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PTH (7-84) N15 Human

Parathyroid Hormone (7-84) N15 Labeled Human Recombinant
HRM0097

Product Overview

Name	PTH (7-84) N15 Human

Description

Parathyroid Hormone (7-84) N15 Labeled Human Recombinant

Accession (Primary)	P01270

Synonyms

Parathyrin, PTH, Parathormone.

Introduction

Parathyroid hormone (PTH), or parathormone, is secreted by the parathyroid glands as a polypeptide containing 84 amino acids. It acts to increase the concentration of calcium in the blood, whereas calcitonin (a hormone produced by the parafollicular cells of the thyroid gland) acts to decrease calcium concentration. PTH acts to increase the concentration of calcium in the blood by acting upon parathyroid hormone receptor in three parts of the body: In the bones- It enhances the release of calcium from the large reservoir contained in the bones. Bone resorption is the normal destruction of bone by osteoclasts, which are indirectly stimulated by PTH. Stimulation is indirect since osteoclasts do not have a receptor for PTH; rather, PTH binds to osteoblasts, the cells responsible for creating bone. Binding stimulates osteoblasts to increase their expression of RANKL, which can bind to osteoclast precursors containing RANK, a receptor for RANKL. The binding of RANKL to RANK stimulates these precursors to fuse, forming new osteoclasts which ultimately enhances the resorption of bone. In the kidney- It enhances active reabsorption of calcium from distal tubules and the thick ascending limb. In the intestine- It enhances the absorption of calcium in the intestine by increasing the production of vitamin D and upregulating the enzyme responsible for 1-alpha hydroxylation of 25-hydroxy vitamin D, converting vitamin D to its active form (1,25-dihydroxy vitamin D) which effects the actual absorption of calcium (as Ca2+ ions) by the intestine via calbindin.

Source

Escherichia Coli.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation

PTH (7-84) N15 protein was lyophilized from a 0.2 μm filtered concentrated solution in 1xPBS, pH 7.4.

Stability

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Lyophilized PTH (7-84) N15 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution PTH (7-84) N15 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity

Greater than 97.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.

Amino acid sequence

LMHNLGKHLN SMERVEWLRK KLQDVHNFVA LGAPLAPRDA GSQRPRKKED NVLVESHEKS LGEADKADVN VLTKAKSQ

Solubility

It is recommended to reconstitute the lyophilized PTH (7-84) N15 in sterile water not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Precautions

PTH (7-84) N15 Human is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (P01270)