

Anti-Human CASR DyLight® 488 conjugated Antibody(monoclonal, 11E9)
Catalog # ABO14788**Specification****Anti-Human CASR DyLight® 488 conjugated Antibody(monoclonal, 11E9) - Product Information**

Application	FC
Primary Accession	P41180
Host	Mouse
Isotype	Mouse IgG2b
Reactivity	Human
Clonality	Monoclonal
Format	Liquid

Description

Anti-Human CASR DyLight® 488 conjugated Antibody (monoclonal, 11E9) . Tested in Flow Cytometry applications. This antibody reacts with Human.

Anti-Human CASR DyLight® 488 conjugated Antibody(monoclonal, 11E9) - Additional Information

Gene ID 846

Other Names

Extracellular calcium-sensing receptor, CaR, CaSR, hCasR, Parathyroid cell calcium-sensing receptor 1, PCaR1, CASR (http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=1514)
HGNC:1514

Application Details

Flow Cytometry, 1-3 µg/1x10⁶ cells

Subcellular Localization

Cell membrane.

Tissue Specificity

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

Contents

Each vial contains 50% glycerol, 0.9% NaCl, 0.2% Na₂HPO₄, 0.02% 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.

Cross Reactivity

No cross-reactivity with other proteins.

Storage

At -20°C for one year from date of receipt.

**Avoid repeated freezing and thawing.
Protect from light.**

Anti-Human CASR DyLight® 488 conjugated Antibody(monoclonal, 11E9) - 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: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-Human CASR DyLight® 488 conjugated Antibody(monoclonal, 11E9) - 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](#)

Anti-Human CASR DyLight® 488 conjugated Antibody(monoclonal, 11E9) - Images**Anti-Human CASR DyLight® 488 conjugated Antibody(monoclonal, 11E9) - 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.