TLQP-21

Also called: TLQP-21; TLQP21; VGF(556-576)

What it is

TLQP-21 is a 21-amino-acid neuropeptide cut from the C-terminal region of the VGF precursor (VGF gene, UniProt O15240), the most studied VGF-derived peptide. It is a catabolic, anti-obesity peptide: given centrally it prevents diet-induced weight gain and activates fat-burning (PMID 19247701), and it drives lipolysis through the complement C3a receptor (C3aR1; gC1qR also reported) (PMID 31484069). It potentiates glucose-stimulated insulin secretion (PMID 33348234) and contributes to inflammatory and nerve-injury pain (PMID 24657450); human TLQP-21 is a much weaker C3aR activator than the mouse peptide (PMID 36776827). It is an endogenous research neuropeptide, 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 TLQP-21 (searched November 6, 2026). It is an endogenous VGF-derived peptide; there is no therapeutic development of TLQP-21 itself, and no registered interventional trial of giving it to people. It is studied as a catabolic, anti-obesity neuropeptide and a complement-C3a-receptor agonist, which remains preclinical.

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

No established human dose

TLQP-21 is an endogenous VGF-derived peptide that has never been given to people as a treatment. The work is in animals and cells (including human cells in the dish), where TLQP-21 is given 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:

• **Central TLQP-21 prevents diet-induced weight gain** (Animal, 2009). Chronic intracerebroventricular TLQP-21 in fast-weight-gaining mice on a high-fat diet selectively blocked the increase in body weight and white fat despite equal overeating, normalised leptin and ghrelin, raised adrenaline, and upregulated catabolic genes in white fat (beta-3 adrenergic receptor, PPAR-delta, hormone-sensitive lipase) — supporting TLQP-21 as a catabolic neuropeptide that prevents the early phase of diet-induced obesity (a preclinical result). **PMID 19247701**

• **TLQP-21 drives lipolysis through the C3a receptor** (In Vitro, 2019). A structure-function and co-evolution study characterised the lipolytic mechanism of TLQP-21 through the complement C3a receptor (C3aR1) and mapped the peptide's binding motif. Mouse TLQP-21 bound and activated human C3aR1 more strongly than the human peptide and, unlike human TLQP-21, potentiated lipolysis in human adipocytes; five mutations in the rodent receptor's binding pocket accounted for the enhanced potency — relevant to developing TLQP-21-based obesity therapies (a mechanistic study). **PMID 31484069**

Interactions

A PubMed search for interaction studies of this compound with any drug (November 6, 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
• No human adverse-event data exist: no published study has administered TLQP-21 to people • In animals it prevents diet-induced weight gain and drives lipolysis (PMIDs 19247701, 31484069), but it also contributes to inflammatory and nerve-injury pain (PMID 24657450) — preclinical signals, not a human safety profile • Human TLQP-21 activates its proposed receptor (C3aR) far more weakly than the mouse peptide, so animal findings may not translate (PMID 36776827) • Material sold online as 'TLQP-21' 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 TLQP-21 • It is a laboratory research neuropeptide and an obesity target, not a treatment • Its effects on metabolism, insulin, pain and a complement receptor warrant caution in any use

Five questions to ask

1. TLQP-21 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 TLQP-21? 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 tlqp-21 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.