BRING THIS TO YOUR DOCTOR · GREY PEPTIDES

Protegrin

Also called: Protegrin-1; PG-1; Protegrins

What it is

Protegrin is a family (PG-1 to PG-5) of potent cationic beta-hairpin antimicrobial peptides from pig white blood cells, in the cathelicidin family, first described by Kokryakov, Lehrer et al. (1993). Protegrin-1 (PG-1) is an 18-residue peptide held by two disulfide bonds (like tachyplesin) that forms membrane pores, killing drug-resistant bacteria, fungi and some viruses, binding endotoxin and modulating immunity (PMIDs 42207438, 39094445). It is strongly hemolytic, so safer analogs (including iseganan) are engineered. Protegrins are research peptides, not approved medicines, and have never been given to people as an approved treatment.

Approval status

Research Chemical. Not approved drugs: Drugs@FDA and the openFDA label endpoint hold no record, and FDA GSRS and ChEMBL hold no approved-drug record for protegrin peptides (searched November 7, 2026). They are porcine cathelicidin antimicrobial peptides studied as broad-spectrum antibacterial, antifungal and immunomodulatory leads and engineering scaffolds; the analog IB-367 (iseganan) was taken into clinical trials as a topical antimicrobial but remains investigational, not approved, and there is no registered interventional trial of giving protegrin itself to people as an approved treatment.

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

No established human dose

Protegrins are pig research peptides; no protegrin is an approved treatment. Even the clinically tested analog iseganan is investigational.

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:

• **EDTA restores protegrin-1 activity against resistant Pseudomonas in serum** (In Vitro, 2026). The chelator EDTA fully restored the antimicrobial activity of protegrin-1 (and the pig peptide PR-39) against carbapenem-resistant Pseudomonas aeruginosa in serum, where peptide activity is usually blunted, and adding chitosan boosted it further — supporting a combined peptide/EDTA/chitosan platform (an in-vitro study). **PMID 42207438**

• **The arginine loop governs protegrin-1 activity against colistin-resistant Klebsiella** (In Vitro, 2026). A deep mutational scan of protegrin-1's triple-arginine loop against colistin-resistant Klebsiella pneumoniae showed that a single arginine-to-proline change in the strand-to-turn region cut activity even with disulfide bonds intact, and that removing two loop arginines abolished it — demonstrating that position-specific structure matters as much as net charge for penetrating resistant membranes (an in-vitro study). **PMID 42019271**

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 approved-treatment human safety data exist for protegrin itself (the analog iseganan was tested clinically but is not approved) • Protegrin-1 is strongly hemolytic (damaging to red blood cells) and cytotoxic to host cells at active concentrations — the central safety concern, and the reason less-toxic analogs are engineered (PMIDs 39288825, 40143068) — research findings, not approved-drug data • It binds and neutralises endotoxin and modulates immune cells (PMID 39094445), effects to weigh in any development • Material sold online as a 'protegrin' is an unregulated research chemical of unverified content	• Not approved medicines: no FDA application or label, and no approval anywhere (iseganan is investigational) • No approved human dosing, interaction, pregnancy or long-term safety data exist for protegrins • They are pig white-blood-cell research antimicrobial peptides, not treatments • Their strongly pore-forming, hemolytic nature warrants particular caution about effects on host cells

Five questions to ask

1. Protegrin 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 Protegrin? 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 approved-treatment human safety data exist for protegrin itself?
4. Do any of the cautions on this sheet apply to me, such as: Not approved 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?

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