

PRODUCT INFORMATION



Parathyroid Hormone (1-34) (human) (trifluoroacetate salt)

Item No. 24985

Formal Name: L-seryl-L-valyl-L-seryl-L- α -glutamyl-L-isoleucyl-L-glutamyl-L-leucyl-L-methionyl-L-histidyl-L-asparaginyl-L-leucylglycyl-L-lysyl-L-histidyl-L-leucyl-L-asparaginyl-L-seryl-L-methionyl-L- α -glutamyl-L-arginyl-L-valyl-L- α -glutamyl-L-tryptophyl-L-leucyl-L-arginyl-L-lysyl-L-lysyl-L-leucyl-L-glutamyl-L- α -aspartyl-L-valyl-L-histidyl-L-asparaginyl-L-phenylalanine, trifluoroacetate salt



Synonyms: LY333334, PTH (1-34)
MF: $\text{C}_{181}\text{H}_{291}\text{N}_{55}\text{O}_{51}\text{S}_2 \cdot \text{XCF}_3\text{COOH}$
FW: 4,117.7
Purity: $\geq 95\%$
Supplied as: A lyophilized powder
Storage: -20°C
Stability: ≥ 4 years

$\cdot \text{XCF}_3\text{COOH}$

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

Laboratory Procedures

Parathyroid hormone (PTH) (1-34) (human) (trifluoroacetate salt) is supplied as a lyophilized powder. A stock solution may be made by dissolving the PTH (1-34) (human) in water. The solubility of PTH (1-34) (human) in water is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

PTH (1-34) is an N-terminal fragment of PTH that regulates bone remodeling.¹ It is a PTH receptor agonist that binds to the PTH1 receptor ($\text{IC}_{50} = 2$ nM) and increases cAMP accumulation ($\text{IC}_{50} = 0.22$ pM) in HEK293 cells expressing human PTH1.² PTH (1-34) also stimulates cAMP accumulation in Saos-2 human osteoblast-like cells ($\text{IC}_{50} = 0.38$ nM) and bone resorption from neonatal mouse calvariae *in vitro*. *In vivo*, PTH (1-34) (40 $\mu\text{g}/\text{kg}$ per day) increases bone mass in an ovariectomized adult rat model of postmenopausal osteoporosis.³ It also increases proteoglycan content and inhibits articular cartilage degeneration in knee joints in a mouse model of injury-induced osteoarthritis when administered at a dose of 40 $\mu\text{g}/\text{kg}$ per day immediately following injury.⁴ Formulations containing PTH (1-34) have been used in the treatment of osteoporosis in men and postmenopausal women who are at high risk for fracture.

References

1. Madore, G.R., Sherman, P.J., and Lane, J.M. *J. Am. Acad. Orthop. Surg.* **12(2)**, 67-71 (2004).
2. Frolik, C.A., Cain, R.L., Sato, M., et al. *J. Bone Miner. Res.* **14(2)**, 163-172 (1999).
3. Stewart, A.F., Cain, R.L., Burr, D.B., et al. *J. Bone Miner. Res.* **15(8)**, 1517-1525 (2000).
4. Sampson, E.R., Hilton, M.J., Tian, Y., et al. *Sci. Transl. Med.* **3(101)**:101ra93 (2011).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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