GLP-3RT
Research Applications

US Peptide Co

Mechanism of Action

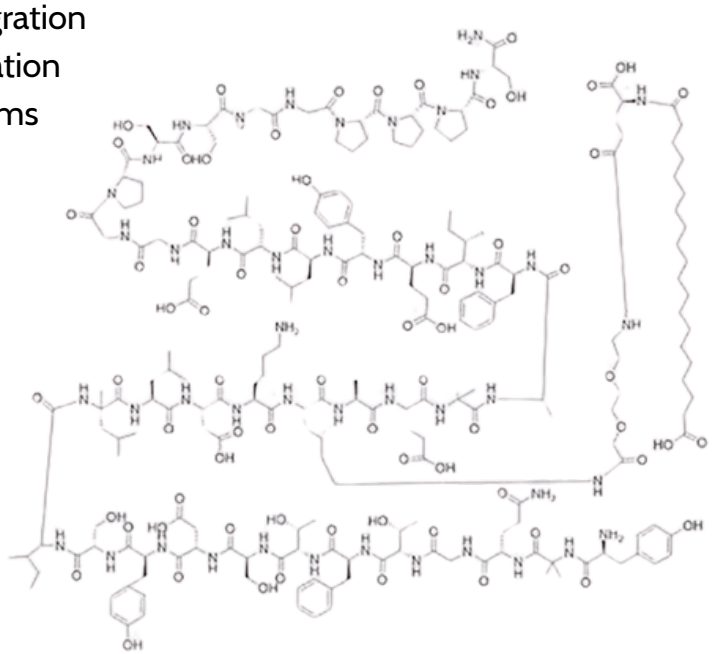
GLP-3RT is a synthetic triple agonist that activates glucose-dependent insulinotropic polypeptide (GIP), glucagon-like peptide-1 (GLP-1), and glucagon receptors. In research models, it demonstrates balanced activity across all three receptors, creating a unique signaling profile. This triple-receptor engagement activates complementary pathways that regulate glucose homeostasis, energy expenditure, and satiety signals, making it valuable for studying complex neuroendocrine integration and receptor pharmacology.

Research Applications

- Triple hormone receptor activation research
- Investigation of GIP/GLP-1/glucagon signaling integration
- Models examining multi-pathway metabolic regulation
- Research on cellular energy expenditure mechanisms

Molecular Profile

- Chemical Formula: $C_{249}H_{379}N_{65}O_{75}$
- Molecular Weight: 5,486.2 Da
- Structure: Triple GIP/GLP-1/glucagon receptor agonist with C20 fatty diacid chain



Laboratory Considerations

- Store lyophilized powder at -20°C
- Reconstituted solutions should be stored at 2-8°C
- Protect from light and oxidizing agents

References

1. Day JW, et al. A new glucagon and GLP-1 co-agonist eliminates obesity in rodents. Nat Chem Biol. 2009;5(10):749-757.
2. Finan B, et al. A rationally designed monomeric peptide triagonist corrects obesity and diabetes in rodents. Nat Med. 2015;21(1):27-36.
3. Jall S, et al. Monomeric GLP-1/GIP/glucagon triagonism corrects obesity, hepatosteatosis, and dyslipidemia in female mice. Mol Metab. 2017;6(5):440-446.
4. Tschöp MH, et al. Unimolecular polypharmacy for treatment of diabetes and obesity. Cell Metab. 2016;24(1):51-62.
5. Frias JP, et al. Efficacy and safety of the novel triple receptor agonist retatrutide in adults with overweight or obesity: a randomised, double-blind, placebo-controlled, phase 2 trial. Nat Med. 2023;29(9):2239-2247.