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# PTH Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1377a

## Product Information

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| **Application** | WB, E |
| **Primary Accession** | P01270 |
| **Reactivity** | Human |
| **Host** | Mouse |
| **Clonality** | Monoclonal |
| **Clone Names** | 2C7 |
| **Isotype** | IgG2b |
| **Calculated MW** | 12861 |
| **Description** | The protein encoded by this gene is a hormone secreted by parathyroid cells. This hormone elevates blood Ca2+ level by dissolving the salts in bone and preventing their renal excretion. Defects in this gene are a cause of familial isolated hypoparathyroidism (FIH). |
| **Immunogen** | Purified recombinant fragment of human PTH(aa1-115) expressed in E. Coli. |
| **Formulation** | Ascitic fluid containing 0.03% sodium azide. |

## Additional Information

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| **Gene ID** | 5741 |
| **Other Names** | Parathyroid hormone, PTH, Parathormone, Parathyrin, PTH |
| **Dilution** | WB~~1/500 - 1/2000 E~~N/A |
| **Storage** | Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles. |
| **Precautions** | PTH Antibody is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **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

1. Eur Spine J. 2006 Oct;15(10):1521-8. 2. Blood. 2008 May 1;111(9):4496-9. 3. Clin J Am Soc Nephrol. 2009 Sep;4(9):1465-76.

## Images

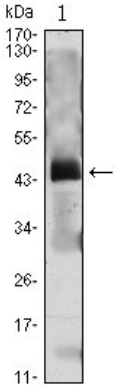



Figure 1: Western blot analysis using PTH mAb against PTH(AA: 1-115)-hIgGFc transfected HEK293 cell lysate.

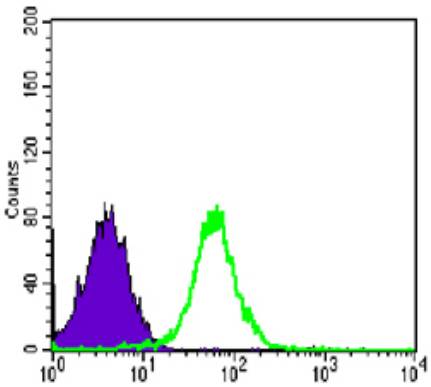



Figure 4: Flow cytometric analysis of PC-2 cells using CDH2 mouse mAb (green) and negative control (purple).

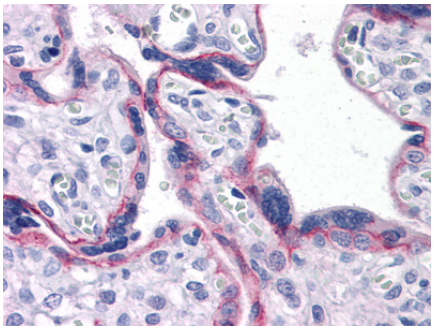


Figure 3: Immunohistochemical analysis of paraffin-embedded human Placenta tissues using CDH2 mouse mAb

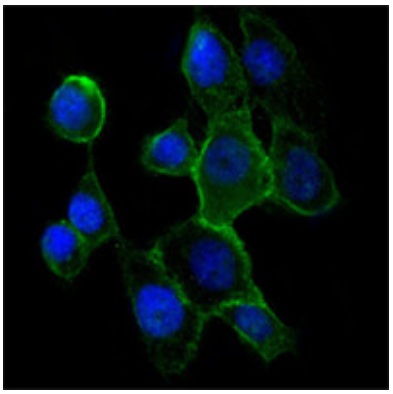


Figure 3:Immunofluorescence analysis of A431 cells using CDH2 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye.

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