

# PTH/PTHrP-R (E-16): sc-25930

## 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. The gene encoding PTH maps to human chromosome 11p15.3-p15.1. 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. PTH and PTH-rP are both regulated by vitamin D and steroid hormones and preferentially bind to specific PTH/PTH-rP receptors, then activate adenylate cyclase or PLC  $\beta$  via PKC activation.

## REFERENCES

1. Bruns, M.E., et al. 1995. Expression of parathyroid hormone-related peptide and its receptor messenger ribonucleic acid in human amnion and chorion-decidua: implications for secretion and function. *Am. J. Obstet. Gynecol.* 173: 739-746.
2. Iezzoni, J.C., et al. 1998. Coexpression of parathyroid hormone-related protein and its receptor in breast carcinoma: a potential autocrine effector system. *Mod. Pathol.* 11: 265-270.
3. Takasu, H., et al. 1999. Dual signaling and ligand selectivity of the human PTH/PTHrP receptor. *J. Bone Miner Res.* 14: 11-20.
4. Huang, Z., et al. 1999. Role of signal transduction in internalization of the G protein-coupled receptor for parathyroid hormone (PTH) and PTH-related protein. *Endocrinology* 140: 1294-1300.
5. Mannstadt, M., et al. 1999. Receptors for PTH and PTHrP: their biological importance and functional properties. *Am. J. Physiol.* 277: 665-675.

## CHROMOSOMAL LOCATION

Genetic locus: PTH1R (human) mapping to 3p21.31; Pth1r (mouse) mapping to 9 F2.

## SOURCE

PTH/PTHrP-R (E-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of PTH/PTHrP-R 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.

Blocking peptide available for competition studies, sc-25930 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PTH/PTHrP-R (E-16) is recommended for detection of PTH/PTHrP-R 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

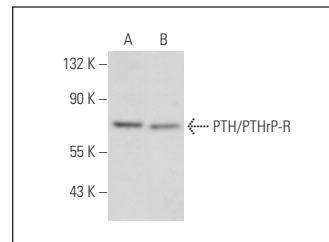
PTH/PTHrP-R (E-16) is also recommended for detection of PTH/PTHrP-R in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PTH/PTHrP-R siRNA (h): sc-36327, PTH/PTHrP-R siRNA (m): sc-40158, PTH/PTHrP-R shRNA Plasmid (h): sc-36327-SH, PTH/PTHrP-R shRNA Plasmid (m): sc-40158-SH, PTH/PTHrP-R shRNA (h) Lentiviral Particles: sc-36327-V and PTH/PTHrP-R shRNA (m) Lentiviral Particles: sc-40158-V.

Molecular Weight of PTH/PTHrP-R: 80 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, KNRK whole cell lysate: sc-2214 or Saos-2 cell lysate: sc-2235.

## DATA



PTH/PTHrP-R (E-16): sc-25930. Western blot analysis of PTH/PTHrP-R expression in PC-12 (A) and KNRK (B) whole cell lysates.

## STORAGE

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

## 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.



Try **PTH/PTHrP-R (3D1.1): sc-12722**, our highly recommended monoclonal alternative to PTH/PTHrP-R (E-16). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **PTH/PTHrP-R (3D1.1): sc-12722**.