BRING THIS TO YOUR DOCTOR · GREY PEPTIDES

Clavanin

Also called: Clavanin A; Clavanin-MO; Clavanins; Clavanin C

What it is

Clavanin is a family of 23-residue histidine-rich, cationic, amphipathic alpha-helical antimicrobial peptides from the hemocytes of the marine tunicate (sea squirt) Styela clava, first described by Lee, Lehrer et al. (1997). Their histidines give pH-dependent activity (stronger in acid) and zinc/copper binding that boosts potency; they disrupt microbial membranes (broad-spectrum antibacterial, antifungal), and engineered derivatives (clavanin-MO) add immunomodulation and wound healing (PMIDs 42350299, 38999961). They are research 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 clavanin peptides (searched November 7, 2026). They are tunicate antimicrobial peptides studied as antibacterial, antifungal, immunomodulatory and wound-healing leads, metallo-peptide scaffolds and antimicrobial device coatings; there is no therapeutic development to market and no registered interventional trial of giving a clavanin to people.

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

No established human dose

Clavanins are sea-squirt research peptides; none has been given to people as a treatment. The work is in model membranes, bacteria, fungi, human cells and biomaterials, 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:

• **Stable metal-binding clavanin C peptidomimetics** (In Vitro, 2026). Redesigning clavanin C by chirality inversion (an all-D peptide and a retro-inverso variant) gave proteolytically stable mimetics that kept their copper and zinc binding (via the N-terminal ATCUN motif and a histidine cluster) and their antimicrobial activity, with strong potency against MRSA and no mammalian-cell toxicity — a general route to durable metallo-antimicrobial peptides (an in-vitro study). **PMID 42350299**

• **Clavanin A and clavanin-MO promote skin regeneration** (In Vitro, 2024). Clavanin A and the engineered clavanin-MO (alongside mastoparan-MO) were non-toxic to human dermal fibroblasts at their working doses and promoted fibroblast proliferation and migration while switching on skin-regeneration genes; clavanin A accelerated wound closure in an ex-vivo human-skin model — evidence of a pro-regenerative role beyond antimicrobial activity (an in-vitro/ex-vivo study). **PMID 38999961**

Interactions

A PubMed search for interaction studies of this compound with any drug (November 7, 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 a clavanin to people • As membrane-active peptides, cytotoxicity and hemolysis to host cells are the usual concern; clavanin A and stabilised clavanin C mimetics are reported non-toxic to mammalian cells in the lab (PMIDs 42350299, 38999961) — research findings, not human data • Clavanin binds zinc and copper, which changes its activity; metal interactions would need study in any therapeutic development (PMID 34382773) • Material sold online as a 'clavanin' 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 clavanins • They are sea-squirt research antimicrobial peptides, not treatments • Their membrane-active nature warrants caution about effects on host cells in any use

Five questions to ask

1. Clavanin 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 Clavanin? 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 clavanin 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.