

Human IGF-I Protein, Fc Tag (MALS verified)

Catalog # IG1-H5263



BIOSYSTEMS
Acro
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Synonym

IGF-I,IGF1A,somatomedin C,MGF

Source

Human IGF-I Protein, Fc Tag(IG1-H5263) is expressed from human 293 cells (HEK293). It contains AA Gly 49 - Ala 118 (Accession # [P05019-1](#)).

Predicted N-terminus: Phe

Molecular Characterization

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

The protein has a calculated MW of 34.1 kDa. The protein migrates as 38-40 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 / rFC method.

Purity

>90% as determined by SDS-PAGE.

>90% 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

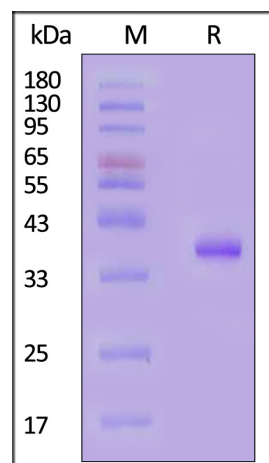
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

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.

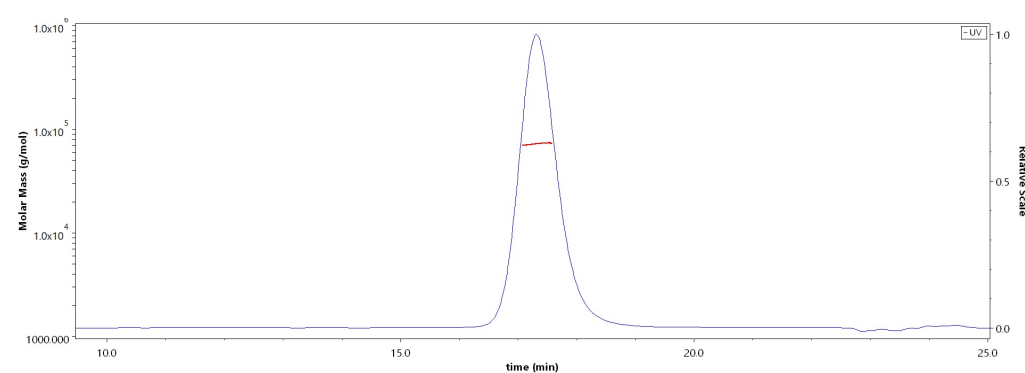
SDS-PAGE



Human IGF-I Protein, 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% (With [Star Ribbon Pre-stained Protein Marker](#)).

Bioactivity-ELISA

SEC-MALS



The purity of Human IGF-I Protein, Fc Tag (Cat. No. IG1-H5263) is more than 90% and the molecular weight of this protein is around 68-82 kDa verified by SEC-MALS.

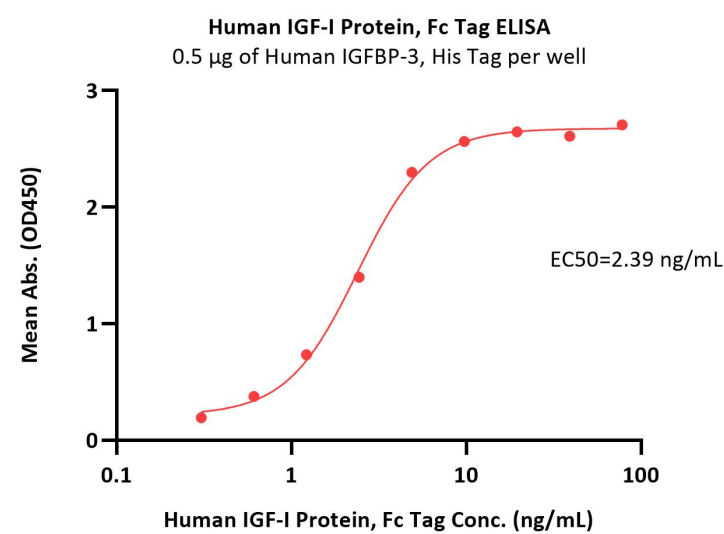
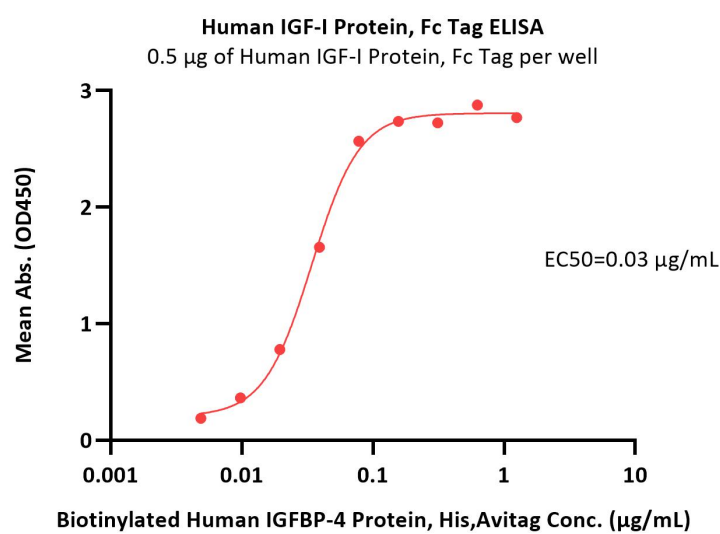
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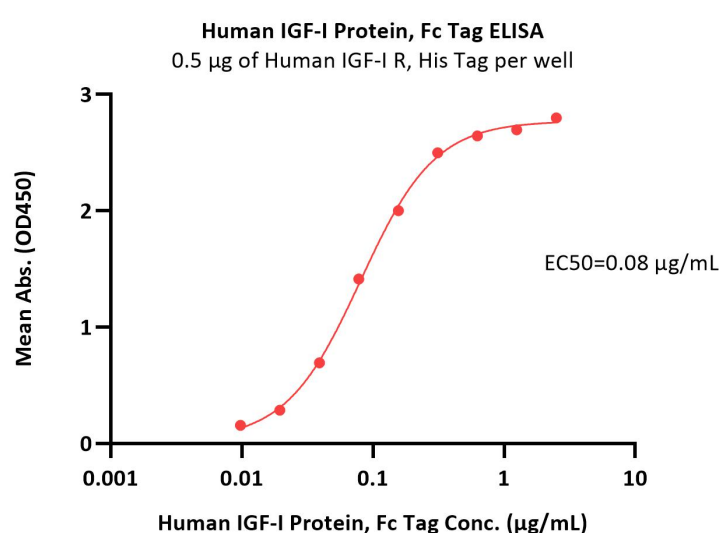
➤ www.acrobiosystems.com

4/21/2025



Immobilized Human IGF-I Protein, Fc Tag (Cat. No. IG1-H5263) at 5 µg/mL (100 µL/well) can bind Biotinylated Human IGFBP-4 Protein, His,Avitag (Cat. No. IG4-H82E3) with a linear range of 0.005-0.078 µg/mL (QC tested).

Immobilized Human IGFBP-3, His Tag (Cat. No. IG3-H52H9) at 5 µg/mL (100 µL/well) can bind Human IGF-I Protein, Fc Tag (Cat. No. IG1-H5263) with a linear range of 0.3-5 ng/mL (Routinely tested).



Immobilized Human IGF-I R, His Tag (Cat. No. IGR-H5229) at 5 µg/mL (100 µL/well) can bind Human IGF-I Protein, Fc Tag (Cat. No. IG1-H5263) with a linear range of 0.01-0.156 µg/mL (Routinely tested).

Background

Insulin-like growth factor 1 (IGF-1 or IGF-I), also known as somatomedin C, is the dominant effector of growth hormone and is structurally homologous to proinsulin. Human IGF-1 is synthesized as two precursor isoforms with N- and alternate C-terminal propeptides (1). These isoforms are differentially expressed by various tissues (1). The 7.6 kDa mature IGF-1 is identical between isoforms and is generated by proteolytic removal of the N- and C-terminal regions. Mature human IGF-1 shares 94% and 96% aa sequence identity with mouse and rat IGF-1, respectively (2), and exhibits cross-species activity. It shares 64% aa sequence identity with mature human IGF2. Circulating IGF-1 is produced by hepatocytes, while local IGF-1 is produced by many other tissues in which it has paracrine effects (1). IGF-1 induces the proliferation, migration, and differentiation of a wide variety of cell types during development and postnatally (3). IGF-1 regulates glucose and fatty acid metabolism, steroid hormone activity, and cartilage and bone metabolism (4-7). It plays an important role in muscle regeneration and tumor progression (1, 8). IGF-1 binds IGF1R, IGF2R, and the insulin receptor, although its effects are mediated primarily by IGF1R (9). IGF-1 association with IGF binding proteins increases its plasma half-life and modulates its interactions with receptors (10).

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