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PTH/Parathyroid hormone Rabbit pAb

Catalog # AP99857

Product Information

Application	IHC-P, IHC-F, IF, E
Primary Accession	P01270
Other Accession	P01270
Predicted	Rat, Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	12861
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human parathyroid hormone
Epitope Specificity	11-80/115
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the parathyroid hormone family.
SUBUNIT	Interacts with PTH1R (via N-terminal extracellular domain).
DISEASE	Defects in PTH are a cause of familial isolated hypoparathyroidism (FIH) [MIM:146200]; also called autosomal dominant hypoparathyroidism or autosomal dominant hypocalcemia. FIH is characterized by hypocalcemia and hyperphosphatemia due to inadequate secretion of parathyroid hormone. Symptoms are seizures, tetany and cramps. FIH exist both as autosomal dominant and recessive forms of hypoparathyroidism.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a member of the parathyroid family of proteins. The encoded preproprotein is proteolytically processed to generate a protein that binds to the parathyroid hormone/parathyroid hormone-related peptide receptor and regulates blood calcium and phosphate levels. Excess production of the encoded protein, known as hyperparathyroidism, can result in hypercalcemia and kidney stones. On the other hand, defective processing of the encoded protein may lead to hypoparathyroidism, which can result in hypocalcemia and numbness. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Oct 2015]

Additional Information

Gene ID	5741
Other Names	FIH1; PTH1; Pthp; PTH-(1-84); Pthr1; PTHY_BOVIN; PTH; Parathyrin; PTHY_CANLF; PTHY_HUMAN; Parathormone; PTHY_PIG; PTHY_RAT; parathyroid hormone; parathyroid hormone 1; preproparathyroid hormone; prepro-PTH
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:500

	0-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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

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