# Ipamorelin
## Research Applications

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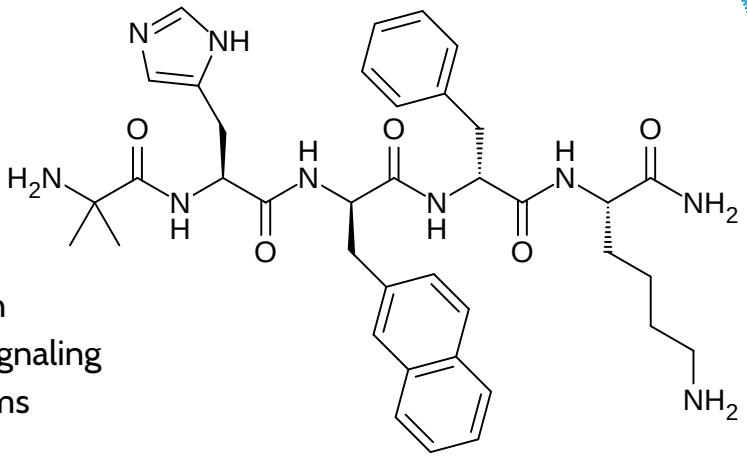
### Mechanism of Action

Ipamorelin is a synthetic pentapeptide that functions as a selective ghrelin receptor (GHS-R1a) agonist. Unlike other growth hormone secretagogues, Ipamorelin demonstrates high selectivity for GH release without significantly affecting other hormones such as cortisol or prolactin in research models. This selectivity makes it valuable for studying specific aspects of the ghrelin receptor signaling pathway and its downstream effects on cellular metabolism.

## Molecular Profile

- Chemical Formula: $C_{38}H_{49}N_9O_5$
- Molecular Weight: 711.9 Da
- Sequence: Aib-His-D-2-Nal-D-Phe-Lys-$NH_2$



## Research Applications

- Selective growth hormone secretagogue research
- Investigation of ghrelin receptor specificity and signaling
- Models examining appetite regulation mechanisms
- Research on tissue-specific GHS-R1a activation

## Laboratory Considerations

- Store lyophilized powder at -20°C
- Reconstituted solutions should be stored at 4°C
- Avoid repeated freeze-thaw cycles

## References


1. Raun K, et al. Ipamorelin, the first selective growth hormone secretagogue. Eur J Endocrinol. 1998;139(5):552-561.
2. Gobburu JV, et al. Pharmacokinetic-pharmacodynamic modeling of ipamorelin, a growth hormone releasing peptide, in human volunteers. Pharm Res. 1999;16(9):1412-1416.
3. Johansen PB, et al. The effects of growth hormone secretagogues on bone. Growth Horm IGF Res. 1999;9(Suppl A):18-21.
4. Svensson J, et al. The GH secretagogues ipamorelin and GH-releasing peptide-6 increase bone mineral content in adult female rats. J Endocrinol. 2000;165(3):569-577.