Temporin

Also called: Temporin A; Temporin L; Temporins

What it is

Temporins are a family of very short (~10-14 amino acid) amidated, amphipathic alpha-helical antimicrobial peptides from frog skin, first described from the European red frog Rana temporaria (Simmaco et al., 1996). Among the shortest natural AMPs, they disrupt microbial membranes (classically Gram-positive; temporin L broader) and include antibiofilm, anticancer and immunomodulatory members (PMIDs 40318277, 42039190). They are research antimicrobial peptides, not approved medicines, and have never been given to people as a treatment.

Approval status

Research Chemical. Not drugs: Drugs@FDA and the openFDA label endpoint hold no record, and FDA GSRS and ChEMBL hold no approved-drug record for temporin peptides (searched November 7, 2026). They are frog-skin antimicrobial peptides studied as antibacterial, antifungal, antibiofilm, anticancer and immunomodulatory leads and as engineering scaffolds; there is no therapeutic development to market and no registered interventional trial of giving a temporin to people.

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

No established human dose

Temporins are frog-skin research peptides; none has been given to people as a treatment. The work is in cells and animals, often with engineered analogs, 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:

• **Temporin A analogues: structure-activity for antibacterial and antiproliferative effect** (In Vitro, 2025). Temporin A analogues modified at positions 1 and 10 (e.g. substituting the N-terminal phenylalanine or the position-10 serine) were synthesised and tested; a serine-to-tyrosine change improved the antiproliferative effect while keeping antibacterial activity, and a fluorinated-phenylalanine analog was the most effective antibacterial — mapping how small changes tune temporin potency, toxicity and stability (an in-vitro SAR study). **PMID 40284394**

• **Temporin-1CEa anticancer peptide-drug conjugates** (In Vitro, 2024). The frog anticancer peptide temporin-1CEa (from Rana chensinensis) was truncated and cysteine-scanned to yield more active derivatives, and the best was conjugated via a reduction-responsive linker to the chemotherapeutic podophyllotoxin; the conjugate killed cancer cells through both membrane damage and apoptosis, with lower toxicity to normal endothelial cells than free drug (an in-vitro anticancer-design study). **PMID 39753038**

Interactions

A PubMed search for interaction studies of this compound with any drug (November 7, 2026, 9 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 a temporin to people • As membrane-active peptides, hemolysis and cytotoxicity to host cells are the central safety concern; analog design explicitly aims to reduce them (PMIDs 39766603, 39753038) — a design issue, not human data • Some temporins and derivatives are cytotoxic to cancer cells by design (PMID 39753038); selectivity for target over healthy cells is an open research question • Material sold online as a 'temporin' is an unregulated research chemical of unverified content	• Not medicines: no FDA application or label, and no approval anywhere • No human dosing, interaction, pregnancy or long-term safety data exist for administered temporins • They are frog-skin research antimicrobial peptides, not treatments • Their membrane-lytic nature (hemolysis/cytotoxicity) warrants caution about effects on host cells in any use

Five questions to ask

1. Temporin 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 Temporin? 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 a temporin to people?
4. Do any of the cautions on this sheet apply to me, such as: Not medicines: 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.