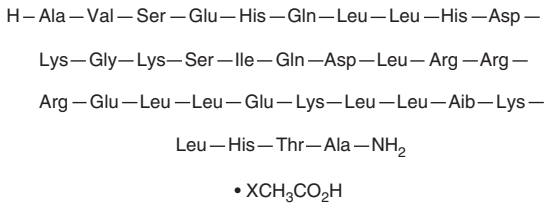
# PRODUCT INFORMATION

## Abaloparatide (acetate)

*Item No. 28816*

**Formal Name:** L-alanyl-L-valyl-L-seryl-L-α-glutamyl-L-histidyl-L-glutaminyl-L-leucyl-L-leucyl-L-histidyl-L-α-aspartyl-L-lysylglycyl-L-lysyl-L-seryl-L-isoleucyl-L-glutaminyl-L-α-aspartyl-L-leucyl-L-arginyl-L-arginyl-L-arginyl-L-α-glutamyl-L-leucyl-L-leucyl-L-α-glutamyl-L-lysyl-L-leucyl-L-leucyl-2-methylalanyl-L-lysyl-L-leucyl-L-histidyl-L-threonyl-L-alaninamide, acetate




**Synonyms:** BA 058, BIM 44058
**MF:** $C_{174}H_{300}N_{56}O_{49} \bullet XC_2H_4O_2$
**FW:** 3,960.6
**Purity:** ≥95%
**Supplied as:** A solid
**Storage:** -20°C
**Stability:** ≥4 years

*Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.*

### Laboratory Procedures

Abaloparatide (acetate) is supplied as a solid. A stock solution may be made by dissolving the abaloparatide (acetate) in the solvent of choice, which should be purged with an inert gas. Abaloparatide (acetate) is slightly soluble in the organic solvent ethanol.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of abaloparatide (acetate) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of abaloparatide (acetate) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Abaloparatide is a synthetic derivative of human parathyroid hormone-related protein (PTHrP) (1-34) and an agonist of parathyroid hormone receptor type 1 (PTH1R).[1] It selectively binds to the G protein-dependent (RG) conformation of PTH1R over the G protein-independent ($R_0$) conformation ($IC_{50}$s = 0.2 and 316.23 nM, respectively). It induces cAMP signaling more transiently than PTH (1-34) (Item No. 24985), PTHrP (1-36), or the long-acting PTH/PTHrP hybrid peptide analog LA-PTH ($EC_{50}$s = 0.08, 0.44, 0.46, and 0.21 nM, respectively). Abaloparatide (5 and 20 µg/kg per day for six weeks) increases areal bone mineral density in the lumbar spine, total femur, and femur diaphysis in ovariectomized osteopenic rats.[2] It also increases bone strength in the femur diaphysis, femur neck, and L4 vertebra in the same model. Abaloparatide increases the incidence of focal osteoblast hyperplasia, benign osteoblastoma, and osteosarcoma in rats in a time- and dose-dependent manner when administered at doses greater than or equal to 10 µg/kg per day for up to two years.[3] Formulations containing abaloparatide have been used in the treatment of osteoporosis in postmenopausal women at high risk for bone fracture.

### References


1. Hattersley, G., Dean, T., Corbin, B.A., *et al. Endocrinology* **157(1),** 141-149 (2016).
2. Bahar, H., Gallacher, K., Downall, J., *et al. Calcif. Tissue Int.* **99(5),** 489-499 (2016).
3. Jolette, J., Attalla, B., Varela, A., *et al. Regul. Toxicol. Pharmacol.* **86**, 356-365 (2017).





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