Pleurocidin

Also called: Pleurocidins; Pleurocidin-like peptides; Ple

What it is

Pleurocidin is a 25-residue linear, cationic, amphipathic alpha-helical antimicrobial peptide from the skin mucus of the winter flounder (Pleuronectes americanus) and a member of the piscidin family of fish antimicrobial peptides, first isolated by Cole, Weis & Diamond (1997). It disrupts microbial membranes (broad-spectrum antibacterial, antifungal) and is a selective anticancer peptide and immunomodulator (easing experimental colitis), usually studied as engineered analogs or in delivery systems (PMIDs 38344173, 38422770). It is a research peptide, not an approved medicine, and has 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 pleurocidin peptides (searched November 7, 2026). They are winter-flounder (piscidin-family) antimicrobial peptides studied as antibacterial, antifungal, anticancer, anti-inflammatory and wound-healing leads and as engineering scaffolds; there is no therapeutic development to market and no registered interventional trial of giving a pleurocidin to people.

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

No established human dose

Pleurocidins are flounder research peptides; none has been given to people as a treatment. The work is in bacteria, cultured cells and animals, often with engineered analogs or delivery systems, 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:

• **Stereochemistry shapes how a pleurocidin peptide behaves in the body (mice)** (Animal, 2026). A mirror-image (D-amino-acid) pleurocidin analog killed priority bacterial pathogens within minutes in vitro, and its D-form distributed more favourably in the body (less renal and liver clearance) than the L-form; but given systemically it did not quickly clear lung infection in mice, though sustained exposure modulated the host immune response — showing that in-vitro potency alone does not predict systemic efficacy. **PMID 42663455**

• **Review and trend analysis of pleurocidin-like peptides** (Review, 2026). A bibliometric review of two decades of pleurocidin research maps its biological activities, mechanisms, optimisation strategies and applications across aquaculture, food preservation and pharmaceuticals, and identifies computer-aided molecular design as an emerging trend for improving these peptides (a review). **PMID 42202950**

Interactions

A PubMed search for interaction studies of this compound with any drug (November 7, 2026, 6 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 pleurocidin to people • As membrane-active peptides, cytotoxicity and hemolysis to host cells are the central safety concern, and systemic delivery is limited by instability and clearance (PMID 42663455) — research findings, not human data • Pleurocidin and its derivatives are cytotoxic to cancer cells by design (PMID 38344173); selectivity for tumour over healthy cells is an open research question • Material sold online as a 'pleurocidin' 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 pleurocidins • They are flounder research antimicrobial/anticancer peptides, not treatments • Their membrane-active nature (cytotoxicity/hemolysis) warrants caution about effects on host cells in any use

Five questions to ask

1. Pleurocidin 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 Pleurocidin? 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 pleurocidin 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.