Aurein

Also called: Aurein 1.2; Aureins; Aurein 2.2

What it is

Aureins are a family of short cationic, amphipathic alpha-helical antimicrobial peptides from the skin of the Australian Green and Golden Bell Frog (Litoria aurea) and Southern Bell Frog (L. raniformis), first sequenced and structurally characterised by Rozek et al. (2000). Aurein 1.2 (GLFDIIKKIAESF-NH2) is only 13 residues — among the shortest frog peptides with both antibiotic and anticancer activity. They disrupt microbial (and some cancer-cell) membranes and are widely used as biophysics models and engineering scaffolds (PMIDs 37082600, 36830322). 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 aurein peptides (searched November 7, 2026). They are bell-frog-skin antimicrobial peptides studied as antibacterial and anticancer leads, as model peptides for membrane biophysics, and as engineering scaffolds; there is no therapeutic development to market and no registered interventional trial of giving an aurein to people.

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

No established human dose

Aureins are frog-skin research peptides; none has been given to people as a treatment. The work is in model membranes, bacteria and cultured cells, 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:

• **Discovery and solution structure of aurein 1.2 (Litoria bell frogs)** (In Vitro, 2000). Sixteen-to-seventeen aurein peptides were isolated from the dorsal-gland secretions of Litoria aurea and Litoria raniformis and grouped as aureins 1-5; thirteen showed wide-spectrum antibiotic and anticancer activity. Aurein 1.2 (GLFDIIKKIAESF-NH2), the shortest, was shown by NMR to be an amphipathic alpha-helix with defined hydrophilic and hydrophobic faces, while aureins 4-5 were inactive — the founding structure-activity description of the family. **PMID 10951191**

• **Phenylalanine residues govern how aurein 1.2 disrupts membranes** (In Vitro, 2026). Comparing aurein 1.2 with alanine-substituted versions by fluorescence correlation spectroscopy showed the N-terminal phenylalanine drives membrane binding and overall activity while the C-terminal phenylalanine controls selectivity for bacterial over mammalian membranes; the wild-type selectively disrupted bacteria-mimicking membranes, and cholesterol protected mammalian-type membranes — a residue-level mechanism study. **PMID 41556696**

Interactions

A PubMed search for interaction studies of this compound with any drug (November 7, 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 an aurein to people • As membrane-active peptides, hemolysis and cytotoxicity to host cells are the central safety concern; aurein-derived design work explicitly tracks toxicity on normal human cells (PMID 30593676) — a design issue, not human data • Aurein 1.2 and derivatives are active against some cancer cells (PMID 36830322); selectivity for target over healthy cells is an open research question • Material sold online as an 'aurein' 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 aureins • They are bell-frog-skin research antimicrobial peptides, not treatments • Their membrane-active nature (hemolysis/cytotoxicity) warrants caution about effects on host cells in any use

Five questions to ask

1. Aurein 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 Aurein? 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 an aurein 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.