abcam

Product datasheet

Anti-CaSR antibody [5C10, ADD] ab19347

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Overview

Product name	Anti-CaSR antibody [5C10, ADD]
Description	Mouse monoclonal [5C10, ADD] to CaSR
Host species	Mouse
Tested applications	**Suitable for:** IHC-P, Flow Cyt, IHC-Fr
Species reactivity	**Reacts with:** Mouse, Human
Immunogen	Synthetic peptide within Human CaSR aa 200-300. The exact immunogen sequence used to generate this antibody is proprietary information. If additional detail on the immunogen is needed to determine the suitability of the antibody for your needs, please **contact** our Scientific Support team to discuss your requirements. Run BLAST with Run BLAST with
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS, 0.1% BSA
Purity	Immunogen affinity purified
Clonality	Monoclonal
Clone number	5C10, ADD
Isotype	IgG2a

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab19347 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-P	★★★★☆ **(1)**	Use at an assay dependent concentration. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
Flow Cyt		Use 1µg for 10^6 cells. **ab170191** - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.
IHC-Fr	★★★★☆ **(3)**	Use a concentration of 2 µg/ml.

Target

Function 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.

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

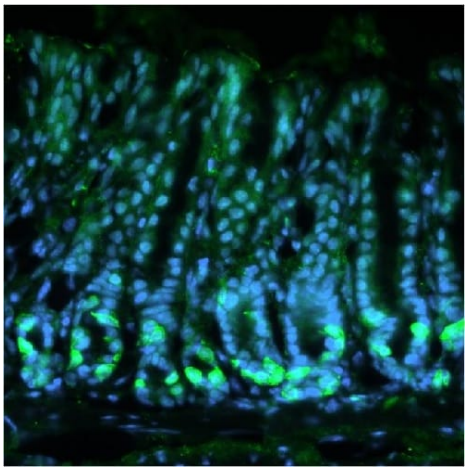
Involvement in disease Defects in CASR are the cause of familial hypocalciuric hypercalcemia type 1 (FHH) [MIM:145980]. FHH is characterized by altered calcium homeostasis. Affected individuals exhibit mild or modest hypercalcemia, relative hypocalciuria, and inappropriately normal PTH levels.
Defects in CASR are the cause of neonatal severe primary hyperparathyroidism (NSHPT) [MIM:239200]. NSHPT is a rare autosomal recessive life-threatening disorder characterized by very high serum calcium concentrations, skeletal demineralization, and parathyroid hyperplasia. In some instances NSHPT has been demonstrated to be the homozygous form of FHH.
Defects in CASR are a cause of familial isolated hypoparathyroidism (FIH) [MIM:146200]; also called autosomal dominant hypoparathyroidism or autosomal dominant hypocalcemia. FIH is characterized by hypocalcemia and hyperphosphatemia due to inadequate secretion of parathyroid hormone. Symptoms are seizures, tetany and cramps. An autosomal recessive form of FIH also exists.
Defects in CASR are the cause of idiopathic generalized epilepsy type 8 (IGE8) [MIM:612899]; also known as EIG8. A disorder characterized by recurring generalized seizures in the absence of detectable brain lesions and/or metabolic abnormalities. Seizure types are variable, but include myoclonic seizures, absence seizures, febrile seizures, complex partial seizures, and generalized tonic-clonic seizures.
Note=Homozygous defects in CASR can be a cause of primary hyperparathyroidism in adulthood. Patients suffer from osteoporosis and renal calculi, have marked hypercalcemia and increased serum PTH concentrations.

Sequence similarities Belongs to the G-protein coupled receptor 3 family.

Post-translational modifications N-glycosylated.
Ubiquitinated by RNF19A; which induces proteasomal degradation.

Cellular localization Cell membrane.

Images

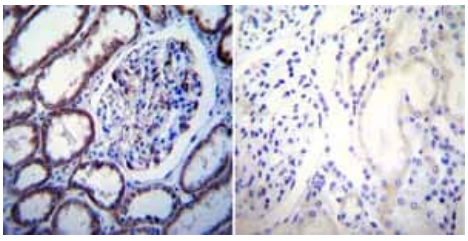


Immunohistochemistry (Frozen sections) - Anti-CaSR antibody [5C10, ADD] (ab19347)

Immunohistochemical analysis of 4% formalin fixed frozen mouse stomach tissue labeling CaSR with ab19347 at 1/100 dilution overnight at 4°C, followed by fluorophore-conjugated goat anti-mouse IgG secondary antibody for 2 hours at RT.

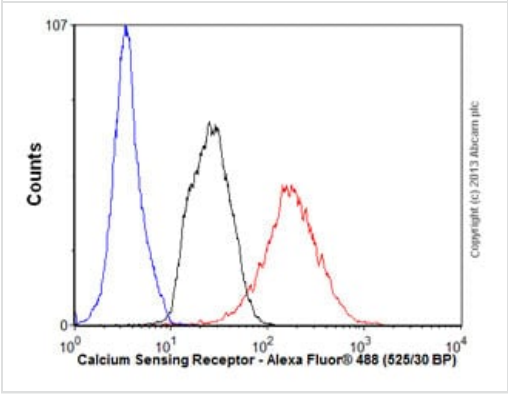
Fresh stomach tissue was fixed in 4% formalin for 1 hour and then incubated overnight at in 25% sucrose before embedding in tissue freezing medium. Antigen retrieval was carried out on 8µm cryo-sections by incubating in sodium citrate buffer for 45 minutes at 4°C, immersing in sodium citrate buffer for 10 minutes at 100°C before washing 3 times for 5 minutes each in 1X PBS. Sections were then blocked in blocking buffer (0.3% Triton X-100 in 1X PBS containing 10% normal goat serum) for 30 minutes at RT before staining with ab19347.

Sections were also stained with DAPI nuclear stain (blue). Positive cells (green) were found at the base of the antral glands in the mouse stomach.



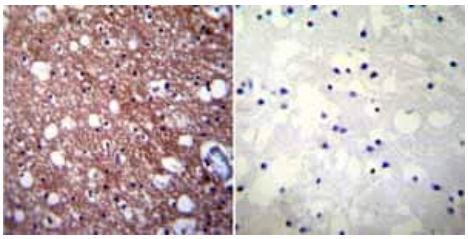
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CaSR antibody [5C10, ADD] (ab19347)

Immunohistochemistry was performed on normal biopsies of deparaffinized Human kidney tissue. To expose target proteins heat induced antigen retrieval was performed using 10mM sodium citrate (pH6.0) buffer microwaved for 8-15 minutes. Following antigen retrieval tissues were blocked in 3% BSA-PBS for 30 minutes at room temperature. Tissues were then probed at a dilution of 1:100 with a mouse monoclonal antibody recognizing CaSR ab19347 or without primary antibody (negative control) overnight at 4°C in a humidified chamber. Tissues were washed extensively with PBST and endogenous peroxidase activity was quenched with a peroxidase suppressor. Detection was performed using a biotin-conjugated secondary antibody and SA-HRP followed by colorimetric detection using DAB. Tissues were counterstained with hematoxylin and prepped for mounting.



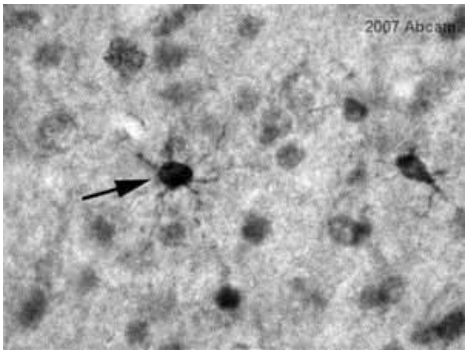
Flow Cytometry - Anti-CaSR antibody [5C10, ADD] (ab19347)

Overlay histogram showing SH-SY5Y cells stained with ab19347 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab19347, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-mouse IgG (H+L) (**ab150113**) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2a [ICIGG2A] (**ab91361**, 1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter. This antibody gave a positive result in 80% methanol (5 min) fixed SH-SY5Y cells used under the same conditions. Please note that Abcam do not have any data for use of this antibody on non-fixed cells. We welcome any customer feedback.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CaSR antibody [5C10, ADD] (ab19347)

Immunohistochemistry was performed on normal biopsies of deparaffinized Human brain tissue. To expose target proteins heat induced antigen retrieval was performed using 10mM sodium citrate (pH6.0) buffer microwaved for 8-15 minutes. Following antigen retrieval tissues were blocked in 3% BSA-PBS for 30 minutes at room temperature. Tissues were then probed at a dilution of 1:100 with a mouse monoclonal antibody recognizing CaSR ab19347 or without primary antibody (negative control) overnight at 4°C in a humidified chamber. Tissues were washed extensively with PBST and endogenous peroxidase activity was quenched with a peroxidase suppressor. Detection was performed using a biotin-conjugated secondary antibody and SA-HRP followed by colorimetric detection using DAB. Tissues were counterstained with hematoxylin and prepped for mounting.



Immunohistochemistry (Frozen sections) - Anti-CaSR antibody [5C10, ADD] (ab19347)

This image is courtesy of an anonymous Abreview

ab19347 at 1/100 staining rat brain (cerebral cortex) tissue sections by IHC-Fr. The tissue was paraformaldehyde fixed and blocked with serum before incubation with the primary antibody for 24 hours at 4°C. A biotinylated horse anti-mouse IgG was used as the secondary.

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