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 11p15.2. 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. The gene encoding PTH-rP maps to human chromosome 12p12.1-p11.2. 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 via PKC activation.

REFERENCES


CHROMOSOMAL LOCATION

Genetic locus: PTH (human) mapping to 11p15.2.

SOURCE

PTH (H-7) is a mouse monoclonal antibody raised against amino acids 1-115 representing full length PTH of human origin.

PRODUCT

Each vial contains 200 µg IgGκ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PTH (H-7) is recommended for detection of precursor and mature PTH of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Suitable for use as control antibody for PTH siRNA (h): sc-39693, PTH shRNA Plasmid (h): sc-39893-SH and PTH shRNA (h) Lentiviral Particles: sc-39693-V.

Molecular Weight of PTH: 9 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:

DATA

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.

See PTH/PTHrP-R (3D1.1): sc-12722 for PTH/PTHrP-R antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.