

Abaloparatide

Abaloparatide is a synthetic 34-amino-acid analogue of parathyroid hormone-related protein, PTHrP(1-34). It is an FDA-approved anabolic agent for osteoporosis, marketed as Tymlos, that acts on the PTH type 1 receptor.



A-V-S-E-H-Q-L-L-H-D-K-G-K-S-I-Q-D-L-R-R-R-E-L-L-E-K-L-L-Aib-K-L-H-T-A

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

Length	34 residues
Formula	C ₁₇₄ H ₃₀₀ N ₅₆ O ₄₉
Average mass	3,960.59 g/mol
Monoisotopic mass	3,958.2705 Da
Evidence	Approved drug
US status	FDA-approved (Tymlos)
WADA	Check the current Prohibited List

34-residue PTHrP(1–34) analogue with Aib29 and a C-terminal amide.

Expected ions (monoisotopic)

[M+H] ⁺	[M+2H] ²⁺	[M+3H] ³⁺	[M+4H] ⁴⁺
3,959.2777	1,980.1425	1,320.4308	990.5749

What the COA should show

A certificate of analysis should confirm identity by mass spectrometry, with the observed mass matching the expected mass for the full sequence including the α -aminoisobutyric acid residue and C-terminal amide, and report HPLC purity with the chromatogram. Because the sequence is related to PTHrP and to teriparatide, MS/MS or peptide mapping helps distinguish it from unmodified PTHrP(1-34). Characteristic impurities for a 34-residue synthetic peptide include deletion and truncated sequences, deamidation, and a C-terminal free acid in place of the amide. The acetate content and net peptide content should be stated.

Storage and stability

Store lyophilized abaloparatide sealed at -20 °C or colder, protected from light and moisture, and let vials reach room temperature before opening. Pharmaceutical pens have specific refrigeration and in-use storage instructions on their labeling. Although it lacks methionine, the peptide can still deaminate and aggregate in solution, especially with agitation or at elevated temperature. Prepare research solutions in sterile buffer, keep them cold, aliquot for longer storage at -20 °C or below, and avoid repeated freeze-thaw cycles.

Full entry, references and latest research: <https://peptidewiki.net/compounds/abaloparatide/>
For laboratory research reference only. Not medical advice; not for human or veterinary use.