COMPOUND GUIDE

Tesamorelin — GHRH Analogue (Egrifta)

44-AA GHRH analogue · FDA-approved for HIV lipodystrophy only · Daily SubQ injection

Quick Start

FDA APPROVED — NARROW INDICATION

Tesamorelin is the only GHRH analogue with FDA approval (as Egrifta and Egrifta SV/WR). The approved indication is **HIV-associated lipodystrophy** (excess visceral abdominal fat in adults receiving antiretroviral therapy). All other uses are investigational. This guide covers both the FDA-approved context and general research protocols.

WHAT IT IS

Tesamorelin is a synthetic 44-amino acid analogue of human Growth Hormone Releasing Hormone (GHRH). It stimulates pituitary GH secretion, raising IGF-1 levels and promoting visceral fat reduction. Unlike GH itself, it maintains the pulsatile pattern of GH release, preserving natural regulatory feedback loops.

RESEARCH DOSING

2 mg SubQ once daily, no ramp-up required. No fasting requirement. FDA-approved Egrifta dose is 2 mg/day (LIPO-010 trial standard); Egrifta SV: 1.4 mg/day (0.35 mL); Egrifta WR: 1.28 mg/day (0.16 mL). Standard Phase III trial duration: 26 weeks.

REGULATORY & DOPING STATUS

FDA-approved as Egrifta (2010) for HIV lipodystrophy. All other uses are investigational. WADA prohibited list: S2 (Peptide Hormones, Growth Factors). For competitive athletes, tesamorelin is banned regardless of indication.

Dosing Protocol

Formulation Comparison

FORMULATION	DOSE	VOLUME	CONTEXT
Research vials (lyophilised)	2 mg/day	Reconstitute per math below	General research; requires reconstitution
Egrifta SV (FDA-approved)	1.4 mg/day	0.35 mL per injection	HIV lipodystrophy — approved clinical use
Egrifta WR (FDA-approved)	1.28 mg/day	0.16 mL per injection	HIV lipodystrophy — approved clinical use

Supplies & Reconstitution

Reconstitution Math — 10 mg Vial (3 mL BAC)

TARGET DOSE	UNITS (U-100)	DOSES / VIAL
0.5 mg	**15.0 units**	20
1 mg	**30.0 units**	10
2 mg	**60.0 units**	5

Reconstitute the 10 mg vial with **3.0 mL bacteriostatic water** → 3.33 mg/mL. U-100 syringe = 100 units per mL. Swirl gently — do not shake. Refrigerate 2–8°C.

Vial Planning Guide

DOSE	DAYS PER 10 MG VIAL	VIALS FOR 4 WEEKS	VIALS FOR 26 WEEKS
2 mg/day	5 days	**6 vials**	~37 vials

Reconstitution Steps

01 **Warm the vial**
Remove from freezer and allow to reach room temperature (10–15 min) before reconstitution.

02 **Swab both stoppers**
Alcohol swab both vial tops. Air-dry before inserting needle.

03 **Draw BAC water**
Draw the required BAC water volume (e.g. 3.0 mL).

04 **Inject along the wall**
Let BAC water run slowly down the inside glass wall. Do not jet onto the powder.

05 **Gentle swirl**
Swirl slowly until fully dissolved and clear. Do not shake or vortex.

06 **Refrigerate**
Store at 2–8°C, upright, for up to 30 days. Protect from light. Do not freeze after reconstitution.

Mechanism of Action

GHRH-R AGONISM

Tesamorelin binds and activates pituitary GHRH receptors, stimulating GH secretion. Unlike exogenous GH, it preserves the pulsatile pattern — GH is released in physiological pulses rather than continuous elevation, maintaining natural IGF-1 feedback.

IGF-1 ELEVATION

Downstream GH elevation drives hepatic IGF-1 production. Phase III trials show IGF-1 elevations of approximately 90–140 ng/mL above baseline after 26 weeks at 2 mg/day.

VISCERAL FAT REDUCTION

The primary studied outcome in Phase III. GH/IGF-1 axis activation promotes lipolysis preferentially in visceral adipose tissue. Phase III trials (LIPO-010, CTR-1011) showed ~15% visceral adipose area reduction vs placebo at 26 weeks.

COGNITIVE RESEARCH

Investigational research in mild cognitive impairment (Baker et al., funded by NIA). No approved indication. Studies are ongoing; findings not yet published for Phase 2+ endpoints as of 2026.

Key Research

STUDY	DESIGN	KEY FINDING
LIPO-010	Phase III; HIV lipodystrophy; 26 weeks	~15% reduction in visceral adipose area vs placebo; statistically significant
CTR-1011	Phase III; HIV lipodystrophy; 26 weeks	Confirmed primary endpoint; approved basis for FDA submission
Cognitive MCI trials	Phase 2; ongoing NIA-funded research	Investigational; results pending as of 2026

Comparison: GHRH Analogues

COMPOUND	HALF-LIFE	DOSING	FDA STATUS	WADA
Tesamorelin	~26 min	Daily SubQ	Approved (HIV lipodystrophy)	Banned S2
Sermorelin	~10 min	Daily SubQ or intranasal	Withdrawn (2008)	Banned S2
CJC-1295 + DAC	5.8–8.1 days	Weekly SubQ	Not approved	Banned S2
CJC-1295 No DAC	~30 min	Daily SubQ	Not approved	Banned S2

Storage

STATE	TEMPERATURE	DURATION	NOTES
Lyophilised (powder)	−20°C (freezer)	Up to 24 months	Protect from light and moisture
Reconstituted (liquid)	2–8°C (refrigerator)	Up to 30 days	Do not freeze after reconstitution

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