BRING THIS TO YOUR DOCTOR · GREY PEPTIDES

Oncocin

Also called: Onc112; Oncocin 112; Oncocins

What it is

Oncocin (lead analog Onc112) is a designed, optimized proline- and arginine-rich antimicrobial peptide (PrAMP) engineered around 2010 from insect defence peptides by Knappe, Hoffmann and colleagues. Like apidaecin and drosocin it is non-lytic: imported by the bacterial SbmA transporter, it binds the 70S ribosome exit tunnel to block protein synthesis (and binds DnaK). It is mainly active against Gram-negative bacteria, non-hemolytic, and one of the most characterized and engineered PrAMP antibiotic leads (PMIDs 34902208, 37797458). It is a research peptide, not an approved medicine, and has never been given to people as a treatment.

Approval status

Research Chemical. Not a drug: Drugs@FDA and the openFDA label endpoint hold no record, and FDA GSRS and ChEMBL hold no approved-drug record for oncocin (searched November 7, 2026). It is a designed proline-rich antimicrobial peptide studied as a non-lytic, ribosome-targeting antibacterial lead and engineering scaffold; there is no therapeutic development to market and no registered interventional trial of giving oncocin to people.

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

No established human dose

Oncocin is a designed research peptide; it has not been given to people as a treatment. The work is in bacteria and cell-free systems, almost always with synthetic 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:

• **Truncated and disubstituted oncocin variants with improved activity** (In Vitro, 2025). Using a cell-based expression system in E. coli, a shortened oncocin sequence was found to keep antibiotic activity, and cationic substitutions (P4K and L7R) improved potency versus the parent 19-mer; probing and modelling mapped the variants' contacts with conserved ribosomal RNA, giving a framework for structure-guided PrAMP design (an in-vitro study). **PMID 41114226**

• **Triphenylphosphonium analogs of oncocin/bactenecin peptides** (In Vitro, 2024). Conjugating a decapeptide related to bactenecin 7 and oncocin 112 with a triphenylphosphonium group raised its affinity for bacterial ribosomes and broadened its spectrum to Gram-positive bacteria (via membrane depolarization) while keeping it a more selective inhibitor of bacterial than human translation, and non-toxic to mammalian cells (an in-vitro study). **PMID 38276518**

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 oncocin to people • Unlike membrane-disrupting peptides, oncocin is non-lytic and its analogs are routinely reported as non-hemolytic (under 1% at high doses) and low-toxicity to human cell lines (PMID 37797458) — research findings, not human data • Its spectrum is mainly Gram-negative and depends on bacterial uptake, so activity can be lost if the importing transporter changes (PMID 34902208) • Material sold online as 'oncocin' is an unregulated research chemical of unverified content	• Not a medicine: no FDA application or label, and no approval anywhere • No human dosing, interaction, pregnancy or long-term safety data exist for administered oncocin • It is a designed research antimicrobial peptide, not a treatment • Its activity depends on bacterial uptake and ribosome binding, features studied only in the laboratory

Five questions to ask

1. Oncocin 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 Oncocin? 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 oncocin to people?
4. Do any of the cautions on this sheet apply to me, such as: Not a medicine: 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.