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Anti-PTH Antibody

Catalog # AP51460

Product Information

Application	WB
Primary Accession	P01270
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	12861

Additional Information

Gene ID	5741
Other Names	Parathyroid hormone; PTH; Parathormone; Parathyrin
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human PTH. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000)
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	PTH {ECO:0000303|PubMed:35932760, ECO:0000312|HGNC:HGNC:9606}
Function	Peptide hormone secreted by parathyroid chief cells that acts as a primary endocrine regulator of extracellular calcium and phosphate homeostasis, acting primarily on bone and kidney to maintain serum calcium levels within a narrow range (PubMed:11604398, PubMed:35932760). Acts by binding and activating the G protein-coupled receptor PTH1R, engaging the receptor to activate G(s)-mediated cAMP/PKA signaling and G(q)-mediated PLC/PKC signaling (PubMed:18375760, PubMed:35932760). In bone, acts indirectly on osteoclasts by binding PTH1R on cells of the osteoblast/osteocyte lineage, where it increases expression of TNFSF11/RANKL and decreases expression of TNFRSF11B/OPG, thereby raising the RANKL/OPG ratio and stimulating osteoclast differentiation and bone resorption (PubMed:9797718, PubMed:11454517). Stimulates also [1-14C]-2-deoxy-D- glucose (2DG) transport and glycogen synthesis in osteoblastic cells (PubMed:21076856). In distal renal tubule cells, stimulates active Ca(2+) reabsorption via the adenylyl cyclase-cAMP-protein kinase A (PKA) pathway leading to the phosphorylation and activation of the calcium selective cation channel TRPV5

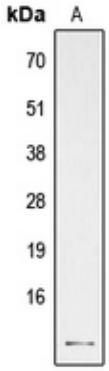
(PubMed:19423690). Acting on PTH1R in proximal renal tubule cells, decreases reabsorption of filtered phosphate by reducing apical abundance of SLC34A1, through a mechanism involving PTH1R-activated PKC-mediated phosphorylation of the scaffold NHERF1, causing dissociation of the NHERF1-SLC34A1 complex and subsequent clathrin-mediated endocytosis and lysosomal degradation of the cotransporter (By similarity). Activates also transcription of CYP27B1 (25-hydroxyvitamin D3 1-alpha-hydroxylase) through a cAMP/PKA/SIK2-SIK3/CRTC2 axis, thereby increasing renal synthesis of the active vitamin D metabolite 1,25-dihydroxyvitamin D(3) (By similarity).

Cellular Location Secreted

References

Hendy G.N.,et al.Proc. Natl. Acad. Sci. U.S.A. 78:7365-7369(1981).
Vasicek T.J.,et al.Proc. Natl. Acad. Sci. U.S.A. 80:2127-2131(1983).
Karaplis A.C.,et al.J. Biol. Chem. 270:1629-1635(1995).
Jacobs J.W.,et al.Nature 249:155-157(1974).
Zhang Z.,et al.Protein Sci. 13:2819-2824(2004).

Images



Western blot analysis of PTH expression in human parathyroid gland (A) whole cell lysates. (Predicted band size: 12 kD; Observed band size: 14 kD)

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.