



### 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

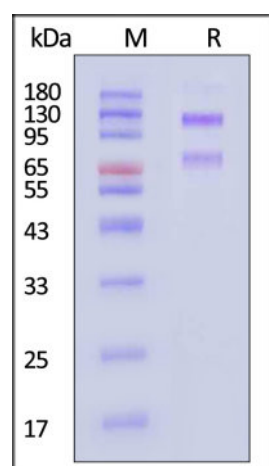
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*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

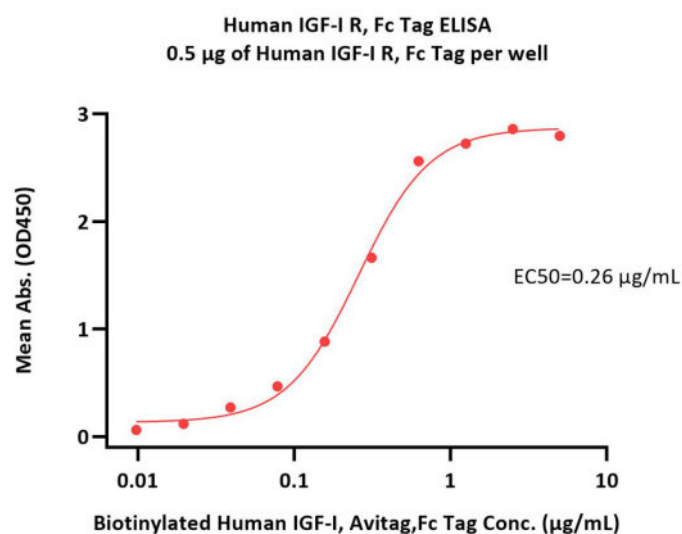


Human IGF-I R, Fc Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

### 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).

## 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  $\alpha$  and  $\beta$  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  $\alpha$  chains are located extracellularly while the  $\beta$  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  $\alpha$  chains induce the tyrosine autophosphorylation of the  $\beta$  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

Please contact us via [TechSupport@acrobiosystems.com](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.

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