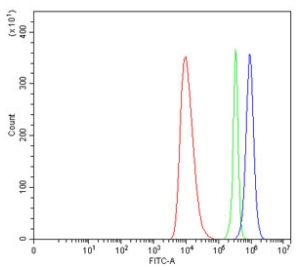
Parathyroid Hormone Receptor 1 Antibody / PTH1R (RQ7303)

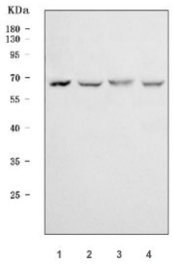
Catalog No.	Formulation	Size
RQ7303	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human, Monkey
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q03431
Applications	Western Blot : 0.5-1ug/ml Flow Cytometry : 1-3ug/million cells Direct ELISA : 0.1-0.5ug/ml
Limitations	This Parathyroid Hormone Receptor 1 antibody is available for research use only.



Flow cytometry testing of human HEL cells with Parathyroid Hormone Receptor 1 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= Parathyroid Hormone Receptor 1 antibody.



Western blot testing of 1) human 293T, 2) human HepG2, 3) human HUH-7 and 4) monkey COS-7 cell lysate with Parathyroid Hormone Receptor 1 antibody. Expected molecular weight ~66 kDa (unmodified), 85-95 kDa (glycosylated).

Description

Parathyroid Hormone Receptor 1 antibody targets Parathyroid Hormone Receptor 1, a class B G protein coupled receptor that mediates the biological actions of parathyroid hormone and parathyroid hormone related peptide. PTH1R is a multi-pass transmembrane receptor primarily localized to the plasma membrane of responsive cells, where it functions as a key regulator of calcium and phosphate homeostasis. The receptor is highly expressed in bone and kidney tissues, particularly in osteoblasts, osteocytes, and renal tubular epithelial cells, reflecting its central role in skeletal metabolism and mineral balance.

Functionally, PTH1R activation initiates intracellular signaling cascades through Gs and Gq proteins, leading to stimulation of cyclic AMP production, phospholipase C activation, and downstream transcriptional responses. A short functional summary is that PTH1R translates parathyroid hormone signaling into cellular responses that control bone remodeling, renal calcium reabsorption, and phosphate excretion. Through these mechanisms, Parathyroid Hormone Receptor 1 maintains systemic mineral ion equilibrium and supports normal skeletal integrity.

From a biological perspective, PTH1R plays a dual role in bone physiology, mediating both anabolic and catabolic effects depending on the duration and pattern of parathyroid hormone exposure. Intermittent activation of PTH1R promotes osteoblast activity and bone formation, whereas sustained signaling favors bone resorption. This context dependent signaling makes PTH1R a critical target in studies of osteoporosis, bone regeneration, and endocrine regulation of the skeleton. PTH1R antibody tools are commonly used to examine receptor expression, localization, and regulation in bone and kidney related research models.

Parathyroid Hormone Receptor 1 is also important during development, where it contributes to endochondral bone formation and growth plate regulation. Genetic alterations affecting PTH1R signaling have been associated with skeletal dysplasias and disorders of mineral metabolism. In addition, altered PTH1R expression or signaling has been observed in metabolic bone disease, chronic kidney disease related mineral disorders, and certain cancers with aberrant parathyroid hormone related peptide signaling. These disease associations make PTH1R antibody reagents valuable for translational and pathophysiological research.

At the structural level, PTH1R contains an extracellular ligand binding domain characteristic of class B GPCRs, along with seven transmembrane helices that transmit ligand binding into intracellular signaling events. Receptor trafficking, desensitization, and internalization further modulate signal strength and duration. Parathyroid Hormone Receptor 1 antibody reagents support research applications aimed at detecting receptor expression, studying receptor distribution in tissues, and investigating signaling pathway regulation. PTH1R antibodies from NSJ Bioreagents are supplied for research use to support studies in endocrinology, bone biology, and mineral metabolism.

Application Notes

Optimal dilution of the Parathyroid Hormone Receptor 1 antibody should be determined by the researcher.

Immunogen

Recombinant human protein (amino acids R102-L446) was used as the immunogen for the Parathyroid Hormone Receptor 1 antibody.

Storage

After reconstitution, the Parathyroid Hormone Receptor 1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.