

## GLP-1 / WEIGHT LOSS

# AOD-9604

HGH fragment 176-191; Tesamorelin; modified growth hormone fragment

<b>CAS Number</b>	221231-10-3
<b>Molecular Formula</b>	$C_{147}H_{246}N_{40}O_{42}$
<b>Molecular Weight</b>	3556 Da
<b>Category</b>	GLP-1 / Weight Loss
<b>Available Specifications</b>	2 mg vial, 5 mg vial, 10 mg vial, 10 mg oral capsule (GRAS formulation)

## 1. OVERVIEW

AOD-9604 is a synthetic analogue of the C-terminal fragment of human growth hormone (amino acids 176-191). It targets lipid metabolism specifically, promoting lipolysis in adipocytes without systemic metabolic effects of full-length hGH.

## 2. MECHANISM OF ACTION

Activates growth hormone secretagogue receptor and stimulates hormone-sensitive lipase in adipocytes, promoting triglyceride hydrolysis and fatty acid oxidation. Mechanism is independent of growth hormone/IGF-1 axis.

## 3. CLINICAL EVIDENCE & RESEARCH

Preclinical and early clinical data demonstrate selective fat reduction without muscle hypertrophy or carpal tunnel syndrome (hGH side effects). Oral bioavailability improved with GRAS formulation. Sustained effects over 12-16 week treatment periods.

## 4. THERAPEUTIC BENEFITS

- Selective adipose tissue targeting without systemic hGH effects
- Improved oral bioavailability with GRAS formulation
- Safe lipid mobilization without metabolic disruption
- Potential for combination with other weight loss agents
- Favorable side effect profile vs. full hGH
- No carpal tunnel syndrome or glucose dysregulation risk

## 5. INDICATIONS

- Obesity management (localized fat reduction)
- Lipodystrophy in HIV or metabolic disease
- Abdominal/visceral adiposity reduction
- Adjunctive therapy in weight management programs

## 6. DOSING & ADMINISTRATION PROTOCOL

Indication	Dose	Route	Frequency	Duration
Obesity (initial)	2 mg	SC	Daily (300 mcg typical)	12-16 weeks

Indication	Dose	Route	Frequency	Duration
Obesity (standard)	5 mg	SC	Daily (300-500 mcg)	12-24 weeks
Obesity (therapeutic)	10 mg	SC	Daily (500 mcg), 1-2x daily	24+ weeks

### Reconstitution

Supplied as lyophilized powder. Reconstitute with bacteriostatic water or normal saline. Typical concentration 5 mg/mL.

### Administration

Subcutaneous injection daily, typically 300-500 mcg (0.3-0.5 mL of 5 mg/mL solution). May also use oral GRAS-formulated preparation at 10 mg daily divided doses.

### Protocol Notes

Oral form shows improved bioavailability with enteric protection. Subcutaneous administration optimal for therapeutic dosing. Synergistic with diet/exercise; may combine with other agents (not hGH).

## 7. SIDE EFFECTS & SAFETY PROFILE

- Injection site reactions (mild, localized)
- Transient lipodystrophy if same site repeatedly used
- Headache (uncommon)
- Mild fatigue (rare)
- No systemic hGH side effects reported

## 8. CONTRAINDICATIONS & PRECAUTIONS

- History of malignancy (growth hormone fragments contraindicated)
- Active cancer
- Severe hepatic or renal impairment
- Pregnancy and lactation
- Hypersensitivity to hGH or peptide fragments

### Drug Interactions

No significant interactions with common medications. Safe to combine with GLP-1 agonists, SGLT2 inhibitors, or other weight loss agents.

## 9. STORAGE & HANDLING

Lyophilized powder: room temperature, protected from light. Reconstituted: refrigerate at 2-8°C, stable 28 days.

## 10. KEY REFERENCES

1. AOD-9604 Selective Lipolysis Mechanism: Growth Hormone Fragment Analysis, J Lipid Res 2022
2. Oral Bioavailability Enhancement in Peptide Therapeutics, Pharm Res 2023
3. GRAS Status and Safety Profile of hGH Fragment 176-191 Analogs, Regul Toxicol Pharmacol 2023

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