



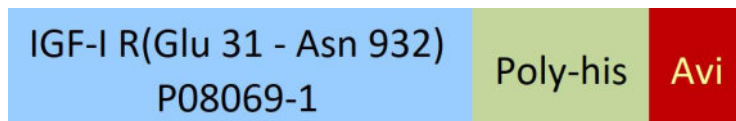
Synonym

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

Source

Biotinylated Human IGF-I R, His,Avitag(IGR-H82E3) is expressed from human 293 cells (HEK293). It contains AA Glu 31 - Asn 932 (Accession # [P08069-1](#)).

Molecular Characterization



This protein carries a polyhistidine tag at the C-terminus, followed by an Avi tag (Avitag™).

The protein has a calculated MW of 106.6 kDa. The protein migrates as 40-55 kDa,60 kDa and 95-150 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE) due to glycosylation.

Labeling

Biotinylation of this product is performed using Avitag™ technology. Briefly, the single lysine residue in the Avitag is enzymatically labeled with biotin.

Protein Ratio

Passed as determined by the HABA assay / binding ELISA.

Endotoxin

Less than 1.0 EU per µg by the LAL method.

Purity

>90% 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

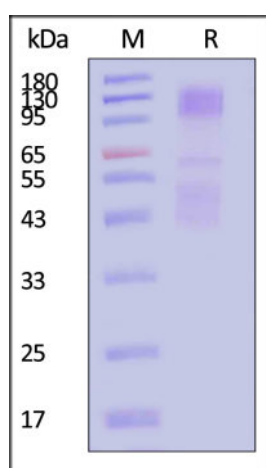
After reconstitution, this product is stable after storage at -20°C or lower.

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

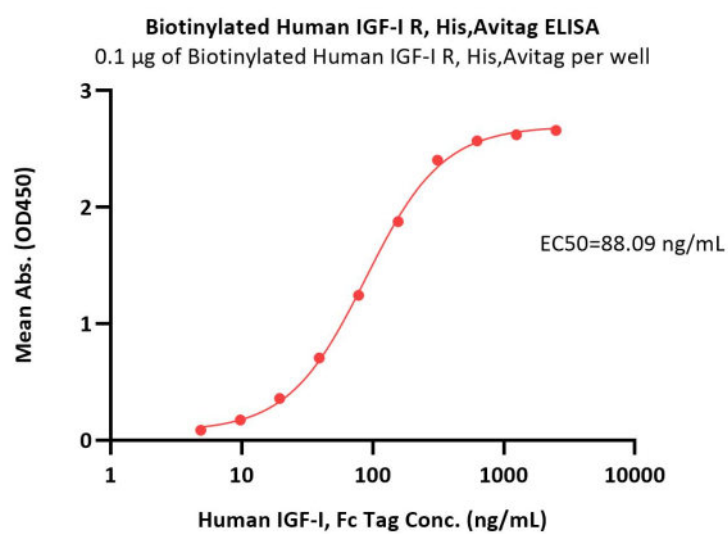


Biotinylated Human IGF-I R, His,Avitag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90% (With [Star Ribbon Pre-stained Protein Marker](#)).

Bioactivity-ELISA

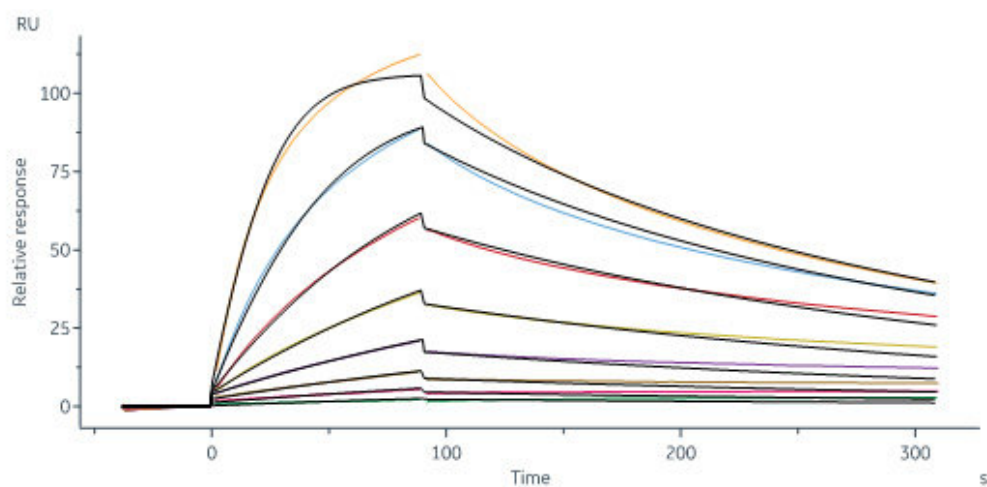
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Immobilized Biotinylated Human IGF-I R, His,Avitag (Cat. No. IGR-H82E3) at 1 µg/mL (100 µL/well) on streptavidin (Cat. No. STN-N5116) precoated (0.5 µg/well) plate can bind Human IGF-I, Fc Tag with a linear range of 5-156 ng/mL (QC tested).

Bioactivity-SPR



Biotinylated Human IGF-I R, His,Avitag (Cat. No. IGR-H82E3) immobilized on CM5 Chip can bind Human IGF-I, His Tag (Cat. No. IG1-H5245) with an affinity constant of 33.9 nM as determined in a SPR assay (Biacore 8K) (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 mRNA 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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