

Human IGF-I Protein, premium grade

Catalog # IG1-H5117



BIOSYSTEMS
Acro

Synonym

IGF-I, IGF1A, somatomedin C, MGF

Source

Human IGF-I Protein, premium grade (IG1-H5117) is expressed from *E. coli* cells. It contains AA Gly 49 - Ala 118 (Accession # [P05019-1](#)).

Predicted N-terminus: Gly 49

It is produced under our rigorous quality control system that incorporates a comprehensive set of tests including sterility and endotoxin tests. Product performance is carefully validated and tested for compatibility for cell culture use or any other applications in the early preclinical stage. When ready to transition into later clinical phases, we also offer a custom GMP protein service that tailors to your needs. We will work with you to customize and develop a GMP-grade product in accordance with your requests that also meets the requirements for raw and ancillary materials use in cell manufacturing of cell-based therapies.

Molecular Characterization

IGF-I(Gly 49 - Ala 118)
P05019-1

This protein carries no "tag".

The protein has a calculated MW of 7.7 kDa. The protein migrates as 8 kDa±3 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE).

Endotoxin

Less than 0.01 EU per µg by the LAL method / rFC method.

Host Cell Protein

<0.5 ng/µg of protein tested by ELISA.

Host Cell DNA

<0.02 ng/µg of protein tested by qPCR.

Sterility

Negative

Mycoplasma

Negative

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:

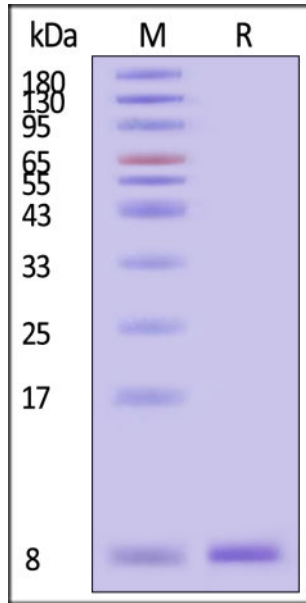
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

ACRO Quality Management System

- [QMS\(ISO, GMP\)](#).

- [Quality Advantages](#)
- [Quality Control Process](#)

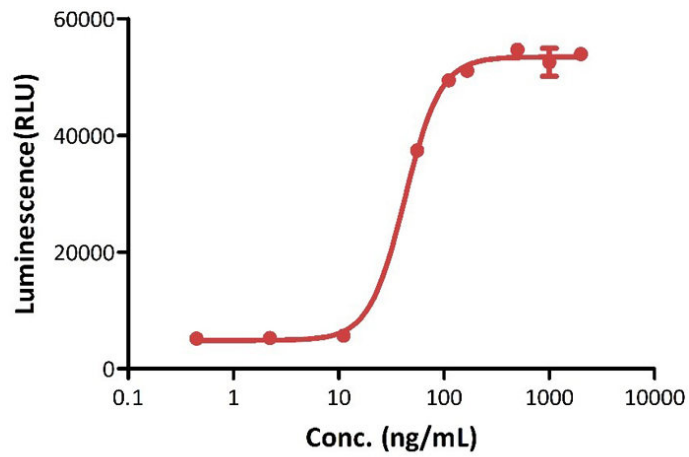
SDS-PAGE



Human IGF-I Protein, premium grade 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](#)).

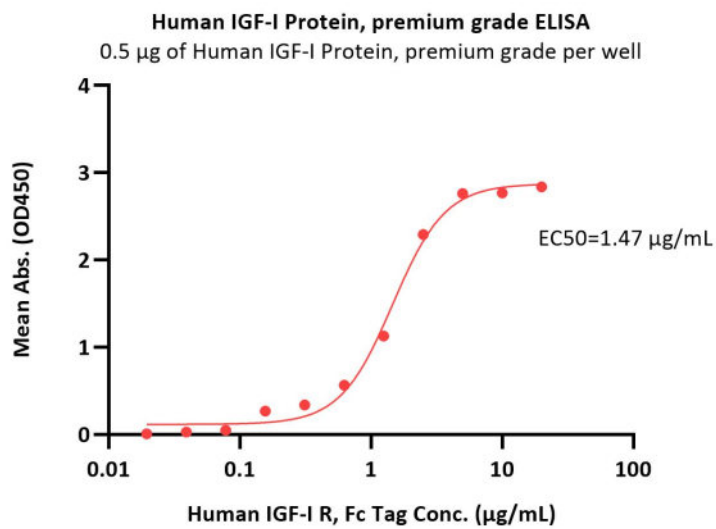
Bioactivity-CELL BASE

Human IGF-I Protein, premium grade stimulate Human IGF-1 R (Luc) HEK293 Reporter Cell



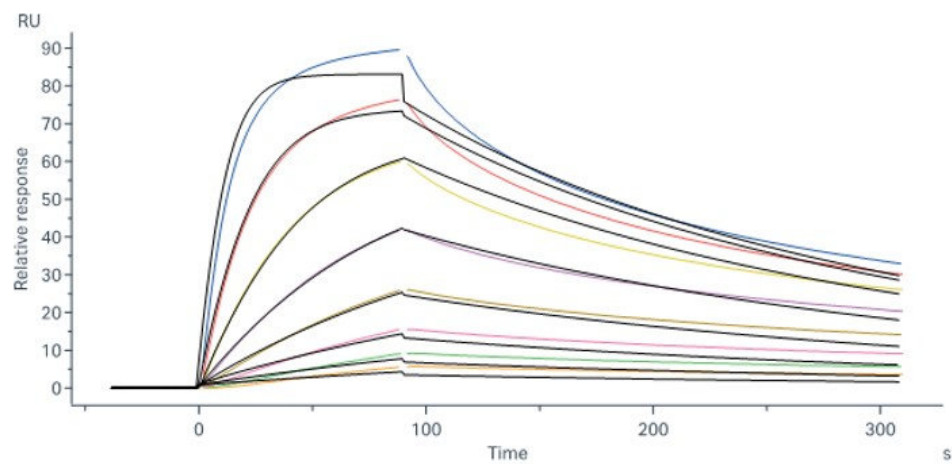
Human IGF-I Protein, premium grade (Cat. No. IG1-H5117) stimulate Human IGF-1 R (Luc) HEK293 Reporter Cell. The specific activity of Human IGF-I Protein, premium grade is $> 3.00 \times 10^2$ IU/mg, which is calibrated against human IGF-I WHO International Standard (NIBSC code: 91/554) (QC tested).

Bioactivity-ELISA



Immobilized Human IGF-I Protein, premium grade (Cat. No. IG1-H5117) at 5 µg/mL (100 µL/well) can bind Human IGF-I R, Fc Tag (Cat. No. IGR-H5253) with a linear range of 0.06-4 µg/mL (Routinely tested).

Bioactivity-SPR



Biotinylated Human IGF-I R Protein, His,Avitag (Cat. IGR-H83E3) immobilized on SA Chip can bind Human IGF-I Protein, premium grade (Cat. No. IG1-H5117) with an affinity constant of 9.16 nM as determined in a SPR assay (Biacore 8K) (QC 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).

Discounts, Gifts,
and more!



www.acrobiosystems.com



6/5/2026