

Specification

[33603117](http://www.uniprot.org/citations/33603117) PubMed: [34194040](http://www.uniprot.org/citations/34194040) PubMed: [34467854](http://www.uniprot.org/citations/34467854) PubMed: [7759551](http://www.uniprot.org/citations/7759551) PubMed: [8636323](http://www.uniprot.org/citations/8636323) PubMed: [8702647](http://www.uniprot.org/citations/8702647) PubMed: [8878438](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/38632411) target="_blank">38632411 PubMed: [7759551](http://www.uniprot.org/citations/7759551) target="_blank">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](http://www.uniprot.org/citations/27386547) PubMed: [27434672](http://www.uniprot.org/citations/27434672) PubMed: [32817431](http://www.uniprot.org/citations/32817431) PubMed: [33603117](http://www.uniprot.org/citations/33603117) PubMed: [34194040](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/32843625) target="_blank">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.

Volume

50 µl

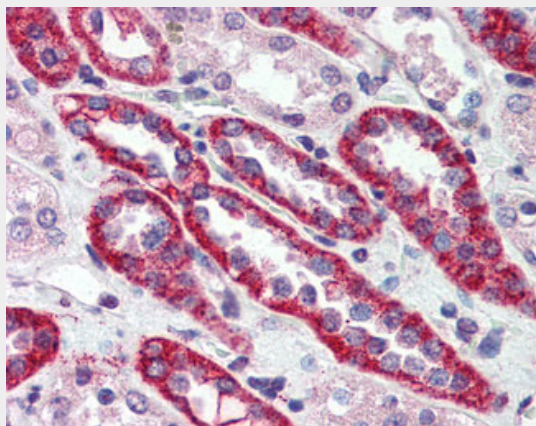
CASR/Calcium Sensing Receptor Antibody (N-Terminus) - Protocols

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

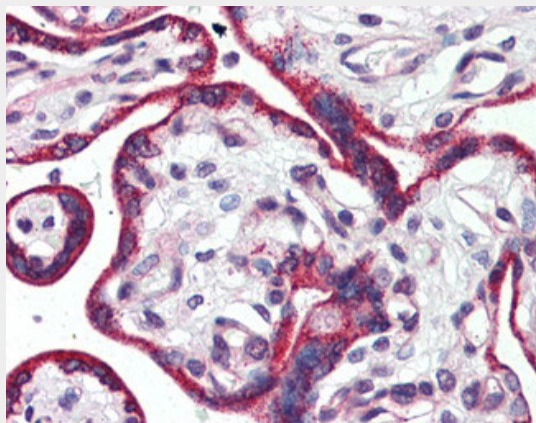
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)

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

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



Anti-Calcium Sensing Receptor antibody IHC of human kidney.



Anti-Calcium Sensing Receptor antibody IHC of human placenta.

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

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Aida K.,et al.Biochem. Biophys. Res. Commun. 214:524-529(1995).
Freichel M.,et al.Endocrinology 137:3842-3848(1996).
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