mech. Dev. **89**:173.
3. Ishikawa, T. *et al.* (2001) Development **128**:25.
4. He, X. *et al.* (1997) Science **275**:1652.
5. Caricasole, A. *et al.* (2003) J. Biol. Chem **278**:37024.
6. Veeman, M. *et al.* (2003) Dev. Cell **5**:367.

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