

Product Information Sheet

Recombinant Human IGF-I LR3**Animal-Free manufactured****Catalog#** AF-100-11R3**Source:** *E.coli*

Description: The IGFs are mitogenic, polypeptide growth factors that stimulate the proliferation and survival of various cell types, including muscle, bone, and cartilage tissue *in vitro*. IGFs are predominantly produced by the liver, although a variety of tissues produce the IGFs at distinctive times. The IGFs belong to the Insulin gene family, which also contains insulin and relaxin. The IGFs are similar to insulin by structure and function, but have a much higher growth-promoting activity than insulin. IGF-II expression is influenced by placenta lactogen, while IGF-I expression is regulated by growth hormone. Both IGF-I and IGF-II signal through the tyrosine kinase type I receptor (IGF-IR), but IGF-II can also signal through the IGF-II/Mannose-6-phosphate receptor. Mature IGFs are generated by proteolytic processing of inactive precursor proteins, which contain N-terminal and C-terminal propeptide regions. Recombinant human IGF-I and IGF-II are globular proteins containing 70 and 67 amino acids, respectively, and 3 intra-molecular disulfide bonds. IGF-I LR3 is a recombinant analog of human IGF-I comprised of the complete IGF-I sequence, with an Arginine substitution for the third position Glutamic acid, and a 13 amino acid length N terminus peptide extension. Specifically engineered for higher biological potency *in vitro*, IGF-I LR3 has an increased half-life and a binding aversion to native proteins within the body that make it ideal for both research and large-scale culturing. Recombinant Human IGF-I LR3 is a 9.1 kDa, single, non-glycosylated polypeptide chain containing 83 amino acid residues.

Synonyms: Long R3 IGF-I, Insulin-like Growth Factor-I, Somatamedin C, IGF-IA**Sequence:** MFPAMPLSSL FVNGPRTLPG AELVDALQFV CGDRGFYFNK PTGYGSSRR APQTGIVDEC CFRSCDLRRL EMYCAPLKPA KSA**Authenticity:** Verified by N-terminal and Mass Spectrometry analyses (when applicable).**Purity:** $\geq 98\%$ by SDS-PAGE gel and HPLC analyses.**Endotoxin:** Endotoxin level is < 0.01 ng/ μ g of protein (< 0.1 EU/ μ g).**Protein Content:** Verified by UV Spectroscopy and/or SDS-PAGE gel.**Biological activity:** Determined by its ability to stimulate the proliferation of mouse FDC-P1 cells. The expected ED₅₀ is ≤ 2.0 ng/ml, corresponding to a specific activity of $\geq 5 \times 10^5$ units/mg.For a list of references please visit our website at www.peprotech.com**Country of Origin:** USALot-specific information is not available on Product Information Sheet.
See Certificate of Analysis for details.**Usage:** For Research Use Only. Not for use in diagnostic or therapeutic procedures.**Storage/Stability:**

Product Form	Temperature	Storage Time
Lyophilized	-20°C to -80°C	See expiration date
Lyophilized	4°C	6 months
Lyophilized	RT	1 month
Diluted as per CoA	-20°C to -80°C	12 months
Diluted as per CoA	2°C to 8°C	1 week
**Avoid repeated freeze-thaw cycles.		

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