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CASR Antibody
Catalog # ASC11796

Specification

CASR Antibody - Product Information

Application	**WB, IHC-P, IF, E**
Primary Accession	P41180
Other Accession	NP_001171536, 296010811
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Calculated MW	**Predicted: 101, 120 kDa**
	Observed: 115, 125 kDa KDa
Application Notes	**CASR antibody can be used for detection of CASR by Western blot at 1 - 2 µg/ml. Antibody can also be used for Immunohistochemistry at 5 µg/mL. For Immunoflorescence start at 20 µg/mL.**

CASR Antibody - Additional Information

Gene ID	**846**

Target/Specificity
CASR; CASR antibody is human, mouse and rat reactive. At least two isoforms of CASR are known to exist.

Reconstitution & Storage
CASR antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.

Precautions
CASR Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

CASR Antibody - Protein Information

Name CASR (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:<a

href="http://www.uniprot.org/citations/25292184" target="_blank">25292184, PubMed:25766501, PubMed:26386835, PubMed:7759551, PubMed:8636323, PubMed:8702647, PubMed:8878438). Senses fluctuations in the circulating calcium concentration and modulates the production of parathyroid hormone (PTH) in parathyroid glands (By similarity). The activity of this receptor is mediated by a G-protein that activates a phosphatidylinositol-calcium second messenger system (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).

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 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

CASR Antibody - Images

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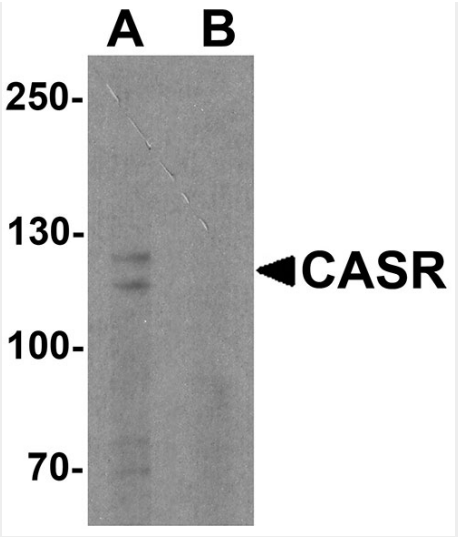
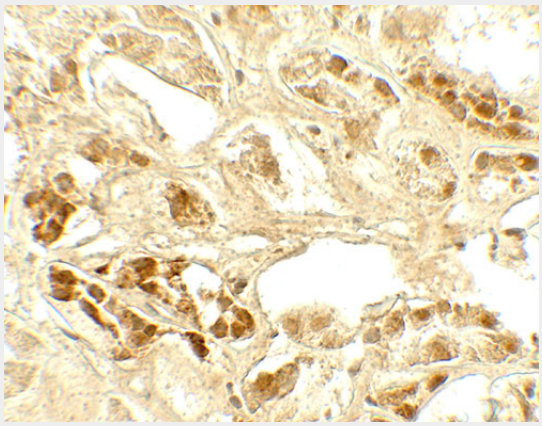
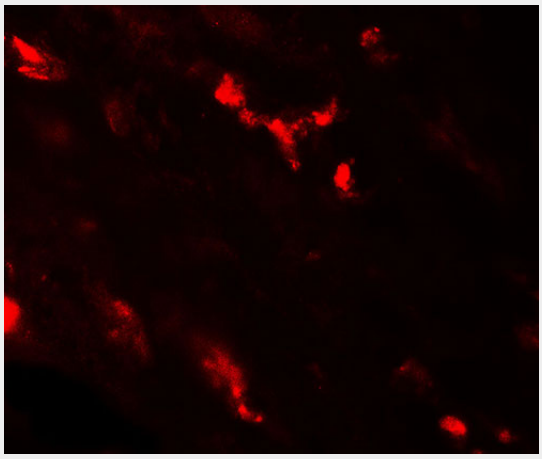


Western blot analysis of CASR in EL4 cell lysate with CASR antibody at 1 µg/ml in (A) the absence and (B) the presence of blocking peptide.



Immunohistochemistry of CASR in human kidney tissue with CASR antibody at 5 µg/mL.



Immunofluorescence of CASR in human kidney tissue with CASR antibody at 20 µg/mL.

CASR Antibody - Background

The calcium-sensing receptor protein (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 (1). 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 (1). Mutations in this gene cause familial hypocalciuric hypercalcemia, familial, isolated hypoparathyroidism, and neonatal severe primary hyperparathyroidism (1,2). Recent evidence suggests that activated CASR contributes to the cytokine secretion through the partial MAPK and NF-kappaB pathways in T cells (3).

CASR Antibody - References

Pollak MR, Brown EM, Chou YH, et al. Mutations in the human Ca(2+)-sensing receptor gene cause familial hypocalciuric hypercalcemia and neonatal severe hyperparathyroidism. Cell 1993; 75:1297-303.
Jakobsen SF, Rolighed L, Nissen PH, et al. Muscle function and quality of life are not impaired in familial hypocalciuric hypercalcemia: a cross-sectional study on physiological effects of inactivating variants in the calcium-sensing receptor gene (CASR). Eur. J. Endocrinol. 2013; 169:349-57.
Li T, Sun M, Yin X, et al. Expression of the calcium sensing receptor in human peripheral blood T lymphocyte and its contribution to cytokine secretion through MAPKs or NF-kB pathways. Mol. Immunol. 2013; 53:414-20.