


Product datasheet

Anti-RAPGEF2 antibody ab105110

1 Image

Overview

Product name	Anti-RAPGEF2 antibody
Description	Rabbit polyclonal to RAPGEF2
Host species	Rabbit
Tested applications	Suitable for: IHC-P
Species reactivity	Reacts with: Human Predicted to work with: Mouse, Rabbit, Horse, Guinea pig, Dog, Pig, Chimpanzee, Rhesus monkey, Gorilla, Chinese hamster, Elephant 
Immunogen	Synthetic peptide, corresponding to a region within the internal sequence amino acids 975-1025 of Human RAPGEF2 (NP_055062.1, GeneID 9693).
Positive control	Human Anaplastic Thyroid Carcinoma, Breast Carcinoma, Colon Carcinoma, Lung Adenocarcinoma and Ovarian Carcinoma
General notes	<p>Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough.</p> <p>Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.</p> <p>We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications & species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise™ guarantee.</p> <p>In preparation for this, we have started to update the applications & species that this product is Abpromise guaranteed for.</p> <p>We are also updating the applications & species that this product has been “predicted to work with,” however this information is not covered by our Abpromise guarantee.</p> <p>Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.</p> <p>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, as well as customer reviews and Q&As.</p>

Properties

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Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	pH: 6.8 Preservative: 0.09% Sodium azide Constituents: 0.1% BSA, Tris buffered saline
Purity	Immunogen affinity purified
Purification notes	Affinity purified using an epitope specific to RAPGEF2 immobilized on solid support.
Clonality	Polyclonal
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab105110** 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		1/100 - 1/500. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. ab105110 is likely to work with frozen sections too.

Target

Function

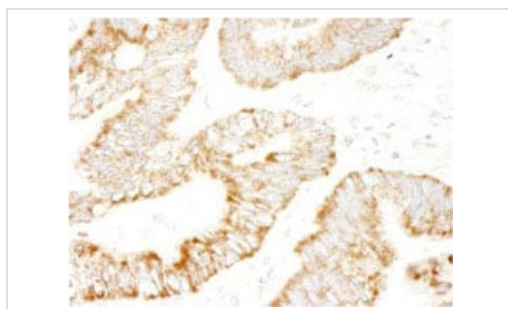
Functions as a guanine nucleotide exchange factor (GEF), which activates Rap and Ras family of small GTPases by exchanging bound GDP for free GTP in a cAMP-dependent manner. Serves as a link between cell surface receptors and Rap/Ras GTPases in intracellular signaling cascades. Acts also as an effector for Rap1 by direct association with Rap1-GTP thereby leading to the amplification of Rap1-mediated signaling. Shows weak activity on HRAS. It is controversial whether RAPGEF2 binds cAMP and cGMP (PubMed:23800469, PubMed:10801446) or not (PubMed:10608844, PubMed:10548487, PubMed:11359771). Its binding to ligand-activated beta-1 adrenergic receptor ADRB1 leads to the Ras activation through the G(s)-alpha signaling pathway. Involved in the cAMP-induced Ras and Erk1/2 signaling pathway that leads to sustained inhibition of long term melanogenesis by reducing dendrite extension and melanin synthesis. Provides also inhibitory signals for cell proliferation of melanoma cells and promotes their apoptosis in a cAMP-independent manner. Regulates cAMP-induced neuritogenesis by mediating the Rap1/B-Raf/ERK signaling through a pathway that is independent on both PKA and RAPGEF3/RAPGEF4. Involved in neuron migration and in the formation of the major forebrain fiber connections forming the corpus callosum, the anterior commissure and the hippocampal commissure during brain development. Involved in neuronal growth factor (NGF)-induced sustained activation of Rap1 at late endosomes and in brain-derived neurotrophic factor (BDNF)-induced axon outgrowth of hippocampal neurons. Plays a role in the regulation of embryonic blood vessel formation and in the establishment of basal junction integrity and endothelial barrier function. May be involved in the regulation of the vascular endothelial growth factor receptor KDR and cadherin CDH5 expression at allantois endothelial cell-cell junctions.

Tissue specificity

Expressed in primary neuronal and endocrine cells (at protein level). Highest expression levels in brain. Lower expression levels in heart, kidney, lung, placenta and blood leukocytes.

Sequence similarities	<p>Belongs to the RAPGEF2 family.</p> <p>Contains 1 cyclic nucleotide-binding domain.</p> <p>Contains 1 N-terminal Ras-GEF domain.</p> <p>Contains 1 PDZ (DHR) domain.</p> <p>Contains 1 Ras-associating domain.</p> <p>Contains 1 Ras-GEF domain.</p>
Domain	<p>The Ras-associating domain is necessary for the Rap guanine nucleotide exchange activity. The N-terminal region is necessary for cAMP-binding. The PDZ domain is necessary for its targeting to the cell membrane.</p>
Post-translational modifications	<p>Ubiquitinated by NEDD4, leading to proteasomal degradation.</p> <p>Phosphorylation by PLK2 promotes its activity.</p>
Cellular localization	<p>Cytoplasm. Cytoplasm, perinuclear region. Cell membrane. Late endosome. Cell junction. Associated with the synaptic plasma membrane. Colocalizes with ADRB1 at the plasma membrane. Synaptosome. Enriched in synaptic plasma membrane and neuronal cell body. Colocalized with CTNNB1 at cell-cell contacts (By similarity). Localized diffusely in the cytoplasm before neuronal growth factor (NGF) stimulation. Recruited to late endosomes after NGF stimulation. Colocalized with the high affinity nerve growth factor receptor NTRK1 at late endosomes. Translocated to the perinuclear region in a RAP1A-dependent manner. Translocated to the cell membrane.</p>

Images



ab105110, at a 1/250 dilution, staining RAPGEF2 in formalin fixed, paraffin embedded Human lung adenocarcinoma tissue by Immunohistochemistry. Detection: DAB staining

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RAPGEF2 antibody (ab105110)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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