

Product Specification Sheet

Calcium Sensing Receptor (CASR) Antibodies

Cat. # CASR11-P	Human CASR Control Peptide	SIZE: 100 ug
Cat. # CASR11-S	Rabbit Anti-Human CASR antiserum #1	SIZE: 100 ul
Cat. # CASR11-A	Rabbit Anti-Human CASR Ig G #1 (aff pure)	SIZE: 100 ug

The divalent cations (Ca²⁺ and Mg²⁺) are important for a multitude of cellular functions. A G-protein coupled receptor, termed Calcium sensing receptor, responds to extracellular calcium and mediates several of the known effects of Ca on parathyroid and renal functions. CaSR is expressed in a number of tissues including thyroid C-cells, Brain, and GI tract. Ca²⁺ acts as first messenger via CaSR-mediated activation of second messenger systems (e.g., phospholipase C and A2, cAMP) altering cellular physiology. Several mutations in the human CaSR gene have been identified in several inherited diseases of calcium metabolism such as familial hypocalciuric hypercalcemia (FHH), neonatal severe hyperparathyroidism (NSHPT), and autosomal dominant hypocalcemia (ADH).

Human CaSR is a 1078-aa (Rat/mouse 1079 aa) 7 transmembrane protein characterized by the presence of a signal peptide, a large extracellular (~592 aa) N-terminus, and cytoplasmic C-terminus (1)

Source of Antigen and Antibodies

Antigen	20-aa peptide from Human CASR (1) ; Designation (#CASR11-P, control/blocking peptide) conjugated to KLH; Epitope location ~ C-terminal, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#CASR11-S) and IgG, purified over antigen-agarose (Cat # CASR11-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)

100ul solution lyophilized powder
Supplied 0.05% azide, **Reconstitute** powder in 100 ul PBS

Affinity pure IgG

100 ug/100ul solution lyophilized powder
Supplied in **Buffer:** PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide

100 ug/100 ul solution lyophilized powder
Supplied in **Buffer:** PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure antibody using ECL technique). (see published refs 2).

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: We recommend the use of affinity purified antibody at 1-20 ug/ml in paraformaldehyde fixed sections of tissue (1). (see published refs 2).

Specificity & Cross-reactivity

The 20 AA human CASR11-P control peptide is quite conserved in several species: 90% in mouse/rat, and 85% in bovine CaSR. It has no significant sequence homology with other GPCR. Antibody cross-reactivity in various species has not been studied. The CASR11-P control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at the web site).

General References: Riccardi D et al (1995) PNAS 92, 131-135; Ruat M et al (1995) PNAS 92, 3161-3165; Garrett JE et al (1995) J Biol Chem., 270, 12919-1295; Aida K et al (1995) BBRC 214, 524-529; Freichel M et al (1996) Endocrinol. 137, 3842-3848; Pollak MR et al (1993) Cell, 75, 1297-1303; Ward BK et al (1997) Human Mutat. 10, 233-235.

(2) Citations of ADI's Antibodies (see web site for updated list)

Jensen B 2004, Exp. Cell Research, 301, 280-292, IHC
Wang R 2003, Eur. J. Biochem., 270: 2680 – 2688, WB. IHC

*This product is for In vitro research use only.

Related material available from ADI

Antibodies VR1, VRL-1, proton gated ion channels (ASIC1-3), CNG1-3; Gustducin-alpha and TR1 and TR2. CLC 1-7.

CASR11-S-A-P 71209A