Product Data Sheet

Chemical Properties

Product Name: Parathyroid Hormone (1-34), bovine

Cas No.: 12583-68-5

M.Wt: 4108.71

Formula: C183H288N54O50S2


Chemical Name:

Canonical SMILES:

Solubility: ≥410.9mg/mL in DMSO

Storage: Store at -20°C

General tips: For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shopping Condition: Evaluation sample solution: ship with blue ice
All other available size: ship with RT, or blue ice upon request

Biological Activity

Targets: Neuroscience

Pathways: Neuroscience Peptides

Description:
Parathyroid hormone (PTH) is the most important endocrine regulator of calcium and phosphorus concentration in extracellular fluid, which is secreted by the chief cell of the parathyroid glands as
a polypeptide containing 84 amino acids. It acts to increase the concentration of calcium (Ca2+) in the blood, whereas calcitonin (a hormone produced by the parafollicular cells (C cells) of the thyroid gland) acts to decrease calcium concentration.

PTH acts to increase the concentration of calcium in the blood by acting upon the parathyroid hormone 1 receptor (high levels in bone and kidney) and the parathyroid hormone 2 receptor (high levels in the central nervous system, pancreas, testis, and placenta).

PTH half-life is approximately 4 minutes. [1] Like most other protein hormones, parathyroid hormone is synthesized as a preprohormone. After intracellular processing, the mature hormone is packaged within the Golgi into secretory vesicles, the secreted into blood by exocytosis.

Reference:

Protocol

Cell experiment:

Cell lines Mouse primary bone marrow stromal cells (BMSCs).

Preparation method Dissolved in acetic acid [1]. General tips for obtaining a higher concentration: Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Reacting conditions 100 ng/ml; 2 h.

Applications bPTH(1-34) increases RANKL mRNA levels and inhibits osteoprotegerin (OPG) gene expression. bPTH(1-34) also increases the amount of TRACP+ cells.

Animal experiment [3]:

Animal models C57BL/6 mice.

Dosage form 80 μg/kg/day; 7 or 14 days; injected subcutaneously.

Applications PTH(1-34) significantly increases the percentage of TN/CD115(+) CD117(high) and TN/CD115(+) CD117(int) cells in bone marrow on day 7. However, PTH(1-34) decreases the amount of TN/CD115(+) CD117(low) cells by 39% on day 7. PTH increases receptor activator of NF-kB ligand (RANKL)- and macrophage colony-stimulating factor
(M-CSF)-stimulated in vitro osteoclastogenesis and bone resorption in TN/CD115+ cells.

Other notes

Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Reference:


Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.