

KISSPEPTIN

Fertility · Hormones · Desire · Vitality

The master regulator of the
reproductive hormone axis —
the neuropeptide that ignites life.

54

Amino Acids (KP-54)

GnRH

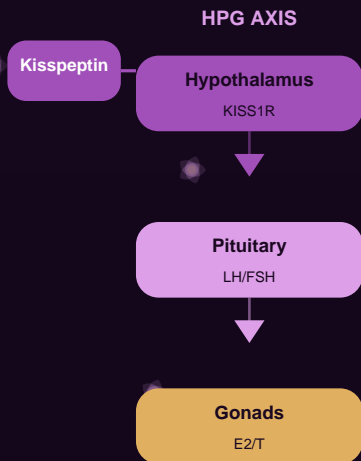
Primary Target

2001

Year Identified

Both

Sexes



What is Kisspeptin?

The neuropeptide master switch of human reproductive function

Kisspeptin is a family of neuropeptides encoded by the KISS1 gene, acting via the KISS1R receptor (formerly GPR54) to serve as the primary gatekeepers of the reproductive hormone cascade.

Discovered in 2001 through the observation that KISS1R mutations caused idiopathic hypogonadotropic hypogonadism, kisspeptin neurons in the arcuate nucleus and anteroventral periventricular nucleus of the hypothalamus directly stimulate GnRH (gonadotropin-releasing hormone) pulse secretion.

This makes kisspeptin the hierarchical regulator of the HPG (hypothalamic-pituitary-gonadal) axis — controlling LH, FSH, oestrogen, testosterone, and progesterone through a single signalling pathway.

Multiple isoforms exist — KP-54, KP-14, KP-13, and KP-10 — all derived from the same KISS1 precursor and sharing the C-terminal RF-amide motif required for KISS1R binding.

KP-10 ACTIVE CORE SEQUENCE

Tyr-Asn-Trp-Asn-Ser-Phe-Gly-Leu-Arg-Phe-NH₂

KP-54: 54 a.a. full-length isoform | MW: ~6100 Da

HPG Axis Cascade



Gene KISS1

Receptor KISS1R / GPR54

Forms KP-10, 13, 14, 54

Location Hypothalamus

WHAT IS KISSPEPTIN?

Key Benefits

Clinical and preclinical evidence across reproductive health and beyond

GnRH Pulse Stimulation

Kisspeptin directly drives GnRH neuron firing, producing reliable LH pulses — the foundational mechanism of reproductive hormone regulation. IV/SC kisspeptin produces measurable LH surges within minutes in humans.

Fertility Restoration

Clinical trials at Imperial College London demonstrate kisspeptin administration restores ovulation in women with hypothalamic amenorrhoea and induces sperm maturation in men with hypogonadotropic hypogonadism.

Testosterone Optimisation

In men with functional hypogonadism, kisspeptin stimulation of the HPG axis elevates endogenous LH and subsequently testosterone — without suppressing the natural axis as exogenous testosterone does.

Sexual Desire & Reward

Beyond reproduction, kisspeptin neurons project to limbic reward circuits. Studies show kisspeptin enhances sexual processing and emotional bonding, and is associated with increased desire in both sexes.

IVF & ART Enhancement

Kisspeptin-54 has completed Phase II/III trials as a superior trigger for oocyte maturation in IVF, reducing ovarian hyperstimulation syndrome (OHSS) risk versus hCG — a major advance for assisted reproduction.

Metabolic Regulation

Kisspeptin receptors in the pancreas and liver modulate insulin secretion and glucagon response. Research links KISS1 signalling to improved metabolic homeostasis and weight regulation independent of reproduction.

Kisspeptin vs. GnRH Analogues vs. hCG Trigger (IVF)



Research & Dosing

From gene discovery to IVF clinic — kisspeptin's remarkable research journey

2001

2001 Gene & Receptor Identified

The KISS1 gene and its receptor GPR54 (KISS1R) were identified when loss-of-function mutations were found to cause complete absence of puberty — establishing kisspeptin as essential for reproductive development.

2005

2005 Human HPG Stimulation

First-in-human intravenous kisspeptin-54 administration produced rapid, robust LH pulses in healthy volunteers, confirming the peptide's role as a direct GnRH stimulant in humans.

2010

2010 Hypothalamic Amenorrhoea

Imperial College London trials showed kisspeptin restored LH pulsatility and ovulation in women with hypothalamic amenorrhoea caused by excessive exercise or low body weight — without hormonal suppression.

2014

2014 IVF Oocyte Trigger

Phase II trials confirmed kisspeptin-54 as an effective oocyte maturation trigger in IVF, producing equivalent fertilisation rates to hCG while dramatically reducing OHSS risk in high-risk patients.

2018

2018 Sexual Processing & Desire

Neuroimaging studies showed kisspeptin administration enhanced brain responses to sexual and emotional stimuli, and elevated self-reported sexual desire — broadening its significance beyond pure reproductive endocrinology.

2022

2022 Phase III IVF Approval Path

Multi-centre Phase III trials for kisspeptin as a routine IVF trigger demonstrated non-inferiority to standard protocols with superior safety, supporting regulatory submissions in Europe and the US.

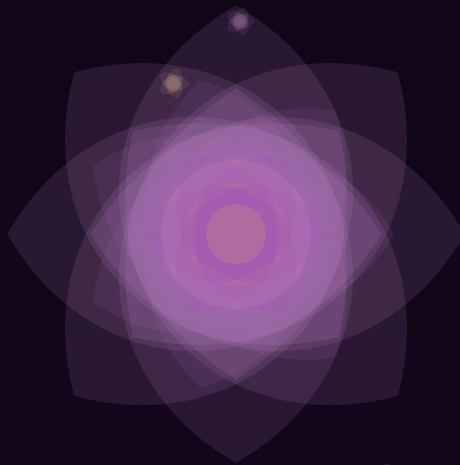
Dosing Overview

Form	Synthetic peptide (IV/SC)	IVF Trigger	Single dose 9.6 nmol/kg IV	Onset	5–15 minutes (IV)
KP-54 Dose	0.24–9.6 nmol/kg IV	Fertility Protocol	Pulsatile SC, 90-min intervals	LH Peak	30–60 min post-dose
KP-10 Dose	0.1–1 mcg/kg SC est.	Cycle Length	Per clinical protocol	Safety	Excellent — no OHSS risk

For research use only. Kisspeptin is under clinical investigation. Not approved outside IVF trials in most jurisdictions. Physician supervision required.

Life Begins with Kisspeptin.

Kisspeptin is not a hormone replacement — it is the body's own ignition signal, restored. From fertility and testosterone to desire and metabolic health, one peptide orchestrates it all through the master switch of the HPG axis.



FERTILITY

& reproductive health
HPG axis activation



HORMONES

& oestrogen balance
LH, FSH, testosterone



DESIRE

& emotional vitality
Sexual reward pathways

ORDER NOW

LEARN MORE

FREE SAMPLE

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For research purposes only. Kisspeptin is under active clinical investigation. Not approved for routine therapeutic use in most jurisdictions.

Always consult a licensed reproductive endocrinologist or healthcare professional before beginning any peptide protocol.