

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived		
	Human Frizzled-1 (Gln73 - His253) Accession # Q9UP38	IEGRD	Human IgG ₁ (Pro100 - Lys330)
	N-terminus		C-terminus
N-terminal Sequence Analysis	Gly82 & No results obtained: Gln73 predicted		
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	46.2 kDa (monomer)		

SPECIFICATIONS

SDS-PAGE	59-66 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. In a 100 µL reaction mixture containing biotinylated rmWnt-5a at 100 ng/mL and rhFrizzled-1/Fc Chimera dilutions at 0.1-8,000 ng/mL, the concentration of rhFrizzled-1/Fc Chimera that produces 50% of the optimal binding response is found to be approximately 20-80 ng/mL. Optimal concentrations should be determined by each laboratory for each application.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 300 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Frizzled-1 is one of at least ten seven-transmembrane (7TM) glycoproteins of the Frizzled family of Wnt receptors (1 - 3). Frizzled proteins are thought to be G-protein-coupled (1, 4). Wnt engagement, 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). Frizzled-1 can also act as a Wnt antagonist, for example, when sequestered from LRP-5/6 by LRP-1 (5, 6). Human Frizzled-1 cDNA encodes 647 aa including a 69 aa signal peptide, an extracellular cysteine-rich domain (CRD, aa 111 - 230) that binds Wnts and is highly conserved among Frizzleds, a linker region, the 7TM region, and the C-terminal cytoplasmic domain (2). Most Frizzleds, including Frizzled-1, contain a C-terminal PDZ binding motif (1). Within aa 73 - 253, human Frizzled-1 shares 94%, 93%, 97% and 98% aa identity with mouse, rat, bovine and canine Frizzled-1, respectively. Frizzleds can form homodimers or selective hetero-oligomers with other family members, which can involve the TM regions and possibly the CRD (1, 7). Frizzled-1 shares high aa identity (~76%) with Frizzled-2 and -7, but may differ in expression and Wnt selectivity (3, 8). Specifically, Wnt-3a interaction with rat Frizzled-1, but not Frizzled-2, blocks toxicity of the Alzheimers Aβ peptide on PC12 cells (8). In bone, Frizzled-1 may be part of a feedback mechanism to modulate the effects of BMP-2 on mesenchymal cells (6, 9). Frizzled-1 is also one of the purported Wnt10b receptors whose signaling inhibits adipocyte differentiation (10). It is widely expressed, with mRNA detection in adult heart, placenta, lung, kidney, pancreas, prostate, and ovary, and in fetal lung and kidney (2).

References:

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