



What It Is & What It Does

SS-31 is genuinely different from everything else in this catalog — instead of latching onto a receptor on the outside of a cell, it travels straight into your mitochondria (the energy factories inside every cell) and binds directly to a fat molecule there called cardiolipin, stabilizing the whole structure and cutting down on cellular damage from oxidative stress.

What The Research Shows

- In September 2025, the FDA approved a drug version of this exact peptide (Forzinity) for Barth syndrome — making it the first-ever FDA-approved mitochondria-targeted drug in history. That's a real, major regulatory milestone, not hype.
- The approval was actually based on improved muscle strength as a secondary measure — the trial didn't hit its main goals (walking distance, fatigue scores), so a follow-up trial is running now to confirm the real-world benefit.
- Also being studied for dry macular degeneration, heart failure, lung scarring, and a rare neurological disease (Friedreich's ataxia), with results ranging from promising to still-early.

Men & Women — What's Actually Different

Barth syndrome, the condition it's approved for, occurs almost exclusively in males — it's caused by a gene mutation on the X chromosome, so it's passed down in a pattern that mostly spares women who carry the gene but overwhelmingly affects their sons. The broader research (heart, eye, lung) doesn't show a male/female split like this — that's specific to the one approved condition.

Reported Side Effects

- Injection site reactions — most common effect from Forzinity trials
- Overall described as generally well-tolerated in the Barth syndrome trial population
- Confirmatory Phase 3b/4 trial ongoing to further verify clinical benefit

Regulatory Status

FDA-approved (as Forzinity) specifically for Barth syndrome, via accelerated approval. Not approved for any other use. Research-grade material is not the approved pharmaceutical product.

For laboratory and research use only. Not for human or veterinary use. Nothing in this document constitutes medical advice, a dosing recommendation, or a treatment claim. Information compiled from published clinical, preclinical, and pharmacovigilance sources current as of research date; regulatory status may change.

Tumor Growth Research Note — SS-31

Category: No Documented Mechanism Found

No documented tumor-growth mechanism or cancer-risk signal was found for SS-31 in the research conducted for this catalog. This compound's documented mechanisms don't fall into the primary categories of concern (angiogenesis, direct mitogenic/IGF-1 signaling, or direct melanocyte stimulation) covered in the full research review. This is a statement of what the current research does and doesn't show, not a guarantee of safety in every context — anyone with an active or recent cancer history should still consult a physician before using any research compound.

This note is a compound-specific excerpt. For the complete framework, full evidence review, and all compound categories, see the standalone document: Can Peptides Cause Tumor Growth? — A Deep-Dive Research Summary. For laboratory and research use only. Not for human or veterinary use. Nothing here constitutes medical advice or a screening recommendation.