

IGF-1 LR3 (1 mg Specification) Comprehensive Dosing Guide

I. Overview

IGF-1 LR3 (Long R3 Insulin-like Growth Factor-1) is a modified analogue of human insulin-like growth factor-1 with a significantly extended half-life. Its anabolic and metabolic effects have been investigated in relevant studies [1]. This synthetic variant has reduced binding affinity for IGF-binding proteins, delivering higher bioavailability and systemic bioactivity [2]. This educational reference protocol provides a conservative titration regimen of once-daily subcutaneous injection for research purposes. This guide presents dosing protocols for 1 mg vials.

Research Background: For evidence concerning mechanism of action, human and pre-clinical studies, limitations and safety profiles, please refer to relevant reviews on IGF-1 LR3 peptides.

II. Reconstitution & Dosing Guidelines

1 mg Specification

Reconstitution: Add 3.0 mL bacteriostatic water → concentration approx. 0.333 mg/mL (333 mcg/mL)

Typical daily dose range: 20-50 mcg subcutaneously once daily (gradual titration is recommended)

U-100 Insulin Syringe Conversion: 1 unit = 0.01 mL ≈ 3.33 mcg

Shelf-life after reconstitution: Use within 30 days under refrigeration at 2-8 °C [9]

Standard / Progressive Titration Protocol (Once-daily subcutaneous injection)

Weeks	Daily Dose (mcg)	Injection Volume (mL)	Syringe Units
Weeks 1-2	20 mcg (0.02 mg)	0.06 mL	6 units
Weeks 3-4	40 mcg (0.04 mg)	0.12 mL	12 units
Weeks 5-8	50 mcg (0.05 mg)	0.15 mL	15 units

Frequency: Once-daily subcutaneous injection, generally administered in the morning or post-exercise with meals to mitigate insulin-like effects on blood glucose [3].

Syringe Recommendation: For doses ≤10 units (≤0.10 mL), use 30-unit or 50-unit insulin syringes for higher reading accuracy.

III. Reconstitution Steps

1. Draw 3.0 mL bacteriostatic water with a sterile syringe.
2. Inject slowly along the inner wall of the vial; avoid foaming and do not shake vigorously.
3. Gently swirl and roll the vial until the lyophilized powder is fully dissolved into a clear solution.
4. Label the vial with reconstitution date, store protected from light under refrigeration at 2-8 °C (35.6-46.4 °F).
5. Use the reconstituted solution within 30 days. For long-term storage, perform sterile aliquoting and freeze at -20 °C (-4 °F); stable for 3-6 months [4].

IV. Required Supplies

Planning is based on an 8- to 16-week daily-dosing protocol.

- Peptide vials (IGF-1 LR3, 1 mg per vial):
 - 8-week cycle: approx. 3 vials (~ total 2.24 mg required)
 - 12-week cycle: approx. 4 vials (~ total 3.64 mg required)
 - 16-week cycle: approx. 6 vials (~ total 5.04 mg required)
- Insulin syringes (U-100, 0.5 mL or 1 mL):
 - Weekly: 7 syringes (1 per day)
 - 8 weeks: 56 syringes
 - 12 weeks: 84 syringes
 - 16 weeks: 112 syringes

This dosage reference is for informational and research purposes only.
It does not replace professional medical advice and is not for human consumption.

- Bacteriostatic water (10 mL vial): Use 3.0 mL for each peptide-vial reconstitution.
 - 8 weeks (3 vials): 9 mL → 1 × 10 mL vial
 - 12 weeks (4 vials): 12 mL → 2 × 10 mL vials
 - 16 weeks (6 vials): 18 mL → 2 × 10 mL vials
- Alcohol swabs: One for vial stopper, one for injection site each day.
 - Weekly: 14 swabs (2 per day)
 - 8 weeks: 112 swabs → recommend 2 × boxes of 100-count
 - 12 weeks: 168 swabs → recommend 2 × boxes of 100-count
 - 16 weeks: 224 swabs → recommend 3 × boxes of 100-count
- Sharps container: For safe disposal of used needles and syringes [5].
- Fast-acting carbohydrate source: Keep glucose tablets or fruit juice available throughout the cycle to manage potential hypoglycemic symptoms, especially during dose titration [6].

V. Protocol Summary

Brief Summary

Goal: Enhance IGF-1 activity, prolong bioavailability and support anabolic and metabolic physiological processes [1].

Cycle Schedule: Daily subcutaneous injection; standard cycle length is 8 weeks; may extend to 12 weeks after a drug-free break.

Dose Range: 20-50 mcg per day with gradual titration; conservative upper limit ≤50 mcg/day.

Reconstitution: Add 3.0 mL diluent to 1 mg vial to yield approx. 0.333 mg/mL (333 mcg/mL) solution for precise dosing.

Storage: Freeze lyophilized powder at -20°C; refrigerate reconstituted solution at 2-8°C; avoid repeated freeze-thaw cycles.

Cycle Pattern: Common regimen: 8 weeks on-treatment followed by 4-8 weeks off-treatment to prevent receptor desensitization [7].

VI. Dosing Protocol

Initiation Phase (Weeks 1-2): 20 mcg daily to assess tolerance, with special attention to blood-glucose changes [6].

Titration Phase (Weeks 3-4): Increase to 40 mcg daily if well-tolerated without obvious hypoglycemia in the first two weeks.

Maintenance Phase (Weeks 5-8): Hold at 50 mcg daily, the conservative upper limit in most research protocols [2].

Frequency: Once-daily subcutaneous injection; administer with meals (morning or post-exercise) to mitigate insulin-like blood-glucose fluctuations.

Cycle Duration: Standard 8 weeks; 12-week regimens exist, yet efficacy may diminish beyond 6-8 weeks [7].

Injection-site Rotation: Systematically rotate among abdomen, thighs and upper arms to prevent local irritation and lipohypertrophy [8].

VII. Storage Instructions

Proper storage preserves peptide stability and potency.

Unreconstituted lyophilized powder: Store dry and protected from light at -20°C (-4°F) or lower (-80°C optimal), maximum shelf-life 12 months [4]; short-term storage at 2-8°C for several months is acceptable.

Reconstituted solution: Immediately refrigerate at 2-8°C after preparation; use within 30 days for optimal potency [9].

Long-term storage of reconstituted solution: For storage beyond 30 days, prepare sterile aliquots and freeze at -20°C; aliquots remain stable for 3-6 months [4]. Do not re-freeze thawed vials.

Usage Notes: Allow frozen vials to warm to room-temperature before use to reduce condensation. Inspect solution appearance before each use; discard if cloudiness or particulate matter appears [10].

Store away from light and maintain cold-chain conditions whenever possible.

VIII. Important Considerations

Practical points for safety and consistent efficacy

Aseptic technique: Use a brand-new sterile insulin syringe for every injection; discard immediately into sharps container [5]. Strictly implement one-needle-one-syringe for single-time use only.

Site rotation: Rotate injections among abdomen (at least 2 inches away from navel), outer thighs and upper arms to reduce local irritation and prevent tissue induration [8].

Injection practice: Inject slowly and smoothly; wait several seconds before withdrawing the needle to prevent solution leakage.

Hypoglycemia awareness: Watch for signs such as tremors, dizziness and sweating especially during dose escalation; keep fast-acting carbohydrates readily available [6].

Meal-timed injection: Inject with or shortly after meals to reduce insulin-like effects on blood glucose [3].

Documentation log: Record daily dose, injection site and observed reactions to track tolerance and ensure protocol consistency.

Do not exceed recommended doses: Daily doses above 50-60 mcg lack robust clinical research support and significantly raise adverse-reaction risks [2].

IX. Potential Benefits & Adverse Effects

Observations compiled from pre-clinical literature on IGF-1 and its analogues

Potential Effects Observed in Research

Enhanced anabolic signaling and protein synthesis in target tissues [1].

Less interference from binding proteins and higher bioavailability compared with native IGF-1 [2].

Metabolic-regulating effects via the IGF-1 receptor pathway.

Key Safety Risks

Hypoglycemia risk: The primary hazard of IGF-1 LR3 is its insulin-like glucose-lowering effect; manifestations include tremors, confusion, sweating and dizziness [6]. Always administer with meals and monitor for glucose-related symptoms.

No human therapeutic approval: IGF-1 LR3 has not obtained regulatory approval for human therapy and is restricted to research-only use [12].

Local injection-site reactions: Mild redness and irritation may occur; standardized technique plus site rotation can minimize these effects [8].

Dose-dependent risks: Safety concerns increase substantially at daily doses >50-60 mcg; conservative-dose protocols are strongly recommended [2].

Receptor desensitization: Efficacy may decline after continuous use longer than 6-8 weeks; common cycling regimen: 8 weeks on-treatment, 4-8 weeks off-treatment [7].

X. Injection Technique

Preparation

Wash hands thoroughly with soap and running water.

Wipe vial rubber stopper with alcohol pad and allow to dry fully.

Confirm reconstituted solution is clear and particle-free; discard if cloudy [10].

Draw calculated dose into sterile insulin syringe (29-31 G, ½-inch or 5/16-inch needle length).

Tap syringe gently to expel air bubbles and adjust to target measurement mark.

Injection Procedure

Site selection: Regions with sufficient subcutaneous fat: abdomen (more than 2 inches from navel), outer thighs, upper arms, upper-outer buttocks [8].

Skin disinfection: Wipe injection site with alcohol and let air-dry completely; do not blow or fan.

Skin-pinch technique: Gently lift a skin fold using thumb and index finger to ensure subcutaneous delivery [13].

Needle insertion: Insert needle at 45-90° into lifted skin fold; use 45° for lean individuals, 90° for subjects with thicker subcutaneous fat [13][14].

Injection: Do NOT aspirate for subcutaneous injection [13]; deliver solution slowly over 2-3 seconds.

Needle removal & compression: Withdraw needle at identical angle; apply light pressure with clean cotton swab — do not rub hard.

Waste disposal: Place used syringe-needle assembly directly into sharps container; do not recap needles [5].

Site-rotation Strategy

Follow a fixed rotation sequence, e.g. Left Abdomen → Right Abdomen → Left Thigh → Right Thigh.

Avoid re-injecting the same spot for 1-2 weeks or longer to allow tissue recovery.

Avoid scar tissue, moles and irritated skin areas.

Keep simple logs of injection locations to guarantee systematic rotation.

Important Disclaimer: This document serves educational purposes only and does not constitute medical advice, diagnosis or treatment. IGF- 1 LR3 is for research- only use and is not approved for human therapy. Always consult a qualified medical practitioner before planning any research- peptide regimen. Individual responses vary, and medical supervision is essential for safety and efficacy monitoring.