Technical Data Sheet

Recombinant human/mouse IGF-1 LR3 protein

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Lot Specific Information

Lot Number: **Lot Specific***

Total Protein: **Lot Specific***

*This information will be noted on the certificate of analysis that ships with this product.

Shelf Life

This product has a guaranteed shelf-life of one year from the date of customer receipt when stored as recommended.

Product Information

Catalog Number:	**RP058**
Protein Identity:	Confirmed identity with expected mass, determined by mass spectrometry
Reported Applications:	Maintenance of pluripotency in iPSC Cell culture media optimization and replacement of insulin in defined media
Formulation:	Lyophilized, white powder
Endotoxin:	≤0.5 EU/mg, LAL assay
Purity:	≥95%; SDS-PAGE
Reconstitution:	Resuspend in sterile-filtered water at >50 µg/ml. Once reconstituted, store in single-use aliquots to avoid freeze-thaw cycles. Store reconstituted protein at -20 °C to -80 °C for a maximum of 12 months or until the expiry date if sooner.
Sterility:	Sterile
Production:	Microbial. Expressed in E. coli
Molecular Weight:	9 kDa
Bioactivity Assay:	No significant difference between EC50 of reference and test lots
Mycoplasma:	Negative

Description

Recombinant human/mouse IGF-1 LR3 protein (insulin-like growth factor 1 long arginine 3) is a widely used synthetic analog of IGF-1, a member of the insulin-like growth factor family whose A and B chains are connected by disulphide bonds, carrying an arginine in place of glutamic acid at position 3 (R3) and an additional 13 amino acids at its N-terminus (long, L). IGF-1 is a primary mediator of growth hormone with growth-promoting effects on skeletal muscle, cartilage, bone, liver, kidney, nerve, skin, hematopoietic and lung tissues, acting through the IGF1 receptor (IGF1R), and with low affinity the insulin receptor, to activate the Ras-MAPK and PI3 kinase pathways that increase cell proliferation and survival. Whereas native IGF-1 activity is inhibited by IGF-binding proteins (IGFBPs), IGF-1 LR3 retains binding to IGF-1 and insulin receptors but has reduced affinity for IGFBPs, giving it improved potency and metabolic stability. In cell culture, IGF-1 supports maintenance of human embryonic stem cell (ESC) and mesenchymal stem cell (MSC) cultures, making IGF-1 LR3 a potent and stable supplement for stem cell and cell culture media research. This protein is optimized for in vivo and functional applications: low-endotoxin, tag-free, and carrier-free, supporting reproducible performance in demanding preclinical and bioactivity studies. A GMP-grade version of this protein is available for cell and gene therapy manufacturing. Contact us at customerservice@bioxcell.com for details. Species reactivity: human. Species similarity: mouse - 94%, rat - 96%, bovine - 100%, porcine - 100%.

Storage

Store at the stock concentration at 4°C . **Do not freeze.**

It is not uncommon for a floccule or precipitate to appear during storage. The floccule is typically buffer salts precipitating out of solution or a small bit of protein aggregation. For information on how to remove floccules or precipitates see our FAQ's at https://bioxcell.com/faqs.

Store lyophilized protein between -20 °C and -80 °C until the date of expiry. Avoid freeze-thaw cycles

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