

PTH-rP (1D1): sc-53936

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 β via PKC activation.

CHROMOSOMAL LOCATION

Genetic locus: PTHLH (human) mapping to 12p11.22.

SOURCE

PTH-rP (1D1) is a mouse monoclonal antibody raised against full length PTH-rP of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PTH-rP (1D1) is available conjugated to agarose (sc-53936 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53936 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53936 PE), fluorescein (sc-53936 FITC), Alexa Fluor[®] 488 (sc-53936 AF488), Alexa Fluor[®] 546 (sc-53936 AF546), Alexa Fluor[®] 594 (sc-53936 AF594) or Alexa Fluor[®] 647 (sc-53936 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-53936 AF680) or Alexa Fluor[®] 790 (sc-53936 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PTH-rP (1D1) is recommended for detection of PTH-rP of human origin by Western Blotting (starting dilution 1:200, 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-rP siRNA (h): sc-39695, PTH-rP shRNA Plasmid (h): sc-39695-SH and PTH-rP shRNA (h) Lentiviral Particles: sc-39695-V.

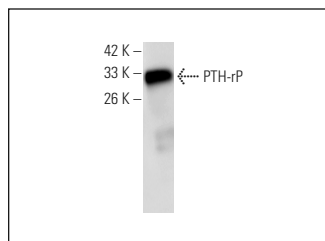
Molecular Weight of PTH-rP: 26 kDa.

Positive Controls: 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 (1D1): sc-53936. Western blot analysis of PTH-rP expression in MCF7 whole cell lysate. Kindly provided by Beijing Protein Institute.

SELECT PRODUCT CITATIONS

- Victor, C., et al. 2015. Anti-fouling properties of Fab' fragments immobilized on silane-based adlayers. *Appl. Surf. Sci.* 359: 21-29.
- Crivianu-Gaita, V., et al. 2016. Acoustic wave biosensor for the detection of the breast and prostate cancer metastasis biomarker protein PTHrP. *Biosens. Bioelectron.* 78: 92-99.
- Zeballos, R., et al. 2018. Expression of parathyroid hormone related protein (PTHrP) in ameloblastomas. *J. Clin. Exp. Dent.* 10: e172-e176.
- Deiana, M., et al. 2020. A potential role of RUNX2-RUNT domain in modulating the expression of genes involved in bone metastases: an *in vitro* study with melanoma cells. *Cells* 9: 751.
- Sarmiento, E.B., et al. 2020. Immunoexpression of bone resorption biomarkers in apical periodontitis in diabetics and normoglycemics. *Int. Endod. J.* 53: 1025-1032.
- Pinto, K.P., et al. 2020. Effects of alcohol and nicotine consumption on the development of apical periodontitis in rats: a correlative micro-computed tomographic, histologic and immunohistochemical study. *Int. Endod. J.* 53: 1238-1252.
- Pereira, M.F., et al. 2020. Expression of inflammatory markers RANK, MMP-9 and PTHrP in chronic apical periodontitis from people living with HIV undergoing antiretroviral therapy. *J. Clin. Med.* 9: 3611.
- Chen, P., et al. 2021. Annexin A1 is a potential biomarker of bone metastasis in small cell lung cancer. *Oncol. Lett.* 21: 141.
- Fujita, I., et al. 2021. Involvement of the parathyroid hormone-related protein on changes in the CYP3A expression in cancer cachexia. *Mol. Pharm.* E-published.

RESEARCH USE

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

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