

**DESCRIPTION**

<b>Source</b>	Mouse myeloma cell line, NS0-derived human Frizzled-5 protein		
	Human Frizzled-5 (Ala27-Pro167) Accession # AAC50385	IEGRMD	Human IgG <sub>1</sub> (Pro100-Lys330)
	N-terminus		C-terminus
<b>N-terminal Sequence</b>	Ala27		
<b>Analysis</b>			
<b>Structure / Form</b>	Disulfide-linked homodimer		
<b>Predicted Molecular Mass</b>	42.5 kDa (monomer)		

**SPECIFICATIONS**

<b>SDS-PAGE</b>	55-60 kDa, reducing conditions
<b>Activity</b>	Measured by its ability to bind biotinylated Wnt-5a in a functional ELISA with an estimated $K_d < 1.5$ nM.
<b>Endotoxin Level</b>	<0.01 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 200 µg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**BACKGROUND**

Frizzled-5 is an approximately 62 kDa 7-TM glycoprotein that is one of at least ten Frizzled family Wnt receptors (1, 2). Wnt engagement of Frizzled, with low density lipoprotein receptor-related proteins LRP-5 or LRP-6 acting as co-receptors, stabilizes β-catenin and promotes gene transcription that is important in development and tissue maintenance (1). Frizzleds can also signal through non-canonical pathways independently of LRPs (1). Mature human Frizzled-5 consists of a 212 amino acid (aa) extracellular domain (ECD), a 283 aa 7-TM region, and a 64 aa cytoplasmic domain with a PDZ binding motif (2, 3). The ECD includes a cysteine-rich region (CRD) that binds Wnts and is highly conserved among Frizzled proteins (1, 2, 4). Within the N-terminal ECD, human Frizzled-5 shares 95% aa sequence identity with mouse and rat Frizzled-5. Frizzled-5 is expressed in embryonic tissues (telencephalon, pituitary, thalamus, hypothalamus, eye, liver, spleen, lung, and kidney), in the adult retina, colon, and pancreatic islets, some cancer cell lines, human embryonic stem cells, and in some monocyte and lymphocyte populations (2-8). Frizzled-5 functions as a receptor for Wnt-5a, Wnt-9b, Wnt-10b, Wnt-2b, and Wnt-7a (3, 5, 9, 10). It plays a role in the maintenance of yolk sac and placental vasculature (Ishikawa) and in the regression of vitreous vasculature during eye development (5, 6, 11). It mediates the synaptogenic effect of Wnt-7a, contributes to the development of neuronal polarity, and is required for neuronal survival in the thalamus (3, 12, 13). In macrophages and monocytes, Frizzled-5 signaling induces the production of inflammatory cytokines (7, 8).

**References:**

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