

# Biotinylated Human IGF-I R / IGF-1 R Protein, His,Avitag™ (MALS verified)

Catalog # IGR-H83E3



BIOSYSTEMS  
**Acro**

## Synonym

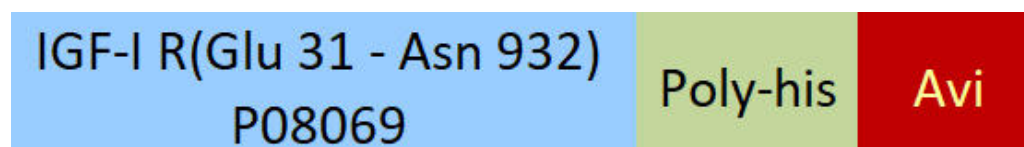
IGF-I R / IGF-1 R

## Source

Biotinylated Human IGF-I R Protein, His,Avitag (IGR-H83E3) is expressed from CHO cells. It contains AA Glu 31 - Asn 932 (Accession # [P08069](#)).

Predicted N-terminus: Glu 31

## 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 106.4 kDa. The protein migrates as 35-45 kDa and 95-130 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE) due to glycosylation.

The protein is designed as a dimer.

## 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.

## Purity

>95% as determined by SDS-PAGE.

>95% as determined by SEC-MALS.

## 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.**

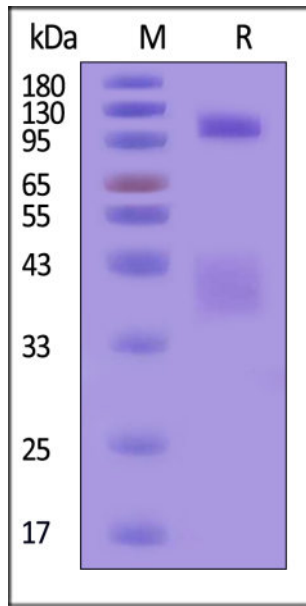
This product is stable after storage at:

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

## ACRO Quality Management System

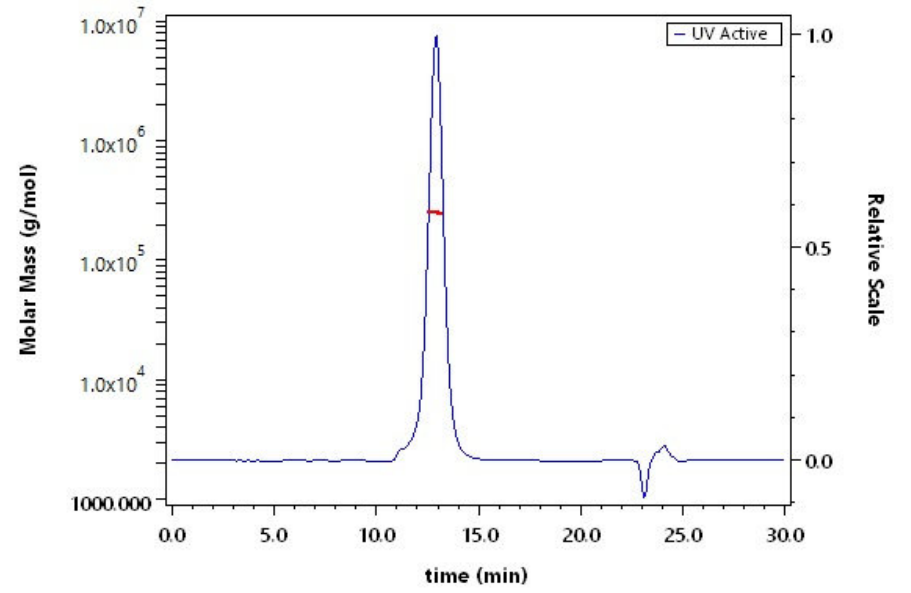
- [QMS\(ISO, GMP\)](#)
- [Quality Advantages](#)
- [Quality Control Process](#)

## SDS-PAGE



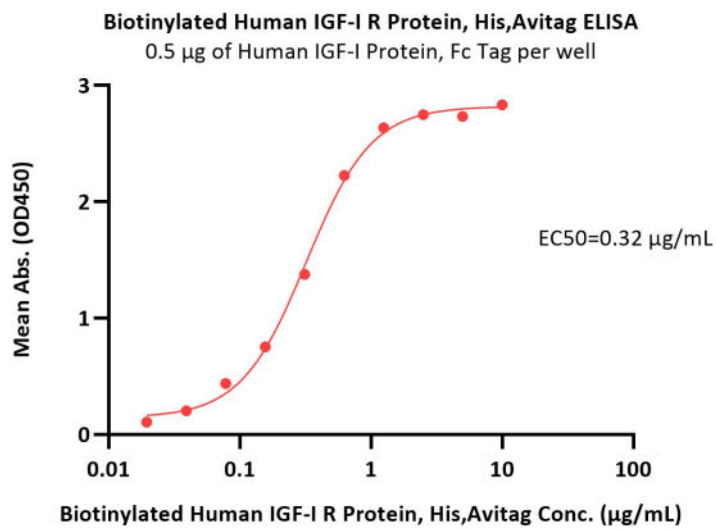
Biotinylated Human IGF-I R Protein, His,Avitag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

## SEC-MALS



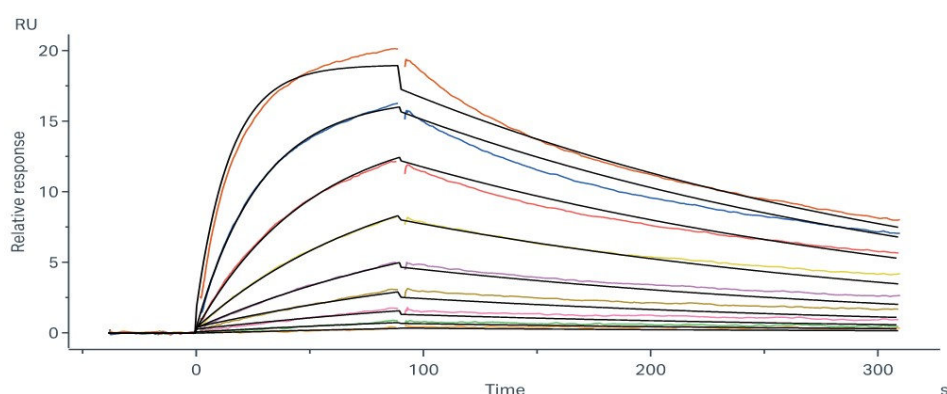
The purity of Biotinylated Human IGF-I R Protein, His,Avitag (Cat. No. IGR-H83E3) is more than 95% and the molecular weight of this protein is around 220-270 kDa verified by SEC-MALS.

## Bioactivity-ELISA



Immobilized Human IGF-I Protein, Fc Tag (Cat. No. IG1-H5263) at 5 µg/mL (100 µL/well) can bind Biotinylated Human IGF-I R Protein, His,Avitag (Cat. No. IGR-H83E3) with a linear range of 0.02-0.625 µg/mL (QC tested).

## Bioactivity-SPR



Biotinylated Human IGF-I R Protein, His,Avitag (Cat. No. IGR-H83E3) immobilized on SA Chip can bind Human IGF-I Protein, His Tag (Cat. No. IG1-H5245) with an affinity constant of 12.2 nM as determined in a SPR assay (Biacore 8K) (Routinely tested).

## Background

The Insulin-like Growth Factor 1 Receptor (IGF1R) is also known as CD221 and 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 hormone

similar in molecular structure to insulin. IGF1R is made up of two  $\alpha$  subunits and two  $\beta$  subunits. Both the  $\alpha$  and  $\beta$  subunits are synthesized from a single mRNA precursor. The precursor is then glycosylated, proteolytically cleaved, and crosslinked by disulfide bonds to form a functional transmembrane  $\alpha\beta$  chain. The  $\alpha$  chains are located extracellularly, while the  $\beta$  subunits span the membrane and are responsible for intracellular signal transduction upon ligand stimulation. IGF1R has a binding site for ATP, which is used to provide the phosphates for autophosphorylation. There is 60% sequence 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.

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