Relaxin-3

Also called: Relaxin 3; RLN3; INSL7; Insulin-like peptide 7

What it is

Relaxin-3 (INSL7) is a two-chain peptide of the insulin and relaxin family and the natural ligand of RXFP3 (PMID 14522968), made chiefly by stress-responsive neurons of the brainstem nucleus incertus (PMID 15845093). Injected into rat brains it increases eating and weight (PMIDs 15845619, 16777712) and raises stress and reproductive hormones (PMIDs 24578294, 18492777). Human studies only measured it: serum levels were higher in women with metabolic syndrome (PMID 23018057), and a UK Biobank gene study found no link with depression or anxiety (PMID 37967073). It has never been given to people.

Approval status

Research Chemical. Not a medicine: an endogenous neuropeptide studied in animals and measured in human blood. Drugs@FDA (openFDA) returns no record for relaxin-3 and ClinicalTrials.gov lists no study of relaxin-3, RLN3 or INSL7 (November 3, 2026).

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

No established human dose

Relaxin-3 has not been given to people in any study on this page. The human evidence is measurement only: blood levels compared between groups of women, children and young men, gene variants tested in patients and in UK Biobank, and the peptide located in post-mortem brain, testis and prostate.

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

The first 3 of the 8 human studies carded on the page (24 study cards in all):

• **Located in human brain, testis and prostate** (Human, 2010). Antibody staining of human and rhesus monkey tissue placed relaxin-3 in brainstem tegmental nuclei, in the space around the sperm-producing tubules of the testis and in the supporting stroma of the prostate. The rhesus form of the peptide, cloned for the study, protected cultured human nerve cells, an action not tested further in the abstract. **PMID 19778557**

• **The human nucleus incertus, mapped for the first time** (Human, 2024). Post-mortem sections of the human pons revealed a cluster of GABA-making neurons containing relaxin-3 and the CRH type 1 receptor in the place where the nucleus incertus sits in other species. Relaxin-3 was also detected in hippocampal neurons that lack its messenger RNA, consistent with delivery from elsewhere, and in one Alzheimer's disease brain the relaxin-3 neurons carried abnormal tau. **PMID 39014514**

• **Higher in women with metabolic syndrome** (Human, 2013). Among 300 women, the 150 with metabolic syndrome had higher serum relaxin-3 than the 150 healthy controls, and the level rose with each part of the syndrome: waist size, blood pressure, glucose and blood fats. The design shows an association at one point in time and cannot say whether relaxin-3 contributes to the syndrome or follows it. **PMID 23018057**

Interactions

A PubMed search for interaction studies of this compound with any drug (November 3, 2026, 1 record) 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
• Brain injections and infusions increased food intake and body weight in rats (PMIDs 15845619, 16777712) • It raised the stress hormones ACTH and corticosterone in rats (PMID 24578294) • It raised luteinising hormone in male rats, showing an action on the reproductive axis (PMID 18492777) • No study read gave relaxin-3 to a person, so its human safety is unknown	• Not a medicine: no relaxin-3 product is approved or has been tested in people • Relaxin-3 can activate the relaxin-2 receptor RXFP1 as well as its own, so its effects are not confined to one system (PMID 14522968) • Blood-level studies are small, single-centre and cross-sectional; none sets a reference range (PMIDs 23018057, 28786126) • Any material sold as relaxin-3 is outside a regulated supply, so its identity and amount are unverified • Tested athletes: see the sport row in the legal table below

Five questions to ask

1. Relaxin-3 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 Relaxin-3? This sheet records none published, which does not mean none exist.
3. Which side effects should make me stop and call you, for example brain injections and infusions increased food intake and body weight in rats?
4. Do any of the cautions on this sheet apply to me, such as: Not a medicine: no relaxin-3 product is approved or has been tested in people?
5. What should we check before I start and while I am on it (blood tests, blood pressure, weight), and how often?

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