BRING THIS TO YOUR DOCTOR · GREY PEPTIDES

Snakin

Also called: Snakin-1; Snakin-Z; Snakins; GASA

What it is

Snakins are cysteine-rich plant antimicrobial peptides of the Snakin/GASA family, first described as Snakin-1 from potato (1999). Each is about 63 amino acids with twelve conserved cysteines and up to six disulfide bonds, making it heat-stable; they selectively bind and disrupt microbial membranes while sparing host cells (PMIDs 40280870, 42551674), and also defend plants against disease and stress (PMIDs 42479019, 37064004). Snakins are research peptides and crop-protection tools, 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 snakin (searched November 8, 2026). Snakins are plant antimicrobial peptides studied as antibacterial, antifungal, food-preservation and crop-protection leads; there is no registered interventional trial of giving a snakin to people as an approved treatment.

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

No established human dose

Snakins are plant research peptides and crop-protection tools; no snakin is an approved treatment. The work here is in plants, microbes and simulations at experimental amounts that do not carry over to people, so no amount is printed here.

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:

• **A wheat snakin in active food packaging against Listeria** (In Vitro, 2026). The wheat snakin TdGASA2 showed broad antibacterial activity against Listeria monocytogenes, kept most of its potency after autoclaving, and extended the shelf life of chicken when built into chitosan-based biodegradable packaging films (an in-vitro and food-science study). **PMID 42551674**

• **How Snakin-Z selects microbial over host membranes** (In Vitro, 2025). Computer simulations showed that Snakin-Z, a helical-coil peptide steered by key arginine and lysine residues, embeds in and disorders microbial membranes while being resisted by the cholesterol-rich membranes of red blood cells, explaining its low hemolysis (a simulation study). **PMID 40280870**

Interactions

A PubMed search for interaction studies of this compound with any drug (November 8, 2026, 0 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 snakins • Snakins disrupt microbial membranes but are relatively selective, with characteristically low hemolysis in the lab (PMID 40280870) — research findings, not approved-drug data • They act in plant hormone signalling and stress responses (PMIDs 38302779, 37064004), effects to weigh in any development • Material sold online as 'snakin' is an unregulated research chemical of unverified content	• Not approved medicines: no FDA application or label, and no approval anywhere • No approved human dosing, interaction, pregnancy or long-term safety data exist for snakins • They are plant research antimicrobial peptides and crop-protection tools, not treatments • Their membrane-disrupting nature warrants caution about effects on host cells despite their selectivity

Five questions to ask

1. Snakin 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 Snakin? 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 snakins?
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?

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.