



## User Manual

**Long R3 Insulin-like Growth Factor-1 (LR3IGF-1) (Human)**  
**Cat. No. HEGFP-12011**

**Description:**

Insulin-like Growth Factor-1 (IGF-1) is the principal hormonal mediator of statural growth. Under normal circumstances, growth hormone (GH) binds to its receptor in the liver, and other tissues, and stimulates the synthesis/secretion of IGF-1. In target tissues, the Type 1 IGF receptor, which is homologous to the insulin receptor, is activated by IGF-1, leading to intracellular signaling which stimulates multiple processes leading to statural growth. The metabolic actions of IGF-1 are in part directed at stimulating the uptake of glucose, fatty acids, and amino acids so that metabolism supports growing tissues. The LR3 is a long-term analog of human IGF-1, specifically designed and manufactured for mammalian cell culture to support large-scale manufacturing of recombinant biopharmaceuticals.

**Source:**

*Escherichia coli*

**Unit:**

20 µg

**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.

**Formulation:**

Lyophilized from a 0.2 µm filtered concentrated solution in 20 mM PB, pH 7.2.

**Storage:**

This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles.

**Molecular Weight:**

Approximately 9.1 kDa, a single non-glycosylated polypeptide chain containing 83 amino acids.

**Endotoxin:**

Less than 5 EU/100µg of LR3IGF-1 as determined by LAL method.

**Usage:**

This material is offered by Cyagen Biosciences for research, laboratory or further evaluation purposes. FOR RESEARCH USE ONLY. NOT INTENDED FOR ANY ANIMAL OR HUMAN THERAP EUTIC OR DIAGNOSTIC USE.

**Biological Activity:**

The ED50 determined by the stimulation of protein synthesis using rat L6 myoblasts is less than 10 ng/mL, corresponding to a specific activity of  $> 1.0 \times 10^5$  IU/mg.

**Physical Appearance:**

Sterile filtered white lyophilized (freeze-dried) powder.

**AA Sequence:**

MFPAMPLSSL FVNGPRTL CG AELVDALQFV CGDRGFYFNK PTGYGSSRR  
APQTGIVDEC CFRSCDLRRL EMYCAPLKPA KSA

**Purity:**

90-95% by SDS-PAGE and HPLC analyses.

Material Safety Data Sheets (MSDSs) are available upon request.

The Certificate of Analysis (COA), which provides detailed quality control information for each product, is also available at the Cyagen website.

Cyagen Biosciences reserves all rights on the technical documents of its culture products. No part of this document may be reproduced or adapted for other purposes without written permission from Cyagen Biosciences.