

IGF-1 LR3

IGF-1 LR3 is a recombinant analogue of insulin-like growth factor 1 with an arginine substitution at position 3 and a 13-residue N-terminal extension. It binds IGF-binding proteins weakly and is widely used in cell culture.



MFPAMPLSSLFVNGPRTLCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMYCAPLKPAKSA

■ Hydrophobic ■ Acidic ■ Basic ■ Polar ■ Gly, Pro, Cys ■ Non-standard

Length	83 residues
Formula	C ₄₀₀ H ₆₁₉ N ₁₁₁ O ₁₁₅ S ₉
Average mass	9,111.45 g/mol
Monoisotopic mass	9,105.3487 Da
Evidence	Preclinical (animal and cell studies)
US status	Not FDA-approved for any use
WADA	Prohibited (S2)

83 residues: a 13-residue N-terminal extension plus IGF-1 with Glu3 → Arg; three disulfide bonds.

Expected ions (monoisotopic)

[M+H] ⁺	[M+2H] ²⁺	[M+3H] ³⁺	[M+4H] ⁴⁺
9,106.3560	4,553.6816	3,036.1235	2,277.3445

What the COA should show

Because IGF-1 LR3 is a recombinant protein, a COA should report identity by intact mass spectrometry, with the observed mass matching the expected mass shown on this page, and purity by reverse-phase HPLC and SDS-PAGE. Correct disulfide pairing is critical; misfolded isomers can share the same mass, so peptide mapping or a functional cell proliferation assay adds confidence. Truncated forms lacking the N-terminal extension, oxidized methionine, aggregates and host cell protein or endotoxin contamination from *E. coli* expression are the main pitfalls. The COA should also state whether the material is the LR3 variant rather than native IGF-1 or des(1-3) IGF-1.

Storage and stability

Store lyophilized IGF-1 LR3 at -20 °C or below, sealed and protected from moisture. As a folded protein, it is more sensitive to aggregation and surface adsorption than small peptides. Cell culture suppliers commonly reconstitute it in dilute acid (for example, 10 mM HCl) and may add a carrier protein for dilute stocks; follow the reconstitution recommendations for the specific material. Aliquot and store solutions frozen, avoid repeated freeze-thaw cycles, and use low-binding tubes.

Full entry, references and latest research: <https://peptidewiki.net/compounds/igf-1-Ir3/>
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