BRING THIS TO YOUR DOCTOR · GREY PEPTIDES

RFRP-3 (GnIH)

Also called: RFRP-3; RFRP3; RFamide-related peptide-3; GnIH; Gonadotropin-inhibitory hormone; NPVF (RFRP-3)

What it is

RFRP-3 (RFamide-related peptide-3) is the mammalian ortholog of gonadotropin-inhibitory hormone (GnIH), an endogenous RFamide peptide (human sequence VPNLPQRF-amide) cut with RFRP-1 from the NPVF-gene precursor and signalling through GPR147 (NPFFR1). It is the reproductive brake — inhibiting GnRH neurons and luteinizing-hormone release, the opposite of kisspeptin (PMIDs 19204051, 26063871) — and the messenger through which stress and the seasons suppress fertility (PMID 25511257); it also stimulates feeding and acts on the ovary (PMIDs 33566226, 29337271). It is a research peptide, not an approved medicine, and has never been given to people as a treatment.

Approval status

Research Chemical. Not a drug: Drugs@FDA and the openFDA label endpoint hold no record, and FDA GSRS and ChEMBL hold no substance record for RFRP-3 / gonadotropin-inhibitory hormone (searched November 6, 2026). It is an endogenous human peptide; there is no therapeutic development of RFRP-3 itself, and no registered interventional trial of giving it to people. It is studied as a reproductive brake and stress/season transducer, and its receptor (GPR147) as a potential drug target, which remain preclinical.

Dosing, as printed in the page's Recommended Dosing box

No established human dose

RFRP-3 is an endogenous human peptide that has never been given to people as a treatment. The human evidence is its identification in brain tissue; the functional studies are in animals and cells, where RFRP-3 is injected into the brain or applied to cells at experimental amounts that do not carry over to people.

Educational information, not medical advice. None is a recommendation for you. An unapproved compound has no established safe or effective human dose, and products sold for "research use only" are not made or tested for people. Talk to a doctor before acting on anything on this site, including before you start, stop or change any medicine or dose.

Key human evidence

No human study is carded on the page; its 6 study cards are reviews, animal or cell work. The first 2:

• **Seasonal control of GnIH in birds and mammals** (Review, 2014). A review of gonadotropin-inhibitory hormone (GnIH/RFRP-3) as a key component of the circuitry that phases reproduction with the seasons. Transducing photoperiod (day-length) information, it adjusts reproductive state and sexual motivation across species, and can also drive acute changes in reproductive status — surveying the similarities and differences in how GnIH works across photoperiodic birds and mammals. **PMID 25511257**

• **RFRP-3 in energy, metabolism and reproduction** (Review, 2021). A review of RFRP-3 as a neuroendocrine regulator that links energy balance and reproduction. Through GPR147 it inhibits the reproductive axis, and it also has an orexigenic (feeding-stimulating) action; its expression rises in metabolically deficient states, suggesting RFRP-3 integrates energy balance with reproduction, and the review considers its possible relevance to type-2 diabetes, aging and subfertility. **PMID 33566226**

Interactions

A PubMed search for interaction studies of this compound with any drug (November 6, 2026, 3 records) found none in people. That is not evidence that it is safe to combine with anything.

Side effects and cautions

Reported side effects	Contraindications and cautions
• No human adverse-event data exist: no published study has administered RFRP-3 to people • In animals, RFRP-3 suppresses the reproductive axis and luteinizing hormone (PMIDs 26063871, 19204051) and mediates stress-induced loss of fertility and sexual behaviour (PMID 25511257) — effects of a signalling peptide, not a safety profile • It stimulates feeding and acts directly on the ovary (PMIDs 33566226, 29337271), so reproductive and metabolic effects would be expected if it were administered • Material sold online as 'RFRP-3' or 'GnIH' is an unregulated research chemical of unverified content	• Not a medicine: no FDA application or label, and no approval anywhere • No human dosing, interaction, pregnancy or long-term safety data exist for administered RFRP-3 • It is a laboratory research peptide, not a treatment • Its suppression of the reproductive axis is physiology, not a basis for self-administration

Five questions to ask

1. RFRP-3 (GnIH) is listed here as "Research Chemical". What does the evidence on this sheet mean for someone in my situation, and is there an approved treatment I should consider instead?
2. Here are the medicines and supplements I take. Do any of them interact with RFRP-3 (GnIH)? This sheet records none published, which does not mean none exist.
3. Which side effects should make me stop and call you, for example no human adverse-event data exist: no published study has administered rfrp-3 to people?
4. Do any of the cautions on this sheet apply to me, such as: Not a medicine: no FDA application or label, and no approval anywhere?
5. What should we check before I start and while I am on it (blood tests, blood pressure, weight), and how often?

Grey Peptides is a vendor-neutral encyclopedia: it sells nothing and names no seller. This sheet is educational, not medical advice, and is not a prescription.