Kisspeptin-10
Research Applications

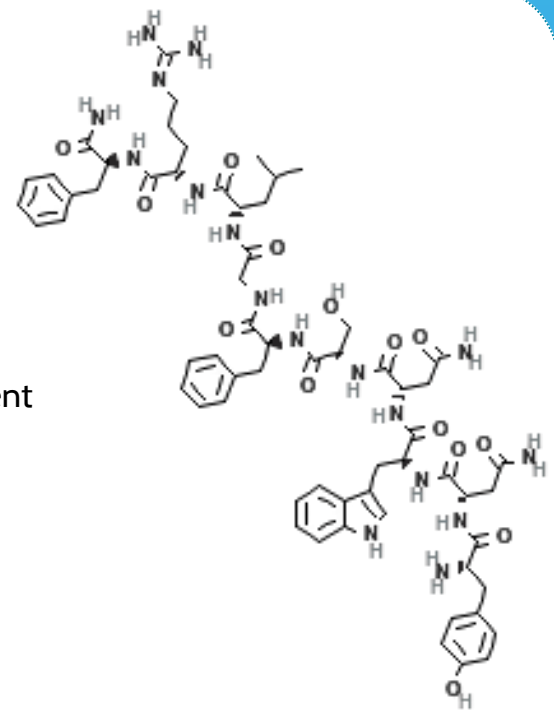
US Peptide Co

Mechanism of Action

Kisspeptin-10 is a biologically active C-terminal fragment of the full Kisspeptin-54 peptide that binds to the KISS1R (GPR54) receptor. In research models, Kisspeptin-10 activates signaling cascades in GnRH neurons, stimulating the release of gonadotropin-releasing hormone. This peptide plays a critical role in the regulation of reproductive function through modulation of the hypothalamic-pituitary-gonadal axis, making it valuable for studying neuroendocrine control of reproduction.

Molecular Profile

- Chemical Formula: $C_{63}H_{83}N_{17}O_{13}$
- Molecular Weight: 1,302.4 Da
- Sequence: Tyr-Asn-Trp-Asn-Ser-Phe-Gly-Leu-Arg-Phe-NH_2



Research Applications

- Reproductive neuroendocrine pathway research
- Investigation of GnRH neuron activation mechanisms
- Models examining puberty onset and reproductive development
- Research on hypothalamic-pituitary-gonadal axis regulation

Laboratory Considerations

- Store lyophilized powder at -20°C
- Reconstituted solutions should be stored at 4°C
- Protect from light during storage and experimentation

References

1. Kotani M, et al. The metastasis suppressor gene KiSS-1 encodes kisspeptins, the natural ligands of the orphan G protein-coupled receptor GPR54. J Biol Chem. 2001;276(37):34631-34636.
2. Roseweir AK, et al. Discovery of potent kisspeptin antagonists delineate physiological mechanisms of gonadotropin regulation. J Neurosci. 2009;29(12):3920-3929.
3. Pinilla L, et al. Kisspeptins and reproduction: physiological roles and regulatory mechanisms. Physiol Rev. 2012;92(3):1235-1316.
4. Clarke H, et al. Kisspeptin-10 is a potent stimulator of LH and increases pulse frequency in men. J Clin Endocrinol Metab. 2011;96(8):E1228-E1236.