

# PTH-rP (H-137): sc-20728

## BACKGROUND

Parathyroid hormone (PTH), which is also designated parathyrin, is an 84 amino acid single chain peptide that functions to regulate calcium metabolism by raising blood levels of calcium through various mechanisms. PTH stimulates bone formation to increase bone mass and strength in rats and humans. Within the PTH molecule, the essential activity is associated with the first 34 amino acids at the amino-terminus of the molecule. Parathyroid hormone-related protein (PTH-rP) is an autocrine factor that is structurally related to PTH yet, unlike PTH, which is synthesized only by the parathyroid cells, PTH-rP is synthesized by several cell types. PTH-rP regulates endochondral bone development and epithelial-mesenchymal interactions during the formation of the mammary glands and teeth. Isolated from the culture medium of a human lung cancer cell line, PTH-rP produces PTH-like effects that are characterized as humoral hypercalcemia of malignancy. Both PTH and PTH-rP are regulated by vitamin D and steroid hormones, and both preferentially bind to specific PTH/PTH-rP receptors, then activate adenylate cyclase or PLC  $\beta$  via PKC activation.

## CHROMOSOMAL LOCATION

Genetic locus: PTHLH (human) mapping to 12p11.22; Pthlh (mouse) mapping to 6 G3.

## SOURCE

PTH-rP (H-137) is a rabbit polyclonal antibody raised against amino acids 41-177 mapping at the C-terminus of PTH-rP of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

PTH-rP (H-137) is recommended for detection of precursor and mature PTH-rP and osteostatin active peptide of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PTH-rP (H-137) is also recommended for detection of precursor and mature PTH-rP and osteostatin active peptide in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PTH-rP siRNA (h): sc-39695, PTH-rP siRNA (m): sc-39696, PTH-rP shRNA Plasmid (h): sc-39695-SH, PTH-rP shRNA Plasmid (m): sc-39696-SH, PTH-rP shRNA (h) Lentiviral Particles: sc-39695-V and PTH-rP shRNA (m) Lentiviral Particles: sc-39696-V.

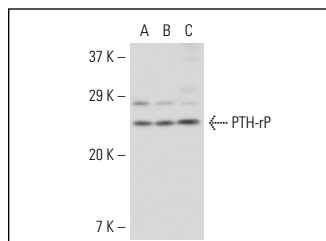
Molecular Weight of PTH-rP: 26 kDa.

Positive Controls: 3T3-L1 cell lysate: sc-2243, NIH/3T3 whole cell lysate: sc-2210 or MCF7 whole cell lysate: sc-2206.

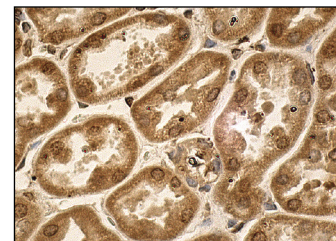
## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



PTH-rP (H-137): sc-20728. Western blot analysis of PTH-rP expression in 3T3-L1 (A), NIH/3T3 (B) and MCF7 (C) whole cell lysates.



PTH-rP (H-137): sc-20728. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing nuclear and cytoplasmic staining of cells in tubules.

## SELECT PRODUCT CITATIONS

1. Yajima, N., et al. 2005. Immunologic evaluation of personalized peptide vaccination for patients with advanced malignant glioma. *Clin. Cancer Res.* 11: 5900-5911.
2. Zia, M.K., et al. 2007. Level of expression of parathyroid hormone related protein and its receptor in human breast cancer and its correlation with the clinical outcome. *Int. J. Cancer* 3: 92-102.
3. Cohen, J.C., et al. 2008. CFTR and Wnt/ $\beta$ -catenin signaling in lung development. *BMC Dev. Biol.* 8: 70.
4. Doi, T., et al. 2011. Prenatal treatment with retinoic acid activates parathyroid hormone-related protein signaling in the nitrofen-induced hypoplastic lung. *Pediatr. Surg. Int.* 27: 47-52.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



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Try **PTH-rP (1D1): sc-53936**, our highly recommended monoclonal alternative to PTH-rP (H-137).