Retatrutide

GLP-1 / GIP / GCG Receptor Triagonist | CAS: 2381015-17-4 | ~5410 Da

COMPOUND OVERVIEW

Retatrutide (LY3437943) is a synthetic peptide triagonist targeting glucagon-like peptide-1 (GLP-1), glucose-dependent insulinotropic polypeptide (GIP), and glucagon (GCG) receptors simultaneously. Structural modifications extend plasma half-life relative to endogenous peptides, enabling sustained receptor engagement in research models.

MECHANISM OF ACTION

Simultaneous agonism at GLP-1, GIP, and GCG receptors produces complementary metabolic effects: GLP-1 activity modulates gastric emptying and appetite signalling; GIP activity influences insulin sensitivity and metabolic rate; GCG receptor engagement promotes hepatic glucose output and thermogenesis. Combined receptor activation produces additive effects on energy expenditure not achievable through single-receptor approaches in studied models.

RESEARCH APPLICATIONS

- Triagonist receptor pharmacology in metabolic disease models
- Energy expenditure and lipid oxidation pathway studies
- Comparative analysis against GLP-1 monoagonists and dual agonists
- Appetite regulation and satiety signalling research

EVIDENCE STATUS & KNOWN LIMITATIONS

> ***Evidence Status:*** *Retatrutide is currently in Phase III clinical trials. Long-term safety data, receptor desensitisation timelines, and post-treatment metabolic adaptation profiles are not yet fully established. The majority of published data derives from Phase II trial results and preclinical models. Researchers should consult current peer-reviewed literature for the most recent findings.*

ANALYTICAL & STORAGE DATA

PURITY	**>99.6% by HPLC/MS**	PHYSICAL FORM	**Lyophilised White Powder**
STORAGE	**2-8 C. Protect from light.**	MOLECULAR WEIGHT	**~5410 Da**
RECONSTITUTION	**Bacteriostatic Water (USP)**	BATCH DOCS	**Available on Request**

RECONSTITUTION NOTE

Introduce reconstitution solvent slowly against the interior vial wall. Do not inject directly onto the lyophilised cake. Allow complete dissolution without agitation. Store reconstituted solution at 2-8C and use within 28 days. Protect from UV exposure.

REGULATORY CLASSIFICATION: All BioUnfolding compounds are strictly intended for laboratory evaluation and in-vitro analysis. These materials are not intended for human consumption, veterinary use, or therapeutic application. Researchers are solely responsible for compliance with applicable local regulations including SAHPRA guidelines.

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