



Synonym

IGF1R,IGFR,JTK13,CD221,MGC142170,MGC142172,MGC18216

Source

Human IGF-I R, Fc Tag(IGR-H5253) is expressed from human 293 cells (HEK293). It contains AA Glu 31 - Asn 932 (Accession # [P08069-1](#)).

Predicted N-terminus: Glu 31

Molecular Characterization

IGF-I R(Glu 31 - Asn 932) P08069-1	Fc(Pro 100 - Lys 330) P01857
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This protein carries a human IgG1 Fc tag at the C-terminus.

The protein has a calculated MW of 129.3 kDa. The protein migrates as 70-75 kDa and 105-115 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 1.0 EU per µg by the LAL method.

Purity

>95% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

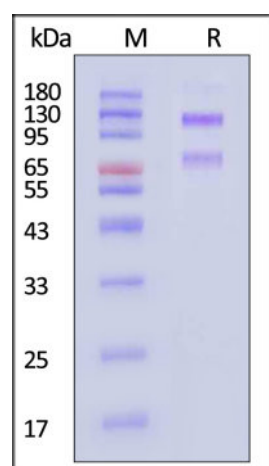
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE

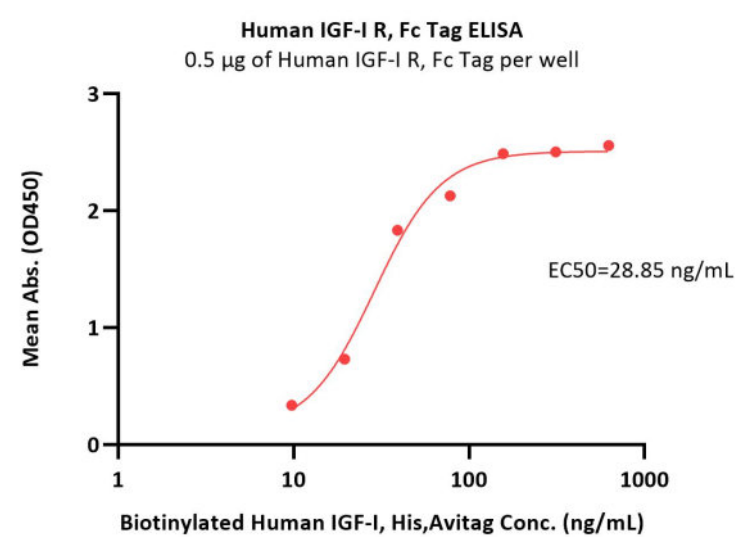
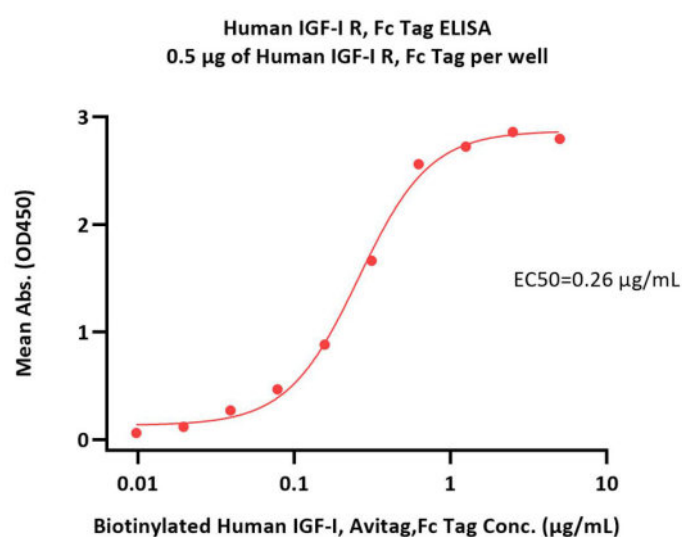


Human IGF-I R, Fc Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

Bioactivity-ELISA

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Immobilized Human IGF-I R, Fc Tag (Cat. No. IGR-H5253) at 5 µg/mL (100 µL/well) can bind Biotinylated Human IGF-I, Avitag, Fc Tag (Cat. No. IG1-H82F7) with a linear range of 0.01-0.625 µg/mL (QC tested).

Immobilized Human IGF-I R, Fc Tag (Cat. No. IGR-H5253) at 5 µg/mL (100 µL/well) can bind Biotinylated Human IGF-I, His, Avitag (Cat. No. IG1-H82Q6) with a linear range of 10-78 ng/mL (Routinely tested).

Background

The Insulin-like Growth Factor 1 Receptor (IGF1) is also known as CD221, JTK13, and is a transmembrane receptor that is activated by IGF-1 and by the related growth factor IGF-2. It belongs to the large class of tyrosine kinase receptors. This receptor mediates the effects of IGF-1, which is a polypeptide protein hormone similar in molecular structure to insulin. IGF1R is made up of two alpha subunits and two beta subunits, the Both the α and β subunits are synthesized from a single mR precursor. The precursor is then glycosylated, proteolytically cleaved, and crosslinked by cysteine bonds to form a functional transmembrane $\alpha\beta$ chain. The α chains are located extracellularly while the β subunit spans the membrane and are responsible for intracellular signal transduction upon ligand stimulation. IGF1R have a binding site for ATP, which is used to provide the phosphates for autophosphorylation. There is a 60% homology between IGF1R and the insulin receptor. In response to ligand binding, the α chains induce the tyrosine autophosphorylation of the β chains. This event triggers a cascade of intracellular signaling that, while somewhat cell type specific, often promotes cell survival and cell proliferation.

Clinical and Translational Updates

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