Mouse Frizzled-8 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF112

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Frizzled-8 in direct ELISAs and Western blots. In direct ELISAs, approximately 5% cross-reactivity with recombinant mouse (rm) Frizzled-9 is observed and less than 1% cross-reactivity with rmFrizzled-1, rmFrizzled-2, rmFrizzled-3, rmFrizzled-4, rmFrizzled-6, and rmFrizzled-7 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Frizzled-8 Ala25-Pro173 Accession # Q61091
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 Mouse Frizzled-8 Fc Chimera (Catalog # 112-FZ)
Immunohistochemistry	5-15 µg/mL	Immersion fixed frozen sections of mouse embryo (E13)

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 a 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 *Drosophilia* based on its role in tissue polarity in the adult cuticle and named for the disorganized appearance of bristle hairs on the mutant. Mouse Frizzled-8 (mFrz-8) was originally cloned in a PCR screen to identify additional Frizzled family members in vertebrates. There are nine murine Frizzled genes and 10 human Frizzled genes identified to date. 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 seven-pass transmembrane region, and a variable-length C-terminal tail. The most conserved regions of the Frizzled proteins are the extracellular cysteine-rich domain (CRD) which spans approximately 120 amino acid residues and contains 10 invariant cysteines, and the seven transmembrane domains. Mouse Frizzled-8 is 685 amino acid residues long and shows 95% and 82% amino acid identity to human and *Xenopus* Frizzled-8, respectively. Like other family members, Frizzled-8 has a complex expression pattern in the mouse embryo. It is expressed in the neural tube, brain, eye, somites, gut, and bronchial arches.

One of the best-characterized Wnt signal transduction pathways is the canonical Wnt/β-catenin pathway. It is involved in diverse biological mechanisms such as dorsal/ventral development in *Xenopus* embryos and mammalian tumor formation, acting via stabilization of β-catenin. Frizzled-8 is implicated in this pathway based on its ability to bind Wnt ligands that stimulate β-catenin stabilization and to influence the formation of secondary axes in *Xenopus* embryos. The mFrz-8 CRD has been demonstrated to bind cell surface *Xenopus* Wnt-8 (XWnt-8) protein, indicating that this region is sufficient for binding ligand. In addition, the CRD portion of Frizzled-8 has potent antagonizing activity of Wnt signaling as assayed by inhibition of secondary axes induced by Xwnt-8 mRNA. The crystal structure of mFrz-8 CRD exhibits a dimer interface that is also present in sFRP-3, and suggests that CRD dimerization may be important for Wnt signaling.

References:

1. Wang, Y. *et al.* (1996) J. Biol. Chem. **271**:4468.
2. Borello, U. *et al.* (1999) Mech. Dev. **89**:173.
3. Hsieh, J-C. *et al.* (1999) Proc. Natl. Acad. Sci. USA **96**:3546.
4. Dann, C. *et al.* (2001) Nature **412**:86.
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