abcam

ab230500

Anti-Calcitonin receptor/CT-R antibody

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human CALCR aa 400-500 conjugated to Keyhole Limpet Haemocyanin. The exact immunogen used to generate this antibody is proprietary information. Database link P30988
Purification technique	Affinity purification Protein A
Concentration	2 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/50
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/10 - 1/50
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information CALCR

Function

G protein-coupled receptor activated by ligand peptides amylin (IAPP), calcitonin (CT/CALCA) and calcitonin gene-related peptide type 1 (CGRP1/CALCA) (PubMed:35324283, PubMed:38603770). CALCR interacts with receptor-activity-modifying proteins RAMP1, 2 and 3 to form receptor complexes AMYR1, 2 and 3, respectively (PubMed:35324283, PubMed:38603770). IAPP, CT and CGRP1 activate CALCR and AMYRs with distinct modes of receptor activation resulting in specific phenotypes (PubMed:35324283, PubMed:38603770). Ligand binding causes a conformation change that triggers signaling via guanine nucleotide-binding proteins (G proteins) and modulates the activity of downstream effectors. Activates cAMP-dependent pathway (PubMed:35324283, PubMed:7476993). Isoform 2. Non-functional protein. Unable to couple to G proteins and activate adenylyl cyclase (PubMed:7476993). Does not undergo receptor internalization following ligand binding (PubMed:7476993).

Storage

Shipped at conditions Blue Ice

Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Calcitonin receptor (CT-R) is a protein that mechanically binds calcitonin a hormone involved in regulating calcium levels. Another known name is Salmon Calcitonin Receptor. The receptor has a mass approximately 70 kDa and is expressed in various tissues including kidney osteoclasts and the central nervous system. The receptor is a critical part of calcium-phosphate homeostasis facilitating the actions of calcitonin across different physiological systems in the body.
Biological function summary	CT-R serves a significant role in bone metabolism and mineral homeostasis. It participates in the inhibition of osteoclast-mediated bone resorption which is an important process in maintaining bone density. Although CT-R functions independently interactions with other hormones like parathyroid hormone and vitamin D highlight its importance in a larger network of bone health. The receptor contributes to reducing blood calcium levels by decreasing calcium release from bones and enhancing renal calcium excretion.
Pathways	CT-R is actively involved in the cyclic adenosine monophosphate (cAMP) and phosphoinositide signaling pathways essential for mediating cellular responses. Through these pathways CT-R closely associates with the related protein Calcitonin Gene-Related Peptide (CGRP) which shares some signaling components and effects on targeted cells. These pathways highlight the mechanistic basis for CT-R's roles in regulating calcium and phosphate metabolism.
Associated diseases and disorders	CT-R has connections to osteoporosis and paget's disease. These conditions involve impaired bone metabolism where CT-R activity—or lack of activity—contributes to pathogenesis. The receptor's relationship with the proteins parathyroid hormone and CGRP suggests its indirect involvement in disease progression since these proteins also modulate bone health and are potential therapeutic targets for treating such bone disorders.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

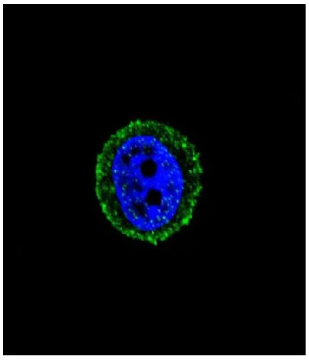
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

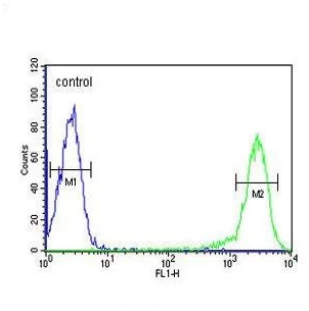
3 product images



Immunocytochemistry/ Immunofluorescence - Anti-Calcitonin receptor/CT-R antibody (ab230500)

Calcitonin receptor/CT-R Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Calcitonin receptor/CT-R antibody

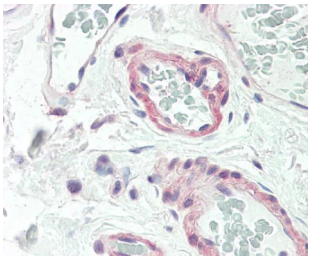
MCF7 (human breast adenocarcinoma cell line) cells labelling calcitonin using ab230500 at 1/10 dilution followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green) in ICC/IF.
Nuclear counterstain: DAPI (blue).



Flow Cytometry (Intracellular) - Anti-Calcitonin receptor/CT-R antibody (ab230500)

Calcitonin receptor/CT-R Flow Cytometry (Intracellular) staining using rabbit Anti-Calcitonin receptor/CT-R antibody

Intracellular flow cytometric analysis of calcitonin in HL-60 (human promyelocytic leukemia cell line) cells using ab230500 at 1/10 dilution (right histogram) compared to the negetive contolr (left histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Calcitonin receptor/CT-R antibody (ab230500)

Calcitonin receptor/CT-R Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Calcitonin receptor/CT-R antibody

Formalin-fixed, paraffin-embedded human colon (vessels) tissue stained for calcitonin using ab230500 at 1/50 dilution in immunohistochemical analysis.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.