Recombinant Human GLP-1R Fc Chimera

Catalog Number: 10646-GL

DESCRIPTION

Source

Chinese Hamster Ovary cell line, CHO-derived human GLP-1R protein

Human GLP-1R (Ala21&Arg24-Glu139) Accession # P43220.2	IEGRMD	Human IgG_1 (Pro100-Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis	Ala21 & Arg24
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	40 kDa

SPECIFICATIONS

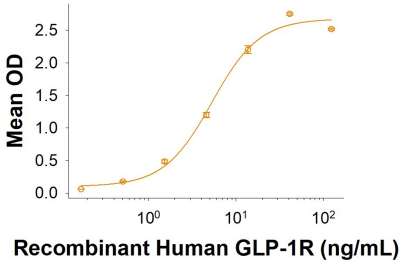
SDS-PAGE	60-72 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When GLP-1 peptide (Tocris (Catalog # 5374) is immobilized at 0.25 µg/mL (100 µL/well), Recombinant Human GLP-1 Fc Chimera binds with an ED_{50} of 2-12 ng/mL.
Endotoxin Level	<0.10 EU per 1 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. 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.

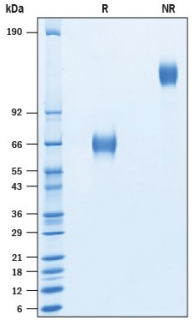
DATA

Binding Activity



When GLP-1 peptide (Catalog # 5374) is immobilized at 0.25 µg/mL (100 µL/well), Recombinant Human GLP-1R Fc Chimera (Catalog # 10646-GL) binds with an ED_{50} of 2-12 ng/mL.

SDS-PAGE



2 µg/lane of Recombinant Human GLP-1R Fc Chimera (Catalog # 10646-GL) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 60-72 kDa and 120-144 kDa, respectively.

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BACKGROUND

Glucagon-like Peptide 1 Receptor (GLP-1R) is a member of the Class B or secretin receptor-like family of G protein-coupled receptors (GPCRs) (1, 2). Activation of GLP-1R signaling regulates secretion of insulin from pancreatic β-cells in a glucose-dependent manner (3). Human GLP-1R consists of an N-terminal, extracellular domain (ECD) containing 6 conserved cysteine residues and a transmembrane domain with seven membrane-spanning alpha-helices, characteristic of GPCRs (2,4). The mature ECD of human GLP-1R shares 92% amino acid (aa) identity with mouse GLP-1R. GLP-1R is expressed in pancreas, lung, heart, kidney, hypothalamus, and stomach and it is a receptor for Glucagon-like Peptide, a regulator of insulin secretion by pancreatic beta cells (1, 4, 5). GLP1R agonists, including GLP-1, Boc5, and Cpd1, have been targeted for research and used as type 2 diabetes treatments (5, 6). GLP1R is also expressed in the brain where it is involved in the control of appetite (5).

References:

1. Song, G. *et al.* (2017) Nature. **546**:312.
2. Hollenstein, K. *et al.* (2013) Trends Pharmacol Sci. **35**:12.
3. Drucker, D.J. *et al.* (1987) PNAS. **84 (10)**:3434.
4. Donnelly, D. (2012) Br. J. Pharmacol. **166**:27.
5. Simo, R. and Hernandez, C. (2017) Diabetes. **66**:1453.
6. Holst, J.J. (2004) Expert Opinion on Emerging Drugs. **9**:155.

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