

PTH (H-7): sc-398856

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 12p11.22. 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 β via PKC activation.

REFERENCES

1. O'Riordan, J.L., et al. 1971. Isolation of human parathyroid hormone. *Endocrinology* 89: 234-239.
2. Brewer, H.B., Jr., et al. 1972. Human parathyroid hormone: amino acid sequence of the amino-terminal residues 1-34. *Proc. Natl. Acad. Sci. USA* 69: 3585-3588.
3. Suva, L.J., et al. 1987. A parathyroid hormone-related protein implicated in malignant hypercalcemia: cloning and expression. *Science* 237: 893-896.
4. Horiuchi, N., et al. 1987. Similarity of synthetic peptide from human tumor to parathyroid hormone *in vivo* and *in vitro*. *Science* 238: 1566-1568.

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 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PTH (H-7) is available conjugated to agarose (sc-398856 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398856 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398856 PE), fluorescein (sc-398856 FITC), Alexa Fluor® 488 (sc-398856 AF488), Alexa Fluor® 546 (sc-398856 AF546), Alexa Fluor® 594 (sc-398856 AF594) or Alexa Fluor® 647 (sc-398856 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398856 AF680) or Alexa Fluor® 790 (sc-398856 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

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 μ g per 100-500 μ 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).

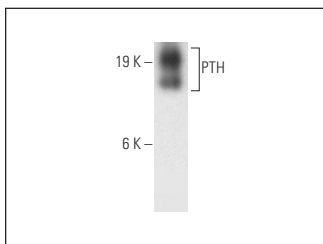
Suitable for use as control antibody for PTH siRNA (h): sc-39693, PTH shRNA Plasmid (h): sc-39693-SH and PTH shRNA (h) Lentiviral Particles: sc-39693-V.

Molecular Weight of PTH: 9 kDa.

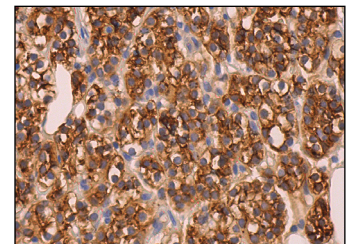
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



PTH (H-7): sc-398856. Western blot analysis of human recombinant PTH.



PTH (H-7): sc-398856. Immunoperoxidase staining of formalin fixed, paraffin-embedded human parathyroid gland tissue showing cytoplasmic and membrane staining of glandular cells.

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 for detailed protocols and support products.