



## Synonym

IGF-I,IGF1A,somatomedin C,MGF

## Source

Biotinylated Human IGF-I, Avitag,Fc Tag(IG1-H82F7) is expressed from human 293 cells (HEK293). It contains AA Gly 49 - Ala 118 (Accession # [P05019-1](#)).

Predicted N-terminus: Gly

## Molecular Characterization

Avi	Fc(Pro 100 - Lys 330) P01857	IGF-I(Gly 49 - Ala 118) P05019-1
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This protein carries an Avi tag (Avitag™) at the N-terminus, followed by a human IgG1 Fc tag.

The protein has a calculated MW of 35.8 kDa. The protein migrates as 35-43 kDa 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, 0.5M Arginine, 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

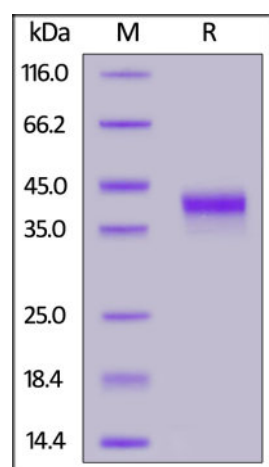
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*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.

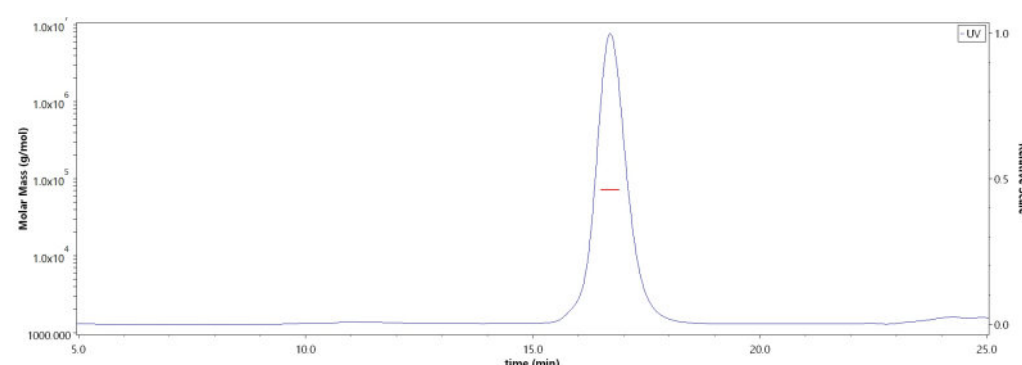
## SDS-PAGE



Biotinylated Human IGF-I, Avitag,Fc Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90%.

## Bioactivity-ELISA

## SEC-MALS



The purity of Biotinylated Human IGF-I, Avitag,Fc Tag (Cat. No. IG1-H82F7) is more than 85% and the molecular weight of this protein is around 65-85 kDa verified by SEC-MALS.

[Report](#)

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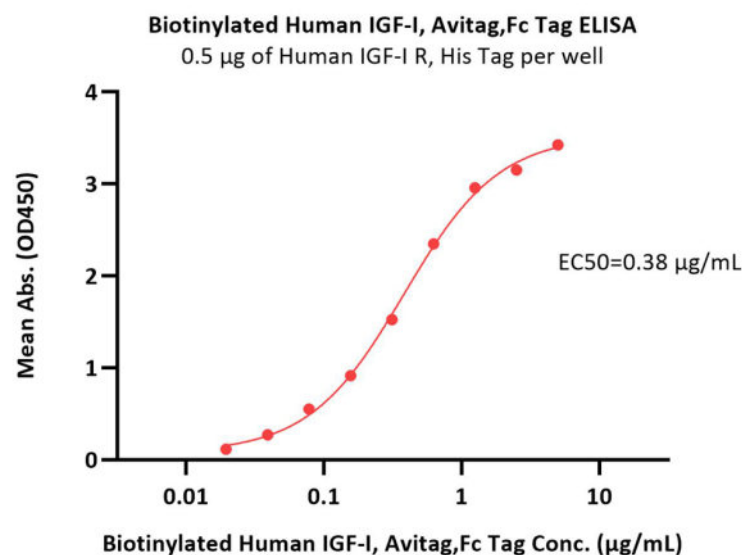


# Biotinylated Human IGF-I Protein, Avitag™,Fc Tag (MALS verified)

Catalog # IG1-H82F7



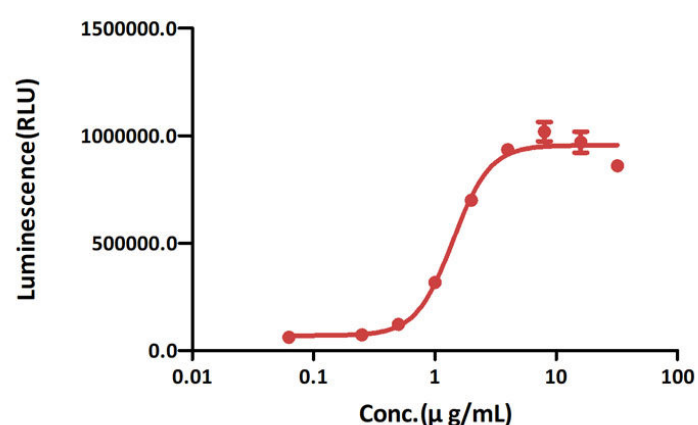
BIOSYSTEMS  
**Acro**



Immobilized Human IGF-I R, His Tag (Cat. No. IGR-H5229) 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 0.02-0.625 µg/mL (QC tested).

## Bioactivity-Bioactivity CELL BASE

### Biotinylated Human IGF-I Protein, Avitag™,Fc Tag (MALS verified) stimulates Human IGF-1 R (Luc) HEK293 Reporter Cell



Biotinylated Human IGF-I Protein, Avitag™,Fc Tag (MALS verified) (Cat. No. IG1-H82F7) stimulates Human IGF-1 R (Luc) HEK293 Reporter Cell. The EC50 of the effect is 1.413 µg/mL (Routinely tested).

## Background

Insulin-like growth factor 1 (IGF-1) is also known as somatomedin C, IGF1A, IGFI, sulfation factor, and is a hormone similar in molecular structure to insulin. It plays an important role in childhood growth and continues to have anabolic effects in adults. A synthetic analog of IGF-1, mecasermin is used for the treatment of growth failure. IGF-1 consists of 70 amino acids in a single chain with three intramolecular disulfide bridges. IGF-1 has a molecular weight of 7649 daltons. IGF-1 is produced primarily by the liver as an endocrine hormone as well as in target tissues in a paracrine/autocrine fashion. IGF-1 binds to at least two cell surface receptors: the Insulin-like growth factor 1 receptor, abbreviated as "IGF1R", and the insulin receptor. The IGF-1 receptor seems to be the "physiologic" receptor - it binds IGF-1 at significantly higher affinity than the IGF-1 that is bound to the insulin receptor. Like the insulin receptor, the IGF-1 receptor is a receptor tyrosine kinase - meaning it signals by causing the addition of a phosphate molecule on particular tyrosines. Its primary action is mediated by binding to its specific receptor IGF1R, present on many cell types in many tissues. Binding to the IGF1R, a receptor tyrosine kinase, initiates intracellular signaling; IGF-1 is one of the most potent natural activators of the AKT signaling pathway, a stimulator of cell growth and proliferation, and a potent inhibitor of programmed cell death. Insulin-like growth factor 1 has been shown to bind and interact with all the IGF-1 Binding Proteins (IGFBPs), of which there are six (IGFBP1-6). Specific references are provided for interactions with IGFBP3, IGFBP4 and IGFBP7.

## Clinical and Translational Updates

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Catalog # IG1-H82F7



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