

**CASR/Calcium Sensing Receptor Antibody (N-Terminus)**  
**Rabbit Polyclonal Antibody**  
**Catalog # ALS10359**

**Specification**

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**CASR/Calcium Sensing Receptor Antibody (N-Terminus) - Product Information**

Application	IHC-P
Primary Accession	<a href="#">P41180</a>
Reactivity	Human, Mouse, Rabbit, Hamster, Monkey, Pig, Chicken, Horse, Bovine, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	121kDa KDa
Dilution	IHC-P~~N/A

**CASR/Calcium Sensing Receptor Antibody (N-Terminus) - Additional Information**

**Gene ID** 846

**Other Names**

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

**Target/Specificity**

Human CASR. BLAST analysis of the peptide immunogen showed no homology with other human proteins.

**Reconstitution & Storage**

Long term: -70°C; Short term: +4°C

**Precautions**

CASR/Calcium Sensing Receptor Antibody (N-Terminus) is for research use only and not for use in diagnostic or therapeutic procedures.

**CASR/Calcium Sensing Receptor Antibody (N-Terminus) - 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:<a href="http://www.uniprot.org/citations/17555508" target="\_blank">17555508</a>, PubMed:<a href="http://www.uniprot.org/citations/19789209" target="\_blank">19789209</a>, PubMed:<a href="http://www.uniprot.org/citations/21566075" target="\_blank">21566075</a>, PubMed:<a href="http://www.uniprot.org/citations/22114145" target="\_blank">22114145</a>, PubMed:<a href="http://www.uniprot.org/citations/22789683" target="\_blank">22789683</a>, PubMed:<a href="http://www.uniprot.org/citations/23966241" target="\_blank">23966241</a>, PubMed:<a href="http://www.uniprot.org/citations/25104082" target="\_blank">25104082</a>, PubMed:<a

<http://www.uniprot.org/citations/25292184> target="\_blank">25292184</a>, PubMed:<a href="http://www.uniprot.org/citations/25766501" target="\_blank">25766501</a>, PubMed:<a href="http://www.uniprot.org/citations/26386835" target="\_blank">26386835</a>, PubMed:<a href="http://www.uniprot.org/citations/32817431" target="\_blank">32817431</a>, PubMed:<a href="http://www.uniprot.org/citations/33603117" target="\_blank">33603117</a>, PubMed:<a href="http://www.uniprot.org/citations/34194040" target="\_blank">34194040</a>, PubMed:<a href="http://www.uniprot.org/citations/34467854" target="\_blank">34467854</a>, PubMed:<a href="http://www.uniprot.org/citations/7759551" target="\_blank">7759551</a>, PubMed:<a href="http://www.uniprot.org/citations/8636323" target="\_blank">8636323</a>, PubMed:<a href="http://www.uniprot.org/citations/8702647" target="\_blank">8702647</a>, PubMed:<a href="http://www.uniprot.org/citations/8878438" target="\_blank">8878438</a>). 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:<a href="http://www.uniprot.org/citations/38632411" target="\_blank">38632411</a>). 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:<a href="http://www.uniprot.org/citations/38632411" target="\_blank">38632411</a>). 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:<a href="http://www.uniprot.org/citations/38632411" target="\_blank">38632411</a>, PubMed:<a href="http://www.uniprot.org/citations/7759551" target="\_blank">7759551</a>). 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:<a href="http://www.uniprot.org/citations/27386547" target="\_blank">27386547</a>, PubMed:<a href="http://www.uniprot.org/citations/27434672" target="\_blank">27434672</a>, PubMed:<a href="http://www.uniprot.org/citations/32817431" target="\_blank">32817431</a>, PubMed:<a href="http://www.uniprot.org/citations/33603117" target="\_blank">33603117</a>, PubMed:<a href="http://www.uniprot.org/citations/34194040" target="\_blank">34194040</a>). 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:<a href="http://www.uniprot.org/citations/32843625" target="\_blank">32843625</a>). 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.

### Volume

50 µl

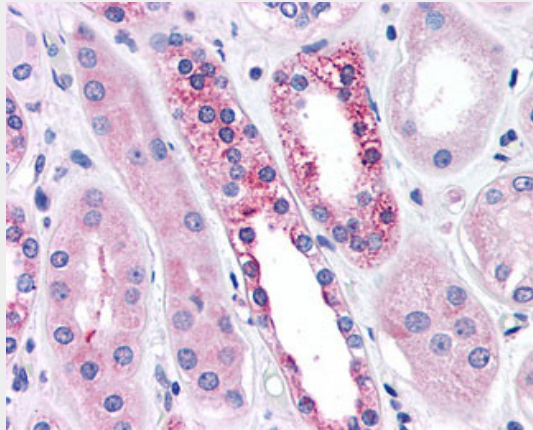
## CASR/Calcium Sensing Receptor Antibody (N-Terminus) - Protocols

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

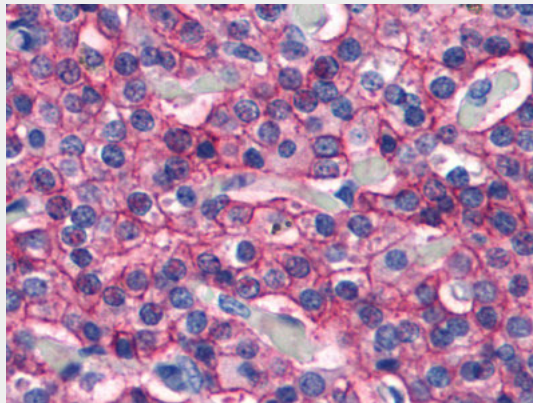
- [Western Blot](#)
- [Blocking Peptides](#)

- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### **CASR/Calcium Sensing Receptor Antibody (N-Terminus) - Images**



Anti-CASR/Calcium Sensing Receptor antibody IHC of human kidney, diabetes.



Anti-CASR antibody ALS10359 IHC of human parathyroid.

### **CASR/Calcium Sensing Receptor Antibody (N-Terminus) - Background**

Senses changes in the extracellular concentration of calcium ions. The activity of this receptor is mediated by a G- protein that activates a phosphatidylinositol-calcium second messenger system.

### **CASR/Calcium Sensing Receptor Antibody (N-Terminus) - References**

- Pearce S.H.S., et al. Submitted (DEC-1994) to the EMBL/GenBank/DDBJ databases.  
Garrett J.E., et al. *J. Biol. Chem.* 270:12919-12925(1995).  
Aida K., et al. *Biochem. Biophys. Res. Commun.* 214:524-529(1995).  
Freichel M., et al. *Endocrinology* 137:3842-3848(1996).  
Aida K., et al. *J. Clin. Endocrinol. Metab.* 80:2594-2598(1995).