Miltenyi Biotec

Human IGF-1
research grade

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1. Description

Products

Human IGF-1, research grade.

Recombinant human insulin-like growth factor 1.

Content in µg	Order no.
100	130-093-886
1000	130-093-887

Biological activity

The ED_{50} is ≤2 ng/mL corresponding to an activity of $\geq 5\times10^5$ U/mg.

▲ **Note:** The ED_{50} is determined by proliferation assay using mouse FDC-P1 cells.

Primary structure

Single, non-glycosylated polypeptide chain (70 amino acid residues).

Molecular mass

7.7 kDa.

Source

Produced in *E. coli*.

Product format

Lyophilized from a filtered (0.2 µm) buffer solution.

Stabilizer

None.

Purity

>97% as determined by SDS-PAGE analysis.

Endotoxin level

Low endotoxin (<1 EU/µg cytokine) as determined by Limulus Amebocyte Lysate (LAL) assay.

Storage

Lyophilized Human IGF-1, research grade should be stored at –20 °C. The expiration date is indicated on the vial label. Upon reconstitution aliquots should be stored at –20 °C or below. Avoid repeated freeze-thaw cycles.

Reconstitution

It is recommended to reconstitute lyophilized Human IGF-1, research grade with deionized sterile-filtered water to a final concentration of 0.1–1.0 mg/mL in a minimal volume of 100 µL. Further dilutions should be prepared with 0.1% bovine serum albumin (BSA) or human serum albumin (HSA) in phosphate-buffered saline.

1.1 Background information

Insulin-like growth factor 1 (IGF-1), also known as somatomedin-C, is a protein that stimulates the proliferation and survival of various cell types including muscle, bone, and cartilage tissue *in vitro*. It plays an important role in childhood growth and continues to have anabolic effects in adults. IGF-1 belongs to the family of insulin-like growth factors, binds to the IGF-1 receptor, and activates the PI3K/AKT pathway as well as the ERK1/2 pathway. It is mainly produced in the liver and stimulates differentiation and proliferation of myeloid cells together with IL-3.

1.2 Applications

Human IGF-1 can be used for a variety of applications including:

- Cell culture neurobiology.
- Differentiation and proliferation of myeloid cells.

Optimal concentration for a specific application should be determined by a dose-response experiment.

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