Tesamorelin

Research Applications

US Peptide Co

Mechanism of Action

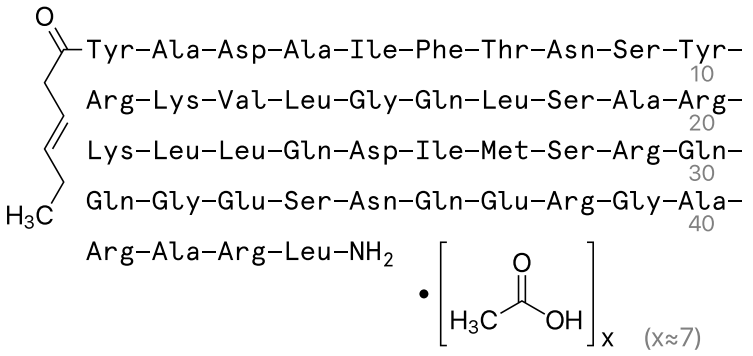
Tesamorelin is a synthetic analog of growth hormone-releasing hormone (GHRH) that stimulates the pituitary gland to release growth hormone. In research models, it has demonstrated activation of the GHRH receptor, initiating signaling cascades that influence metabolic processes, particularly those related to lipid metabolism and energy expenditure.

Research Applications

- Growth hormone secretagogue research in metabolic pathway studies
- Investigation of lipid metabolism and adipose tissue distribution mechanisms
- Cellular models examining mitochondrial function and bioenergetics
- Research on hepatic triglyceride metabolism and lipid accumulation

Laboratory Considerations

- Store lyophilized powder at -20°C
- Once reconstituted, store at 2-8°C
- Avoid repeated freeze-thaw cycles



Molecular Profile

- Chemical Formula: $C_{229}H_{366}N_{72}O_{69}$
- Molecular Weight: 5,135.9 Da
- Sequence: Trans-3-hexenoyl-Tyr-Ala-Asp-Ala-Ile-Phe-Thr-Asn-Ser-Tyr-Arg-Lys-Val-Leu-Gly-Gln-Leu-Ser-Ala-Arg-Lys-Leu-Leu-Gln-Asp-Ile-Met-Ser-Arg-Gln-Gln-Gly-Glu-Ser-Asn-Gln-Glu-Arg-Gly-Ala-Arg-Ala-Arg-Leu-NH_2

References

1. Stanley TL, et al. Effects of tesamorelin on non-alcoholic fatty liver disease in HIV: a randomised, double-blind, multicentre trial. Lancet HIV. 2019;6(12):e821-e830.
2. Mangili A, et al. Tesamorelin for the treatment of HIV lipodystrophy. Expert Opin Pharmacother. 2020;21(12):1495-1504.
3. Fourman LT, et al. Effects of tesamorelin on hepatic transcriptomic signatures in HIV-associated NAFLD. JCI Insight. 2020;5(16):e140134.

©US Peptide Co 2025