IGF-1 LR3

Insulin-Like Growth Factor-1 Long R3 | Extended Half-Life IGF-1 Analog

COMPOUND OVERVIEW

IGF-1 LR3 is a synthetic analog of human IGF-1, modified at the N-terminus to prevent binding to IGF-binding proteins (IGFBPs). This modification extends plasma half-life from approximately 20 minutes (native IGF-1) to 20-30 hours, enabling sustained receptor activation in research models.

MECHANISM OF ACTION

IGF-1 LR3 binds the IGF-1 receptor (IGF-1R) with high affinity, activating downstream PI3K/Akt and MAPK/ERK pathways. These pathways regulate satellite cell proliferation, protein synthesis, and glucose uptake in muscle tissue. The extended half-life results in systemic rather than localised receptor engagement.

RESEARCH APPLICATIONS

- Satellite cell proliferation and muscle hyperplasia research
- IGF-1R pathway pharmacology and downstream signalling studies
- IGFBP interaction and half-life extension mechanism research
- Anabolic pathway research in skeletal muscle tissue models

EVIDENCE STATUS & KNOWN LIMITATIONS

> ***Evidence Status:*** *IGF-1 LR3 is primarily a research tool compound with extensive in vitro and animal model data. Human clinical data is very limited. IGF-1 pathway activity has well-characterised mitogenic effects; researchers should be aware that prolonged IGF-1R activation carries theoretical oncogenic risk considerations documented in the IGF-1 pathway literature.*

ANALYTICAL & STORAGE DATA

PURITY	**>99.5% by HPLC/MS**	PHYSICAL FORM	**Lyophilised Powder**
STORAGE	**2-8 C. Highly temp. sensitive.**	HALF-LIFE	**~20-30 hrs (vs 20 min native)**
RECONSTITUTION	**Bacteriostatic Water (USP)**	BATCH DOCS	**Available on Request**

RECONSTITUTION NOTE

IGF-1 LR3 is susceptible to denaturation from mechanical stress. Introduce reconstitution solvent very slowly against the vial wall. Do not shake or vortex. Allow complete dissolution at rest. Return to cold-chain storage immediately.

REGULATORY CLASSIFICATION: All BioUnfolding compounds are strictly intended for laboratory evaluation and in-vitro analysis. These materials are not intended for human consumption, veterinary use, or therapeutic application. Researchers are solely responsible for compliance with applicable local regulations including SAHPRA guidelines.

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