

## 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 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 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.

	Recommended Concentration	Sample
<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> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

## 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.
2. Hsieh, J.-C. (2004) *Front. Biosci.*, **9**:1333.
3. Xu, L. *et al.* (2001) *Matrix Biol.* **2**:147.
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.

## PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.