

Recombinant Human Insulin-like Growth Factor-1 (rHuIGF-1)

Catalog Number: 305-01

Description:

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 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.

AA Sequence:

GPETLCGAEL VDALQFVCGD RGFYFNKPTG YGSSSRAPQ TGIVDECCFR SCDLRRLEMY
CAPLKPAKSA

Quantity: 100µg/500µg/1000µg

Source: E. coli.

Molecular Weight:

Approximately 7.6 kDa, a single non-glycosylated polypeptide chain containing 70 amino acids.

Purity: Greater than 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 $> 5.0 \times 10^5$ IU/mg.

Physical Appearance:

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.

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.

Rev. June 04 2017