Plantaricin

Also called: Plantaricin A; Plantaricin BM-1; Plantaricins; Plantaricin EF; Plantaricin J

What it is

Plantaricins are a large family of bacteriocins (ribosomally made antimicrobial peptides) produced by the food-grade lactic-acid bacterium Lactiplantibacillus plantarum and encoded by its pln gene locus. They are small, heat-stable, cationic peptides that permeabilise bacterial membranes and kill Gram-positive foodborne pathogens such as Listeria, and are used as natural food preservatives with emerging anticancer and immunomodulatory research (PMIDs 42155826, 41983138). They are research and food-preservation 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 plantaricin peptides (searched November 7, 2026). They are Lactiplantibacillus plantarum bacteriocins studied as food biopreservatives and research antimicrobials, with emerging anticancer and immunomodulatory work; there is no therapeutic drug development to market and no registered interventional trial of giving a plantaricin to people. Any food-additive status is regulated separately from drug approval.

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

No established human dose

Plantaricins are bacteriocins studied for food preservation and in the laboratory; none has been given to people as a medical treatment. The work is in bacteria, food systems, cultured cells and animals, 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:

• **Plantaricin-preconditioned stem-cell microvesicles push colon-cancer cells to apoptosis** (In Vitro, 2026). Microvesicles from mesenchymal stem cells preconditioned with a low (sub-toxic) dose of plantaricin reduced the viability of HT-29 colorectal-cancer cells and raised apoptosis (shifting apoptosis-regulating genes toward programmed cell death) while showing no significant toxicity to normal HEK-293 cells — an early cell-free anticancer approach in vitro. **PMID 42886269**

• **Plantaricin J prevents and reduces foodborne-pathogen biofilms** (In Vitro, 2026). Plantaricin J purified from a Lactiplantibacillus plantarum strain was rapidly bactericidal against Listeria monocytogenes and also inhibited Salmonella, and a neutralised plantaricin-J preparation both prevented biofilm formation and reduced established biofilms on stainless steel, silicone and rubber food-contact surfaces, remaining stable across heat and pH — an in-vitro food-safety study. **PMID 42155826**

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 for plantaricins given as a treatment: no such study has been done • They are produced by a food-grade bacterium (L. plantarum) widely present in fermented foods, but a dietary presence is not the same as a tested therapeutic dose • Some plantaricins and plantaricin-conditioned preparations are cytotoxic to cancer cells in the lab (PMIDs 42886269, 41983138); selectivity for target over healthy cells is an open research question • Material sold online as a 'plantaricin' is an unregulated research chemical of unverified content	• Not medicines: no FDA application or label, and no drug approval anywhere • No human dosing, interaction, pregnancy or long-term safety data exist for administered plantaricins • They are lactic-acid-bacterium bacteriocins studied for food preservation and research, not treatments • Food-preservation use of a bacteriocin is regulated separately from any medical use and is outside this page's scope

Five questions to ask

1. Plantaricin 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 Plantaricin? 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 for plantaricins given as a treatment: no such study has been done?
4. Do any of the cautions on this sheet apply to me, such as: Not medicines: no FDA application or label, and no drug 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.