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Anti-Human CASR DyLight® 550 conjugated Antibody(monoclonal, 11E9)

Catalog # ABO14808

Specification

Anti-Human CASR DyLight® 550 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® 550 conjugated Antibody (monoclonal, 11E9) . Tested in Flow Cytometry applications. This antibody reacts with Human.

Anti-Human CASR DyLight® 550 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 (HGNC:1514)

Application Details
Flow Cytometry, 1-3 µg/1x10^6 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® 550 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® 550 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 Cytomety
- Cell Culture

Anti-Human CASR DyLight® 550 conjugated Antibody(monoclonal, 11E9) - Images

Anti-Human CASR DyLight® 550 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.