CREATIVE BIOMART®
Cosmetic Ingredients

Recombinant Human Insulin-like Growth Factor-1

Product Information

Cat
CGF-036
Product Name
Recombinant Human Insulin-like Growth Factor-1
Synonyms
Somatomedin C, IGF-I, IGF-IA, Mechano growth factor, MGF
GeneID
3479
Source
Escherichia coli.
Molecular Weight
Approximately 7.6 kDa, a single non-glycosylated polypeptide chain containing 70 amino acids.
AA Sequence
GPETLCGAEL VDALQFVCGD RGFYFNKPTG YGSSSRRAPQ TGIVDECCFR SCDLRRLEMY CAPLKPAKSA
Purity
> 97 % by SDS-PAGE and HPLC analyses.
Biological Activity
Fully biologically active when compared to standard. The ED50 as determined by a cell proliferation assay using serum free human MCF-7 cells is less than 2 ng/ml, corresponding to a specific activity of > 5.0 × 105 IU/mg.
Physical Appearance

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45-1 Ramsey Road, Shirley, NY 11967, USA

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Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation

Lyophilized from a 0.2 μm filtered concentrated solution in PBS, pH 7.0.

Endotoxin

Less than 0.01 EU/μg of rHuIGF-1 as determined by LAL method.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.

Stability & Storage

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.
- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

Usage

This material is offered by Creative Biomart for research, For research and further manufacturing use only.

background

The insulin-like growth factors (IGFs) belonged to the insulin gene family, are mitogenic polypeptide growth factors that stimulate the proliferation and survival of various cell types including muscle, bone, and cartilage tissue in vitro. The IGFs are similar by structure and function to insulin, but have a much higher growth-promoting activity than insulin. IGF-1 is produced primarily by the liver as an endocrine hormone as well as in target tissues in a paracrine/autocrine fashion. The production of IGF-1 is stimulated by growth hormone (GH) and can be retarded by undernutrition, growth hormone insensitivity, lack of growth hormone receptors, or failures of the downstream signaling pathway post GH receptor including SHP2

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and STAT5B. Recombinant human IGF-1 are globular proteins containing 70 amino acids and 3 intra-molecular disulfide bonds. Mature human IGF-1 shares 94 % and 96 % a.a. sequence identity with mouse and rat IGF-1, respectively, and exhibits cross-species activity.

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