

RESEARCH MONOGRAPH . COMPOUND PROFILE

AOD-9604

*A modified C-terminal fragment of hGH
(residues 176-191) developed for fat loss
without GH metabolic effects.*

DOCUMENT	KDC-MN-085
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COMPOUND CLASS	Modified hGH 176-191 fragment

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ABSTRACT

AOD-9604 (modified hGH 177-191; molecular formula C₇₈H₁₂₅N₂₃O₂₃S₂) is a modified analog of the C-terminal fragment of human growth hormone (residues 176-191) developed by Monash University and Metabolic Pharmaceuticals. The structural modification is the addition of a tyrosine at the N-terminus relative to the unmodified 176-191 sequence. The compound was developed on the rationale that the lipolytic activity of human growth hormone resides in the C-terminal fragment, separable from the IGF-1-mediated growth-promoting and pro-diabetogenic activities. Phase 2 trials in obesity showed modest weight loss and fat mass reduction without effect on lean mass or insulin sensitivity. The compound did not advance to FDA approval; clinical efficacy was not strong enough to support marketing. The compound is sold as a research chemical/peptide. Pharmacokinetics: plasma half-life of subcutaneous AOD-9604 is short (less than 1 hour); reported doses for research-grade lipolysis applications are 250 to 500 micrograms subcutaneously daily.

1. Compound Identification

AOD-9604 is described as modified hgh 176-191 fragment. A modified C-terminal fragment of hGH (residues 176-191) developed for fat loss without GH metabolic effects.

1.1 Class summary

Modified hGH 176-191 fragment

1.2 Subtitle

A modified C-terminal fragment of hGH (residues 176-191) developed for fat loss without GH metabolic effects.

2. Abstract

AOD-9604 (modified hGH 177-191; molecular formula C₇₈H₁₂₅N₂₃O₂₃S₂) is a modified analog of the C-terminal fragment of human growth hormone (residues 176-191) developed by Monash University and Metabolic Pharmaceuticals. The structural modification is the addition of a tyrosine at the N-terminus relative to the unmodified 176-191 sequence. The compound was developed on the rationale that the lipolytic activity of human growth hormone resides in the C-terminal fragment, separable from the IGF-1-mediated growth-promoting and pro-diabetogenic activities. Phase 2 trials in obesity showed modest weight loss and fat mass reduction without effect on lean mass or insulin sensitivity. The compound did not advance to FDA approval; clinical efficacy was not strong enough to support marketing. The compound is sold as a research chemical/peptide. Pharmacokinetics: plasma half-life of subcutaneous AOD-9604 is short (less than 1 hour); reported doses for research-grade lipolysis applications are 250 to 500 micrograms subcutaneously daily.

3. Mechanism of Action

Modified hGH 176-191 fragment with lipolytic effects without IGF-1 elevation. Mechanism incompletely characterized.

The mechanistic profile described above represents the consensus position from peer-reviewed literature where available; for compounds with sparse formal characterization, this section reflects vendor-grade reports and structurally-related class pharmacology and should be interpreted with appropriate caution.

4. Pharmacokinetics and Routes of Administration

Pharmacokinetic data are summarized within the abstract for compounds with formal Phase 1 records. Compounds without published human pharmacokinetic studies are noted as such; investigators should treat the absence of data as a research limitation.

5. Reported Research Dose Ranges

250 to 500 micrograms SC daily (research-grade).

Doses are scaled from clinical use where the compound is approved as a medicine, from Phase 2/3 trials where development advanced, or from rodent dose-response data scaled by allometric assumptions where the compound has no human clinical record. Investigators should treat dose ranges from research-chemical-grade vendors as starting points for their own pharmacokinetic and tolerability characterization rather than validated dosing recommendations.

6. Sourcing and Quality Verification

Investigators should obtain analytical confirmation of identity (mass spectrometry; for peptides, additionally amino acid analysis or N-terminal sequencing) and purity (HPLC area-percent, ideally greater than 95 percent) on every lot. Vendor certificates of analysis vary in quality; third-party analytical confirmation through independent laboratories (e.g., Janoshik Analytical, Anabolic Lab) is the gold standard for research-grade peptides and small molecules.

For compounds with established pharmaceutical-grade marketing in any jurisdiction, sourcing from the marketed product (where legal and accessible) provides the highest quality assurance.

7. Reconstitution and Handling

Peptides should be reconstituted in bacteriostatic water or sterile water for injection in the volume appropriate to the desired concentration; lyophilized peptides should be allowed to come to room temperature before reconstitution to minimize precipitation. Reconstituted peptides should be stored refrigerated and used within the timeframe specified by the manufacturer (typically 14 to 30 days for bacteriostatic water reconstitutions, shorter for sterile water).

Small molecules: storage conditions vary by compound; consult the certificate of analysis for the specific product. Most are stable at room temperature in dry, dark conditions; oxidation-sensitive compounds (e.g., catecholamine precursors) require cool storage and protection from light.

8. Stack Interaction Considerations

Investigators combining this compound with other research substances should consider receptor-level interactions (additive effects at shared targets), enzyme-level interactions (CYP-mediated drug-drug interactions where applicable), and pharmacodynamic interactions (additive sedation, additive serotonergic activity, additive hemodynamic effects).

The stack interaction section in published monographs of well-characterized compounds is necessarily incomplete for any specific combination; investigators should treat novel combinations with elevated caution and titrate gradually.

9. References

1. Heffernan M, et al. The effects of human GH and its lipolytic fragment (AOD9604) on lipid metabolism. J Endocrinol 2001.

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