

Peptide Spotlight



West Wellness
&
Longevity

AOD-9604

A deeper dive into
the science, research,
& health benefits of
AOD-9604



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What is AOD-9604?

AOD-9604 is a 16-amino acid fragment derived from the C-terminal region of human growth hormone (hGH 177–191), with an added N-terminal tyrosine for stability.

It was originally developed as a pharmaceutical candidate for obesity treatment. The goal was to isolate the fat-metabolism domain of growth hormone without stimulating IGF-1 or triggering the glucose dysregulation associated with full-length hGH.

Unlike traditional growth hormone, AOD-9604 was engineered to avoid classic GH receptor signaling while still promoting fat metabolism pathways.

Proposed Mechanism of Action

Preclinical research suggests AOD-9604 may:

- Stimulate lipolysis (fat breakdown)
- Increase fat oxidation
- Inhibit lipogenesis (new fat formation)
- Act independently of IGF-1 elevation
- Utilize β_3 -adrenergic receptor pathways in adipose tissue

Animal models showed that mice lacking β_3 -adrenergic receptors did not respond to AOD-9604, suggesting its metabolic effects may be mediated through this pathway.

Importantly, AOD-9604 does not appear to bind and activate the full growth hormone receptor in the same way native hGH does.

Human Clinical Research Overview

AOD-g604 underwent multiple randomized, double-blind, placebo-controlled human trials.

The majority of human studies used *ORAL* dosing, not subcutaneous injection.

Safety Findings Across Six Clinical Trials

(Stier et al., 2013)

- No increase in serum IGF-1
- No impairment in glucose tolerance
- No development of anti-AOD antibodies
- No serious adverse events attributed to the compound

Source:

Stier H. et al. Journal of Obesity & Metabolic Research,
2013

<https://www.jofem.org/index.php/jofem/article/download/157/195>

Dosing Used in Published Human Trials

Phase I – IV Dose Escalation (Healthy Males)

25–400 mcg/kg IV
single dose

Phase IIa – Obese Males (IV)

25, 50, 100 mcg/kg
IV single dose

Phase IIa – Oral Capsules (Single Dose)

9 mg
27 mg
54 mg

Phase IIa – Oral (7-Day Repeat Dosing)

9 mg daily
27 mg daily
54 mg daily

Phase IIb – 12 Weeks (300 Subjects)

Daily oral dosing:
1 mg, 5 mg, 10 mg, 20 mg,
30 mg

Phase IIb – 24 Weeks (Approx. 500+ Subjects)

Daily oral dosing:
0.25 mg
0.5 mg
1 mg

Source for dosing summary:

<https://www.jofem.org/index.php/jofem/article/download/157/195>

*****It is important to note these were single IV administration and not ongoing. Even at these high doses little to no side effects occurred.*****

Efficacy Outcomes

Results were mixed.

Some earlier trials showed modest fat loss compared to placebo. However, larger 24-week studies did not demonstrate clinically meaningful weight loss sufficient for drug approval.

Ultimately, pharmaceutical development was discontinued due to insufficient efficacy — not safety concerns.

Review discussing discontinuation:

<https://pmc.ncbi.nlm.nih.gov/articles/PMC3584306/>

Trial program context:

<https://www.biospace.com/metabolic-pharmaceuticals-s-obesity-trial-update-first-100-subjects-complete-the-phase-2b-trial-of-aod9604>

What This Means Practically

AOD-9604 is not a GLP-1 receptor agonist.

It does *not* suppress appetite.

It does *not* significantly alter insulin or IGF-1 levels based on available human data.

It was **designed as a fat-metabolism signaling compound** — not a hunger or blood sugar drug.

The strongest human evidence supports:

- Favorable safety profile
- IGF-1 neutrality
- Glucose neutrality
- Modest or inconsistent fat loss results

Important Distinction - Pt. 1

Putting the Mouse vs. Human Data Into Context

Here's the part that confuses people:

In mice, AOD-9604 worked very well.

In humans (oral trials), it didn't work nearly as well. Why?

In the mouse studies:

- AOD-9604 was given by **daily injection**
- Mice showed **reduced fat gain and increased fat breakdown**
- The metabolic signal was strong and measurable

In the human obesity trials:

- AOD-9604 was given as a **daily oral tablet**
- Weight loss was **modest**
- Larger 24-week trials did not show enough fat loss for drug approval

So the key difference is this:

The strong fat-loss data came from injected dosing in animals.

The weaker results came from oral dosing in humans.

Important Distinction - Pt. 2

Why Do These Findings Matter?

Peptides are fragile molecules.

When taken orally:

- Much of the compound can be broken down in the digestive tract
- Systemic absorption may be lower
- The metabolic signal may be weaker

When injected:

- Bioavailability is significantly higher
- The peptide reaches circulation more directly

That doesn't mean injectable AOD would automatically produce dramatic fat loss in humans — but it *does* explain why the animal data looked stronger than the oral human trials.

The Balanced Take

The preclinical data suggests **AOD-9604 has real biologic activity in fat metabolism.**

The human oral trials showed:

- Strong safety profile
- Minimal IGF-1 impact
- Modest fat loss

But not *enough* magnitude for pharmaceutical approval.

So the story isn't that AOD "does nothing." -

It's that AOD:

- It appears biologically active
- It appears safe in trials
- But oral delivery may not have produced a strong enough effect for a commercial obesity drug

*Key Mechanism Studies

Fat metabolism and GH receptor independence:

<https://pubmed.ncbi.nlm.nih.gov/11673763/>

β 3-adrenergic involvement:

<https://pubmed.ncbi.nlm.nih.gov/11713213/>

Early metabolic human GH fragment work:

<https://pubmed.ncbi.nlm.nih.gov/11146367/>

Metabolic studies of AOD-9604 in rodent adipose tissue

https://www.researchgate.net/publication/11642468_

Anecdotal Reports (Community Feedback)

The following reflects **commonly reported user experiences** in research and peptide communities. ***These are subjective reports and not clinical evidence.***

- Modest fat loss, particularly in the midsection
- Gradual body recomposition rather than dramatic weight loss
- Best results when combined with diet and resistance training
- No significant appetite suppression (unlike GLP-1s)
- Slight increase in workout endurance or recovery (some users)
- Perceived better muscle retention during calorie deficits
- Often described as “mild but supportive” rather than powerful
- More noticeable effects after 4–8 weeks of consistent use
- Frequently stacked with CJC-1295/Ipamorelin, GLP-1s, or recovery peptides
- Minimal reported side effects (occasionally mild headache or sleep shifts)
- Many users report feeling nothing at all
- Some claim localized fat reduction, though this is not scientifically supported

What to Stack AOD-9604 With (Educational Overview) - Pt. 1

Growth Hormone–Related Peptides (*CJC-1295, Ipamorelin, Tesamorelin*)

Why stack them:

- GH peptides stimulate endogenous growth hormone release
- Support tissue repair, recovery, and lean mass preservation
- Improve sleep quality in some individuals
- Complement fat metabolism signaling from AOD

Rationale:

AOD targets fat metabolism pathways, while GH secretagogues support recovery, body composition, and muscle retention. Together, they create a more complete recomposition approach rather than relying on fat signaling alone.

What to Stack AOD-9604 With (Educational Overview) - Pt. 2

GLP-1 Receptor Agonists ***(Tirzepatide, Semaglutide, Retatrutide)***

Why stack them:

- Reduce appetite and caloric intake
- Improve insulin sensitivity
- Support meaningful fat loss through central appetite regulation

Rationale:

AOD does not significantly suppress appetite. GLP-1s address the hunger and glucose side of weight management, while AOD may support peripheral fat metabolism. The mechanisms are different and non-redundant.

What to Stack AOD-9604 With (Educational Overview) - Pt. 3

5-Amino-1MQ

Why stack it:

- Studied for NNMT inhibition
- May support NAD⁺ pathway regulation
- Investigated for metabolic efficiency and adipocyte regulation

Rationale:

5-Amino-1MQ targets cellular metabolism and adipogenesis pathways at the enzyme level, whereas AOD influences fat metabolism signaling. The combination is often discussed for broader metabolic support and better results overall.

What to Stack AOD-9604 With (Educational Overview) - Pt. 4

MOTS-c

Why stack it:

- Mitochondrial-derived peptide
- Studied for improving insulin sensitivity
- May enhance metabolic flexibility
- Often described as an “exercise mimetic” in research models

Rationale:

MOTS-c works at the mitochondrial and cellular energy level. AOD focuses more on fat metabolism signaling. Together, the stack targets both energy production and fat utilization pathways.

Anecdotal Research Dosing & Timing Context

Dosing (Commonly Discussed Practice)

In research communities, AOD-9604 is commonly discussed within a daily range of:

- **300 mcg per day** (lower end)
- Up to **1 mg per day** (higher end, anecdotal use)

Many individuals report seeing supportive body composition effects at the lower end, while others prefer exploring higher amounts within their own research frameworks.

Duration (Anecdotal Use Patterns)

- Frequently **cycled for 8–12 weeks minimum**
- Some extend to **12–16 weeks for cumulative effects**
- A common **schedule** discussed is **5 days on / 2 days off**
- Some anecdotal reports suggest longer **use up to 6 months**, followed by a **4+ week break**

The rationale behind longer protocols is that AOD-9604 tends to feel gradual and cumulative rather than rapid or dramatic.

Timing (Commonly Discussed Practice)

Within research discussions, AOD-9604 is often taken:

- **In the morning**
- In a **fasted state**
- With **avoidance of food** intake for approximately **60 minutes afterward**

The reasoning behind this timing approach is based on its proposed fat-metabolism signaling role and the desire to avoid blunting metabolic signaling with immediate caloric intake.

This timing strategy is based on anecdotal convention rather than large controlled timing trials.

Important Context

- There are no large human trials evaluating chronic injectable dosing.
- Oral human trials used daily administration for 12–24 weeks.
- Individual response varies significantly.
- Higher amounts do not automatically produce better results.

This information reflects commonly discussed research practices and personal experimentation in peptide communities and is not medical advice.

Professional & Personal Takeaway on AOD-9604

From a professional standpoint, AOD-9604 appears metabolically neutral and well tolerated based on human safety data. The clinical trials did not show dramatic weight loss with oral dosing, but they did demonstrate a strong safety profile with no meaningful IGF-1 elevation or glucose disruption.

From a personal research perspective, I have found AOD-9604 to be more effective when used for longer durations rather than short 4–8 week protocols. In my experience, the most noticeable changes occurred in the 12–16 week timeframe, particularly when dosing was on the higher end of commonly discussed research ranges.

I have experimented with doses up to 1 mg per day in my own research. That does not mean lower doses are ineffective. Many individuals report positive outcomes around 300 mcg daily, and some see solid results at that level. However, I personally noticed more visible fat reduction, especially in the midsection, when extending duration beyond eight weeks and running a slightly higher daily amount.

For me, AOD-9604 has not been a dramatic or rapid fat-loss compound. Instead, it has felt supportive, steady, and cumulative. The effects seemed to build over time rather than appearing quickly. I think it's also important to note that I did not experience any significant weight loss but rather a reduction in waist circumference.

Because of that, it has become something I prefer to cycle regularly as part of a broader body composition strategy rather than viewing it as a short-term intervention.

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