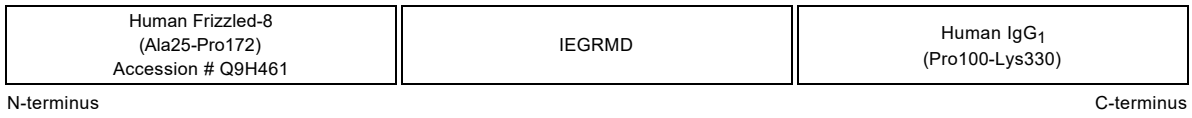
Biotinylated Recombinant Human Frizzled-8 Fc Chimera

Catalog Number: BT6129

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human Frizzled-8 protein



N-terminal Sequence Analysis	Ala25
Structure / Form	Disulfide-linked homodimer, Biotinylated via amines
Predicted Molecular Mass	43 kDa

SPECIFICATIONS

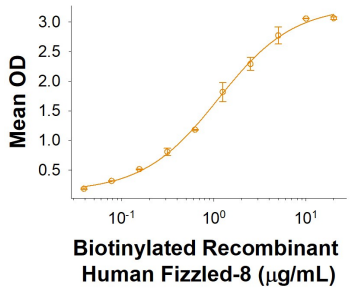
SDS-PAGE	56-63 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human Wnt-3a (Catalog # 5036-WN) is immobilized at 1 µg/mL (100 µL/well), Biotinylated Recombinant Human Frizzled-8 Fc Chimera (Catalog # BT6129) binds with an ED_{50} of 0.5-3 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 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.** • 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.

DATA

Binding Activity



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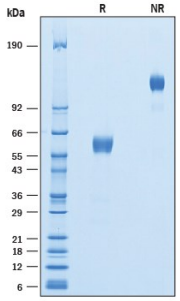
SDS-PAGE



2 µg/lane of Biotinylated Recombinant Human Frizzled-8 Fc Chimera (Catalog # BT6129) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 53-63 kDa and 110-130 kDa, respectively.

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BACKGROUND

Frizzled-8 is one of at least ten seven-transmembrane (7TM) glycoproteins of the Frizzled family of Wnt receptors (1-2). Frizzled proteins are thought to be G-protein-coupled (1). 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). Human Frizzled-8 cDNA encodes 694 amino acids (aa) including a 27 aa signal peptide, a 247 aa extracellular domain (ECD), the 7TM region (aa 276-605), and a C-terminal cytoplasmic domain with a PDZ binding motif (aa 606-694) (2). The ECD includes a cysteine-rich region (CRD, aa 30-151) that binds Wnts and is highly conserved among Frizzleds, and a linker region. Within aa 28-172, human Frizzled-8 shares 99%, 99%, 90% and 85% aa identity with mouse, rat, *Xenopus* and zebrafish Frizzled-8, respectively. It also shares 82% aa identity with human Frizzled-5. Frizzleds can form homodimers or selective hetero-oligomers with other family members, which can involve the TM regions and possibly the CRD (1, 3). During mouse development, Frizzled-8 is expressed in tissues that are important for organizing the anterior-posterior axis (4). Interactions of Frizzled-8 with several non-Wnt ligands have been identified. Interaction with Frizzled-8 and LRP-6 allows R-spondins to activate β-catenin signaling pathways, while interaction with IGFBP-4 (insulin-like growth factor binding protein (4) or CTGF (connective tissue growth factor) inhibits Wnt signaling (5-7). These ligands bind the extracellular CRD of Frizzled-8, blocking Wnt binding. The recombinant Frizzled-8 CRD has also been used to block Wnt signaling and inhibit growth of teratocarcinomas (5-10).

References:

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