

CASR/Calcium Sensing Receptor Antibody (N-Terminus)
Rabbit Polyclonal Antibody
Catalog # ALS10361

Specification

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

Application	IHC-P
Primary Accession	P41180
Reactivity	Human
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: $+4^{\circ}\text{C}$

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:1755508, PubMed:19789209, PubMed:21566075, PubMed:22114145, PubMed:22789683, PubMed:23966241, PubMed:25104082, PubMed:25292184, PubMed:<a

[>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 \(PubMed:27386547, PubMed:27434672, PubMed:32817431, PubMed:33603117, PubMed:34194040\). 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 \(By similarity\).](http://www.uniprot.org/citations/25766501)

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.

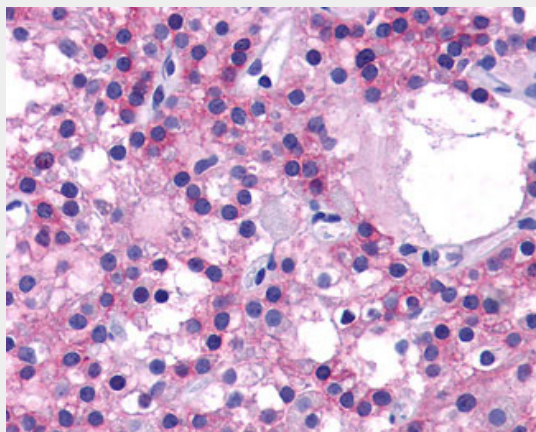
CASR/Calcium Sensing Receptor Antibody (N-Terminus) - Protocols

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

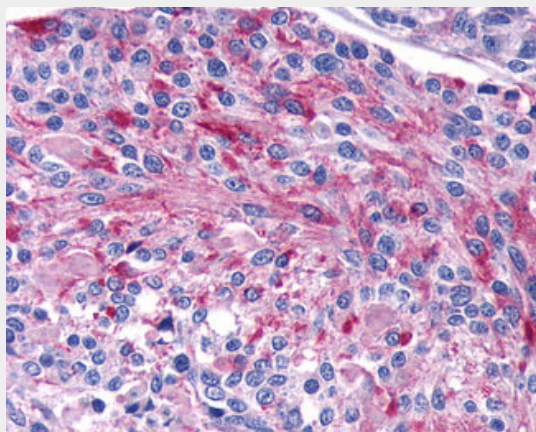
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)

- [Flow Cytometry](#)
- [Cell Culture](#)

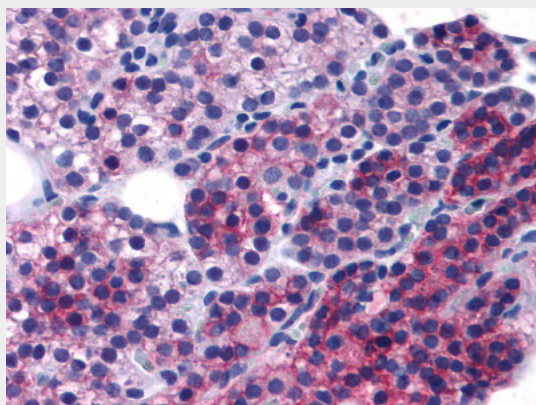
CASR/Calcium Sensing Receptor Antibody (N-Terminus) - Images



Anti-CASR/Calcium Sensing Receptor antibody IHC of human Parathyroid, Adenoma.



Anti-CASR/Calcium Sensing Receptor antibody IHC of human Thyroid, Medullary Carcinoma.



Anti-CASR antibody ALS10361 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).