

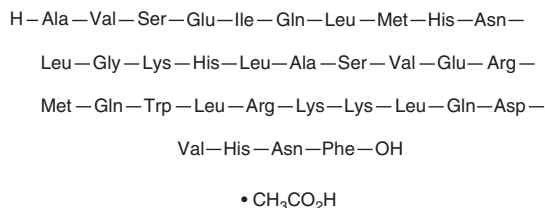
# PRODUCT INFORMATION



## Parathyroid Hormone (1-34) (rat) (acetate)

Item No. 36861

**Formal Name:** L-alanyl-L-valyl-L-seryl-L- $\alpha$ -glutamyl-L-isoleucyl-L-glutamyl-L-leucyl-L-methionyl-L-histidyl-L-asparaginy-L-leucylglycyl-L-lysyl-L-histidyl-L-leucyl-L-alanyl-L-seryl-L-valyl-L- $\alpha$ -glutamyl-L-arginyl-L-methionyl-L-glutamyl-L-tryptophyl-L-leucyl-L-arginyl-L-lysyl-L-lysyl-L-leucyl-L-glutamyl-L- $\alpha$ -aspartyl-L-valyl-L-histidyl-L-asparaginy-L-phenylalanine, acetate



**Synonym:** PTH (1-34)  
**Peptide Sequence:** AVSEIQLMHNLGKHLASVERMQWLRKKL QDVHNF-OH

**MF:**  $\text{C}_{180}\text{H}_{291}\text{N}_{55}\text{O}_{48}\text{S}_2 \bullet \text{C}_2\text{H}_4\text{O}_2$

**FW:** 4,117.8

**Purity:**  $\geq 95\%$

**Supplied as:** A solid

**Storage:**  $-20^\circ\text{C}$

**Stability:**  $\geq 4$  years

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

### Laboratory Procedures

Parathyroid hormone (PTH) (1-34) (rat) (acetate) is supplied as a solid. A stock solution may be made by dissolving the PTH (1-34) (rat) (acetate) in water. We do not recommend storing the aqueous solution for more than one day.

### Description

PTH (1-34) is a synthetic N-terminal fragment of PTH that corresponds to amino acids 1-34 of mature PTH and a PTH receptor agonist.<sup>1,2</sup> It induces  $\beta$ -arrestin recruitment in HEK293H cells expressing human PTH receptor type 1 (PTH1R;  $\text{EC}_{50} = 7.7$  nM) and adenylyl cyclase activation in COS-7 cells expressing rat PTH2R ( $\text{EC}_{50} = 0.41$  nM). PTH (1-34) (100 nM) induces hypertrophy of primary rat ventricular cardiomyocytes.<sup>3</sup> It increases tibial bone mineral density in ovariectomized rats when administered at a dose of 5  $\mu\text{g}/\text{kg}$ .<sup>4</sup>

### References

1. Kim, B.H., Pereverzev, A., Zhu, S., *et al.* Extracellular nucleotides enhance agonist potency at the parathyroid hormone 1 receptor. *Cell. Signal.* **46**, 103-112 (2018).
2. Hoare, S.R., Bonner, T.I., and Usdin, T.B. Comparison of rat and human parathyroid hormone 2 (PTH2) receptor activation: PTH is a low potency partial agonist at the rat PTH2 receptor. *Endocrinology* **140**(10), 4419-4425 (1999).
3. Liu, X., Xie, R., and Liu, S. Rat parathyroid hormone 1-34 signals through the MEK/ERK pathway to induce cardiac hypertrophy. *J. Int. Med. Res.* **36**(5), 942-950 (2008).
4. Gowen, M., Stroup, G.B., Dodds, R.A., *et al.* Antagonizing the parathyroid calcium receptor stimulates parathyroid hormone secretion and bone formation in osteopenic rats. *J. Clin. Invest.* **105**(11), 1595-1604 (2000).

#### 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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