

Calcitonin (salmon)

Salmon calcitonin is a 32-amino-acid peptide hormone with a disulfide-bridged ring and C-terminal prolinamide that inhibits osteoclast bone resorption. It is FDA-approved as Miacalcin for conditions including Paget's disease of bone and hypercalcemia.



■ Hydrophobic
 ■ Acidic
 ■ Basic
 ■ Polar
 ■ Gly, Pro, Cys
 ■ Non-standard

Length	32 residues
Formula	C ₁₄₅ H ₂₄₀ N ₄₄ O ₄₈ S ₂
Average mass	3,431.85 g/mol
Monoisotopic mass	3,429.7133 Da
Evidence	Approved drug
US status	FDA-approved (Miacalcin)
WADA	Check the current Prohibited List

Salmon calcitonin: 32 residues, Cys1–Cys7 disulfide, C-terminal prolinamide.

Expected ions (monoisotopic)

[M+H] ⁺	[M+2H] ²⁺	[M+3H] ³⁺	[M+4H] ⁴⁺
3,430.7206	1,715.8639	1,144.2450	858.4356

What the COA should show

A certificate of analysis should confirm identity by mass spectrometry, with the observed mass matching the expected mass shown on this page for the disulfide-bonded, C-terminally amidated peptide, and report HPLC purity with the chromatogram. Compound-specific checks include complete Cys1-Cys7 disulfide formation (the reduced form is 2 Da heavier), absence of disulfide-linked dimers, presence of the C-terminal amide rather than free acid, and deamidation of asparagine and glutamine residues. Pharmacopeial monographs for salmon calcitonin set specific related-substance limits. The acetate content and net peptide content should be stated, and identity confirmed as salmon rather than human calcitonin.

Storage and stability

Store lyophilized salmon calcitonin sealed at -20 °C or in refrigerated conditions as indicated on its documentation, protected from light and moisture, and warm vials before opening. Pharmaceutical injection and nasal products have their own refrigeration and in-use instructions. The disulfide ring can be disrupted by reducing agents, and the amphipathic helix can promote aggregation and fibril formation at high concentration or with agitation. Prepare research solutions in slightly acidic sterile buffer, keep them cold, aliquot, and avoid repeated freeze-thaw cycles.

Full entry, references and latest research: <https://peptidewiki.net/compounds/calcitonin/>
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