



LR3 IGF-I Human, E. coli Recombinant Protein

Product Data Sheet

Cat. No.:	A30220200	A30220500	A30221000
Size:	200 µg	500 µg	1 mg

Description

Our bioactive *LR3 IGF-I Human, E. coli Recombinant Protein* is a single, non-glycosylated, polypeptide chain that contains 83 amino acids and has a 9.1 kDa molecular mass.

LR3 IGF-I is a long-term analog of human IGF-I, specifically designed and manufactured for mammalian cell culture. In LR3 IGF-I there is an arginine substitution for the third position glutamic acid and a 13 amino acid N-terminal peptide extension, which is derived from methionyl porcine Growth Hormone. As a result of these modifications, LR3 IGF-1 has a reduced affinity for IGFBPs, a longer half-life, and higher biological potency compared to wildtype IGF-1.

Summary

IGF-1 (Insulin-like growth factor-1) is a major hormonal mediator of statural growth. Under regular circumstances, GH (growth hormone) 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, that is homologous to the insulin receptor, is activated by IGF-1, leading to intracellular signaling which stimulates multiple processes leading to statural growth. IGF-1 metabolic actions are partly directed at stimulating the uptake of glucose, fatty acids, and amino acids so that metabolism supports growing tissues.

Other Names

Long R3 IGF-I, LR3 Insulin-like growth factor I, Insulin-like growth factor 1, IGF-I LR3, IGFI, IGF-1, IGF1, Mechano growth factor (MGF), Somatomedin-C, IBP1, UniProtKB# P05019

Amino Acid Sequence

MFPAMPLSSLFVNGPRTLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIV
DECCFRSCDLRRLEMYCAPLKPAKSA.

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Source

E. coli

Formulation

Sterile filtered white lyophilized (freeze-dried) powder. The protein was lyophilized from a 0.2 µm filtered concentrated solution in 20mM PB, pH 7.2.

Purity

Greater than 97.0% as determined by:

1. Analysis by HPLC.
2. Analysis by SDS-PAGE.

Biological Activity

The ED₅₀ as determined by the stimulation of protein synthesis in L6 myoblasts is less than 10 ng/ml, corresponding to a specific activity of 100,000 units/mg.

Reconstitution

It is recommended to reconstitute the lyophilized LR3 IGF-I in sterile 18M-cm H₂O at a concentration of 100 µg/ml, which can then be further diluted to other aqueous solutions.

Shipping

At ambient temperature. Upon receipt, store the product at the temperature recommended below.

Storage/Expiration

Lyophilized LR3 IGF-I, although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution, LR3 IGF-I should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% [HSA or BSA](#)). **Please prevent freeze-thaw cycles.**

Usage

This product is intended for **Laboratory Research Use Only**. Not for use in diagnostic or therapeutic procedures. This product may not be used as a pharmaceutical or veterinary drug, agricultural product, or food additive.

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