

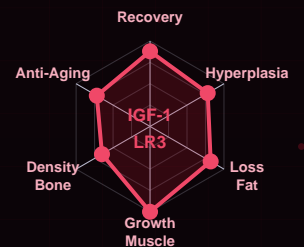
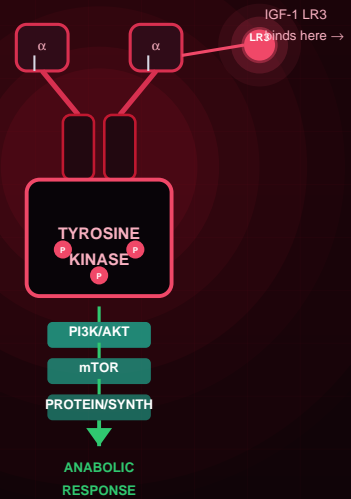
IGF-1 LR3

The Master Anabolic Signal.

Engineered to Last.

MUSCLE GROWTH · HYPERPLASIA · FAT LOSS · ANTI-AGING · RECOVERY

IGF-1 LR3 is an **engineered analogue of Insulin-like Growth Factor 1** — modified with an Arginine-3 substitution and a 13-amino acid N-terminal extension that prevents binding to **IGF-binding proteins (IGFBPs)**. While native IGF-1 is rapidly sequestered in the bloodstream, IGF-1 LR3 circulates freely, extending its half-life from 15 minutes to **20–30 hours** and delivering a systemic anabolic signal of unmatched potency and duration across muscle, bone, fat, and the nervous system.



~100x

IGFBP RESISTANCE

20–30hr

HALF-LIFE

Systemic

FULL-BODY ACTION

Muscle+

HYPERPLASIA DRIVER

What Is IGF-1 LR3?

The growth hormone cascade's most powerful effector — now engineered to stay active

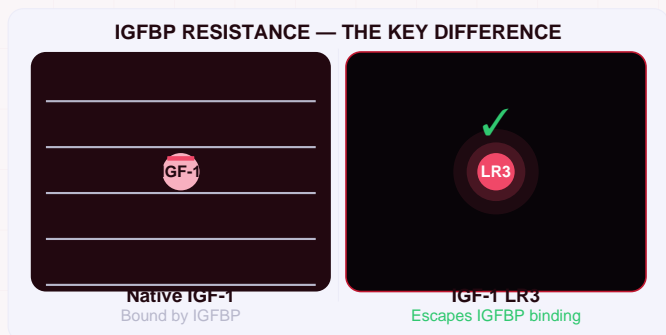
The Primary Effector of Growth Hormone

IGF-1 (Insulin-like Growth Factor 1) is the primary downstream effector of growth hormone — the molecule through which most of GH's anabolic, regenerative, and anti-aging effects are mediated. Produced mainly in the liver in response to GH, IGF-1 circulates in the blood and binds to IGF-1 receptors throughout the body, activating the **PI3K/AKT/mTOR** pathway to drive protein synthesis, cell proliferation, hyperplasia (new cell creation), and anti-apoptotic (anti-cell death) signalling. The problem: over 99% of circulating IGF-1 is sequestered by **IGF-binding proteins**, leaving very little to act freely.

The LR3 Innovation — Escaping the Binding Protein Trap

IGF-1 LR3 solves the IGFBP problem elegantly. By replacing glutamic acid at position 3 with **Arginine** and adding a 13-amino acid N-terminal extension, the binding affinity for IGFBPs is reduced by approximately **100-fold** — while receptor binding potency is preserved or enhanced. The result: a molecule that circulates freely in the bloodstream for 20–30 hours, delivering continuous activation of IGF-1 receptors throughout the body without the normal sequestration. This systemic, sustained activity makes IGF-1 LR3 one of the most potent anabolic and regenerative agents studied in modern sports and longevity medicine.

The LR3 Advantage — Visualised



Half-Life Comparison



PI3K/AKT/mTOR Activation

IGF-1 LR3 binds the IGF-1 receptor tyrosine kinase, activating the PI3K/AKT/mTOR cascade — the primary intracellular pathway for muscle protein synthesis and cellular growth.

Hyperplasia — New Muscle Cells

Unlike most anabolic signals which cause hypertrophy (enlarging existing cells), IGF-1 LR3 stimulates true hyperplasia — the creation of entirely new muscle cells — expanding the muscular foundation itself.

Anti-Apoptotic Signalling

Activates AKT-mediated survival pathways that prevent muscle cell death during intense training, injury, or caloric restriction — preserving hard-earned mass under stress.

MAPK/ERK Pathway

Also activates the MAPK/ERK pathway in parallel, driving cellular differentiation and proliferation in muscle, bone, and neuronal tissue — contributing to the broad regenerative profile.

★ THE HYPERPLASIA ADVANTAGE — BEYOND THE GENETIC LIMIT

Conventional hypertrophy training enlarges existing muscle fibres but is ultimately limited by the number of myonuclei per fibre. IGF-1 LR3 breaks this ceiling by stimulating genuine hyperplasia — adding new muscle cells rather than just enlarging old ones — potentially allowing muscular development beyond what genetics and training alone can achieve.

The Benefits of IGF-1 LR3

Systemic anabolic activation — the broadest benefit profile of any growth peptide

01 True Muscle Hyperplasia

IGF-1 LR3 is one of the only compounds capable of stimulating genuine muscle hyperplasia — the creation of new muscle cells beyond the baseline genetic ceiling — rather than merely enlarging existing fibres. This represents a fundamentally different and more profound form of muscle growth.

02 Accelerated Muscle Protein Synthesis

Through sustained mTOR activation over 20–30 hours, IGF-1 LR3 maintains an extended anabolic window that drives muscle protein synthesis far beyond what post-workout IGF-1 spikes can achieve — maximising adaptive response to every training session.



03 Systemic Fat Oxidation

IGF-1 LR3 promotes lipolysis in adipose tissue while simultaneously driving anabolism in muscle — achieving the rare combination of simultaneous fat loss and muscle gain that is extremely difficult to achieve through training and diet alone.

04 Accelerated Recovery & Tissue Repair

Sustained IGF-1 receptor activation accelerates the repair of microtears in muscle, connective tissue, and other damaged structures — reducing recovery time between sessions and enabling higher training frequencies and volumes.

05 Neuroprotection & Cognitive Function

IGF-1 receptors are densely expressed in the brain, hippocampus, and peripheral nerves. IGF-1 LR3's sustained signalling supports neuronal survival, synaptic plasticity, BDNF expression, and cognitive function — making it one of the most neuroprotective compounds studied.

06 Bone Density & Connective Tissue

Activates IGF-1 receptors in osteoblasts and chondrocytes, stimulating bone mineral density, collagen synthesis, and cartilage repair — critical for athletes under heavy training load and for age-related bone loss prevention.

07 Anti-Aging & Cellular Renewal

IGF-1 signalling activates anti-apoptotic pathways, reduces oxidative stress markers, promotes mitochondrial biogenesis, and supports the replacement of aged cells — contributing to a broadly pro-longevity cellular environment.

08 Synergy with PEG-MGF & HGH Secretagogues

IGF-1 LR3 and PEG-MGF act on complementary pathways (protein synthesis vs satellite cell proliferation), making them one of the most powerful muscle-building stacks studied. It also amplifies the downstream effects of CJC-1295/Ipamorelin-stimulated GH pulses.

IGF-1 LR3 is not merely a longer-lasting version of IGF-1 — it is the unlocking of a signalling system that the body deliberately keeps constrained. By escaping IGFBP sequestration, it delivers the full anabolic and regenerative potential of the IGF-1 axis — one of the most powerful biological systems the human body possesses.

Important: IGF-1 LR3 is a research peptide not approved by the FDA or any regulatory authority for therapeutic or human use. All information is for educational and research purposes only. Not for human consumption. Use only under the supervision of a qualified research or healthcare professional.