10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-CASR Picoband Antibody

Catalog # ABO12609

Specification

Anti-CASR Picoband Antibody - Product Information

Application	**WB, IHC-P**
Primary Accession	P41180
Host	**Rabbit**
Reactivity	**Human, Mouse, Rat**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for Extracellular calcium-sensing receptor(CASR) detection. Tested with WB, IHC-P in Human;Mouse;Rat.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-CASR Picoband Antibody - Additional Information

Gene ID 846

Other Names
Extracellular calcium-sensing receptor, CaSR, Parathyroid cell calcium-sensing receptor 1, PCaR1, CASR, GPRC2A, PCAR1

Calculated MW
120674 MW KDa

Application Details
Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Mouse, Rat, Human, By Heat

Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat

Subcellular Localization
Cell membrane ; Multi-pass membrane protein .

Tissue Specificity
Expressed in the temporal lobe, frontal lobe, parietal lobe, hippocampus, and cerebellum. Also found in kidney, lung, liver, heart, skeletal muscle, placenta. .

Protein Name
Extracellular calcium-sensing receptor

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.

Immunogen
E. coli-derived human CASR recombinant protein (Position: Q926-S1078). Human CASR shares 80.5% and 78.6% amino acid (aa) sequence identity with mouse and rat CASR, respectively.

Purification
Immunogen affinity purified.

Cross Reactivity
No cross reactivity with other proteins

Storage	**At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.**

Anti-CASR Picoband Antibody - Protein Information

Name CASR {ECO:0000303|PubMed:16740594, ECO:0000312|HGNC:HGNC:1514}

Function
G-protein-coupled receptor that senses changes in the extracellular concentration of calcium ions and plays a key role in maintaining calcium homeostasis (PubMed:17555508, PubMed:19789209, PubMed:21566075, PubMed:22114145, PubMed:22789683, PubMed:23966241, PubMed:25104082, PubMed:25292184, PubMed:25766501, PubMed:26386835, PubMed:32817431, PubMed:33603117, PubMed:34194040, PubMed:34467854, PubMed:7759551, PubMed:8636323, PubMed:8702647, PubMed:8878438). Senses fluctuations in the circulating calcium concentration: activated by elevated circulating calcium, leading to decreased parathyroid hormone (PTH) secretion in parathyroid glands (By similarity). In kidneys, acts as a key regulator of renal tubular calcium resorption (By similarity). Ligand binding causes a conformation change that triggers signaling via guanine nucleotide-binding proteins (G-proteins) and modulates the activity of downstream effectors (PubMed:38632411). CASR is coupled with different G(q)/G(11), G(i)/G(o)- or G(s)-classes of G-proteins depending on the context (PubMed:38632411). In the parathyroid and kidney, CASR signals through G(q)/G(11) and G(i)/G(o) G-proteins: G(q)/G(11) coupling activates phospholipase C-beta, releasing diacylglycerol (DAG) and inositol 1,4,5-trisphosphate (IP3) second messengers, while G(i)/G(o) coupling mediates inhibition of adenylate cyclase activity (PubMed:38632411, PubMed:7759551). The G-protein- coupled receptor activity is activated by a co-agonist mechanism: aromatic amino acids, such as Trp or Phe, act concertedly with divalent cations, such as calcium or magnesium, to achieve full receptor activation (PubMed:27386547, PubMed:27434672, PubMed:32817431, PubMed:<a

href="http://www.uniprot.org/citations/33603117" target="_blank">33603117, PubMed:34194040). Acts as an activator of the NLRP3 inflammasome via G(i)/G(o)-mediated signaling: down-regulation of cyclic AMP (cAMP) relieving NLRP3 inhibition by cAMP (PubMed:32843625). Acts as a regulator of proton-sensing receptor GPR68 in a seesaw manner: CASR-mediated signaling inhibits GPR68 signaling in response to extracellular calcium, while GPR68 inhibits CASR in presence of extracellular protons (By similarity).

Cellular Location
Cell membrane; Multi-pass membrane protein

Tissue Location
Expressed in the temporal lobe, frontal lobe, parietal lobe, hippocampus, and cerebellum. Also found in kidney, lung, liver, heart, skeletal muscle, placenta.

Anti-CASR Picoband Antibody - Protocols

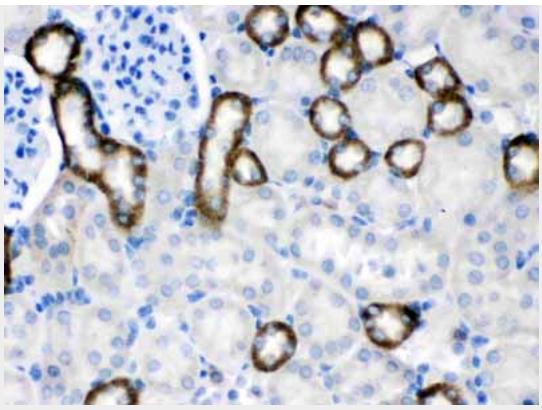
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

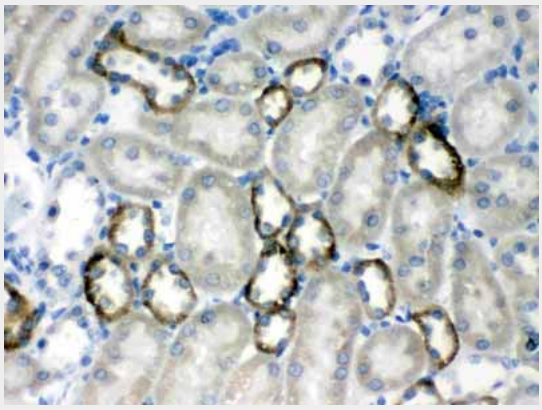
Anti-CASR Picoband Antibody - Images

Western blot analysis of CASR expression in HELA whole cell lysates (lane 1) and 22RV1 whole cell lysates (lane 2). CASR at 150KD was detected using rabbit anti- CASR Antigen Affinity purified polyclonal antibody (Catalog # ABO12609) at 0.5 Î¼g/mL. The blot was developed using chemiluminescence (ECL) method .

10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999



CASR was detected in paraffin-embedded sections of mouse kidney tissues using rabbit anti-CASR Antigen Affinity purified polyclonal antibody (Catalog # ABO12609) at 1 ??g/mL. The immunohistochemical section was developed using SABC method .



CASR was detected in paraffin-embedded sections of rat kidney tissues using rabbit anti- CASR Antigen Affinity purified polyclonal antibody (Catalog # ABO12609) at 1 Î¼g/mL. The immunohistochemical section was developed using SABC method .

Anti-CASR Picoband Antibody - Background

The calcium-sensing receptor (CaSR) is a G protein-coupled receptor that is expressed in the parathyroid hormone (PTH)-producing chief cells of the parathyroid gland, and the cells lining the kidney tubule. It senses small changes in circulating calcium concentration and couples this information to intracellular signaling pathways that modify PTH secretion or renal cation handling, thus this protein plays an essential role in maintaining mineral ion homeostasis. Mutations in this gene cause familial hypocalciuric hypercalcemia, familial, isolated hypoparathyroidism, and neonatal severe primary hyperparathyroidism.