

Kisspeptin-5 — Research Summary

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1. What It Is

Kisspeptin-5 (Kp-5) refers to the minimal 5-amino-acid C-terminal sequence of kisspeptin (residues 50-54 of the parent metastin/kisspeptin-54 molecule) that forms the core binding motif for the kisspeptin receptor (KISS1R/GPR54). It is described in the patent/medicinal-chemistry literature as the shortest fragment retaining receptor-binding activity, used as a scaffold for designing kisspeptin receptor agonist/antagonist analogs — the N-terminal portion of the larger kisspeptin isoforms is reported to add stability and protection from proteolytic degradation rather than being required for receptor binding itself.

This is distinct from kisspeptin-10 (Kp-10, the shortest naturally-occurring active isoform typically studied in human physiology trials) and kisspeptin-54 (Kp-54, the major circulating natural isoform).

2. Reported Effects in Research Literature

Kisspeptin-5 itself has essentially no independent published human or animal pharmacology literature — the evidence base for kisspeptin research overwhelmingly concerns Kp-10 and Kp-54, not the minimal Kp-5 fragment. This is an important limitation to state plainly.

- Kp-5's role in the literature is structural/mechanistic: patent filings describe it as the core GPR54-binding sequence used as a starting scaffold for synthesizing modified kisspeptin analogs (varying stability, receptor selectivity, or agonist/antagonist activity), not as a standalone compound with its own dedicated pharmacology studies.
- By contrast, kisspeptin-10 has substantial human data: it robustly stimulates LH/FSH in men at doses as low as 0.3–1.0 nmol/kg IV, with sexually dimorphic effects in women depending on menstrual cycle phase.
- Kisspeptin-54 has been studied in IVF/oocyte-maturation trials and in randomized trials for hypoactive sexual desire disorder (see the Kisspeptin-10 research summary for details on both isoforms).
- No published pharmacokinetic, safety, or efficacy data specific to Kp-5 administered as a standalone research compound was identified in the literature reviewed for this summary.

3. Clinical & Preclinical Study References

"Modified kisspeptin peptides and uses thereof." Patent filing describing Kp-5 (metastin residues 50-54) as the GPR54 core binding sequence used in analog design.

International Union of Basic and Clinical Pharmacology. "Kisspeptin Receptor Nomenclature, Distribution, and Function." Pharmacol Rev/ScienceDirect.

Bachem knowledge center. "Kisspeptin" (isoform overview: KP-54, KP-14, KP-13, KP-10).

See also: Prolific Peptides Research Library entry for Kisspeptin-10, which covers the isoforms with actual human trial data.

Regulatory/Safety Note: No FDA-approved indication exists for any kisspeptin isoform or fragment, including Kp-5. Given the near-total absence of dedicated Kp-5 pharmacology data, documentation referencing this product should not borrow efficacy or safety claims from Kp-10 or Kp-54 studies, since those describe a different, longer molecule.

This compound has not been evaluated by the FDA and is not intended to diagnose, treat, cure, or prevent any disease in humans or animals.

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