

Name	Teriparatide Acetate
Cat #	PP-1730
Size	100 mg
CAS#	52232-67-4
Mol. Mass	4117.72
Formula	C ₁₈₁ H ₂₉₁ N ₅₅ O ₅₁ S ₂
Sequence	Ser-Val-Ser-Glu-Ile-Gln-Leu-Met-His-Asn-Leu-Gly-Lys-His-Leu-Asn-Ser-Met-Glu-Arg-Val-Glu-Trp-Leu-Arg-Lys-Lys-Leu-Gln-Asp-Val-His-Asn-Phe
Purity	>98%

Teriparatide (Forteo, Eli Lilly and Company) is a recombinant form of parathyroid hormone amino acid containing sequence 1-34. Endogenous PTH is the primary regulator of calcium and phosphate metabolism in bone and kidney. PTH increases serum calcium, partially accomplishing this by increasing bone resorption. It is an effective anabolic (bone growing) agent. It is also occasionally used off-label to speed fracture healing. Intermittent use activates osteoblasts more than osteoclasts, which leads to an overall increase in bone. Teriparatide was approved by the Food and Drug Administration (FDA) for the treatment of osteoporosis in men and postmenopausal women who are at high risk for having a fracture. The drug is also approved to increase bone mass in men with primary or hypogonadal osteoporosis who are at high risk for fracture.

Teriparatide is a portion of human parathyroid hormone (PTH), amino acid sequence 1 through 34, of the complete molecule (containing 84 amino acids). Endogenous PTH is the primary regulator of calcium and phosphate metabolism in bone and kidney. PTH increases serum calcium, partially accomplishing this by increasing bone resorption. Thus, chronically elevated PTH will deplete bone stores. However, intermittent exposure to PTH will activate osteoblasts more than osteoclasts. Thus, once-daily injections of teriparatide have a net effect of stimulating new bone formation leading to increased bone mineral density.

Forteo (teriparatide [rDNA origin]) Injection is used to treat osteoporosis in men and women who have a high risk of bone fracture.

Immunogenicity - In the clinical trial, antibodies that cross-reacted with teriparatide were detected in 3% of women (15/541) receiving FORTEO. Generally, antibodies were first detected following 12 months of treatment and diminished after withdrawal of therapy. There was no evidence of hypersensitivity reactions or allergic reactions among these patients. Antibody formation did not appear to have effects on serum calcium, or on bone mineral density (BMD) response.

General references: Riek AE (2011) *Missouri Medicine* 108 (2): 118–23 Saag KG (2007) *The New England Journal of Medicine* 357 (20): 2028–39 Kawai (2011). *Nature Reviews Drug Discovery* 10 (2): 141

For in vitro research use only

Related items

Catalog#	ProdDescription
0310	Human Parathyroid Hormone-Biotin (PTH-Biotin)
ELISA Kit, 96 tests, Quantitative	
0320-PTH	Human Parathyroid Hormone (PTH) ELISA Kit, 96
MA-30024	Mouse Monoclonal Anti-Human PTH
RP-927	Recombinant Human CD52 (CAMPTH-1 antigen, CDw52, HE5)
SP-101254-1	(PTH,1-34)-Lys(Biotin), human
SP-101255-1	Parathyroid Hormone (PTH,1-34), rat
SP-101392-1	Phosphatase Substrate (AA: Leu-Lys-Arg-Ala-pThr-Leu-Gly-NH2) (MW: 836.95)
SP-101395-1	Phosphorylated Protein Kinase C Substrate 2
SP-101859-1	[Tyr0]-pTH-Related Protein (1-34) (human, rat)
SP-101861-1	[Tyr36]-pTH-Related Protein (1-36) (human, rat)
SP-101862-1	[Asn10,Leu11,D-Trp12]-pTH-Related Protein (7-34) amide (human, rat)
SP-101863-1	pTH-Related Protein Splice Isoform 3 (140-173) (human)
SP-101864-1	[Nle8'18,Tyr34]-pTH (1-34) amide (bovine)
SP-101866-1	[Tyr1]-pTH (1-34) (rat)
SP-101867-1	[Tyr1]-pTH (1-34), human
SP-101868-1	Parathyroid Hormone (PTH,1-38), human
SP-101869-1	Parathyroid Hormone (PTH,1-44), human
SP-101870-1	pTH (3-34) (bovine)
SP-101871-1	[Nle8'18,Tyr34]-pTH (3-34) amide (bovine)
SP-101872-1	[Nle8'18,Tyr34]-pTH (7-34) amide (bovine)
SP-101873-1	[Tyr34]-pTH (7-34) amide (bovine)
SP-101874-1	[D-Trp12,Tyr34]-pTH (7-34) amide (bovine)
SP-101875-1	pTH (13-34) (human)
SP-101876-1	[Tyr27]-pTH (27-48) (human)
SP-101877-1	pTH (28-48) (human)
SP-101878-1	[Nle8'21,Tyr34]-pTH (1-34) amide (rat)
SP-101879-1	[Tyr43] PTH (43-68) (human)
SP-101940-1	[Tyr52] PTH (52-84) (human)
SP-101941-1	pTH (53-84) (human)
SP-101942-1	[Tyr63] PTH (63-84), human
SP-101943-1	[Asn76] PTH (64-84), human
SP-101945-1	Parathyroid Hormone (PTH,70-84), human
SP-50101-1	Parathyroid Hormone (PTH,1-34), human
SP-51920-1	pTH-Related Protein (1-34)
SP-52294-1	Parathyroid Hormone (PTH, 1-34)

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