

#### DESCRIPTION

<b>Species Reactivity</b>	Human/Mouse
<b>Specificity</b>	Detects human and mouse Frizzled-1 in direct ELISAs and Western blots. In direct ELISAs, approximately 30% cross-reactivity with recombinant mouse (rm) Frizzled-9 is observed and no cross-reactivity with recombinant human (rh) Frizzled-5, rmFrizzled 2, 3, 4, 6, 7, 8, or rhMFRP is observed.
<b>Source</b>	Monoclonal Rat IgG <sub>2A</sub> Clone # 162531
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant mouse Frizzled-1 Gln72-His248 (Met122Ile) Accession # O70421
<b>Conjugate</b>	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
<b>Formulation</b>	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

#### 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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Flow Cytometry</b>	0.25-1 µg/10 <sup>6</sup> cells	HEK293 human embryonic kidney cell line

#### PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> ● 12 months from date of receipt, 2 to 8 °C as supplied.

#### BACKGROUND

The Wnt genes encode a large family of glycoproteins that are essential in development and tissue maintenance (1). Members of the Frizzled family of proteins serve as receptors for the Wnt signaling pathway (2). Ten mouse and human Frizzled genes have been 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 (CRD), a variable-length linker region, a seven-pass transmembrane region, and a variable-length C-terminal cytoplasmic domain. The CRD comprises 642 amino acids and shares 95% identity with the human orthologue. Frizzled-1 mRNA has been detected in relatively large amounts in adult heart, placenta, lung, kidney, pancreas, prostate, and ovary, and in fetal lung and kidney (3). Several Frizzled-dependent signaling pathways exist (2). Their activation depends on the Wnt ligand and the cell context. Members of the low density lipoprotein receptor-related protein (LRP) are co-receptors for the Wnt ligands. LRP5/6 serve as co-receptors in the Wnt/Frizzled canonical pathway that alters gene expression via the stabilization of β-catenin (4, 5). LRP1 may down regulate Wnt-3a/Frizzled-1 signaling in the canonical pathway by sequestering Frizzled-1 (6). Frizzled-1 is one of the purported Wnt-10b receptors whose signaling inhibits adipogenesis in preadipocytes (7). Frizzled-1 may be part of a feedback mechanism to modulate the effects of BMP-2 in mesenchymal cells since upregulation of its expression by BMP-2 counteracts the effects of BMP-2 and Wnt-3a in inducing the expression of the osteoblast differentiation marker, alkaline phosphatase (8).

#### References:

1. Wodarz, A. and R. Nusse (1998) *Annu. Rev. Cell Dev. Biol.* **14**:59.
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4. Tamai, K. *et al.* (2000) *Nature* **407**:530.
5. Pinson, K. *et al.* (2000) *Nature* **407**:535.
6. Zielberberg, A. *et al.* (2004) *J. Biol. Chem.* **279**:17535.
7. Bennet, C. *et al.* (2002) *J. Biol. Chem.* **277**:30998.
8. Roman-Roman, S. *et al.* (2004) *J. Biol. Chem.* **279**:5725.

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