

Anti-Calpain small subunit 1 antibody ab28237

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Overview

Product name	Anti-Calpain small subunit 1 antibody
Description	Rabbit polyclonal to Calpain small subunit 1
Host species	Rabbit
Specificity	ab28237 binds to calpain S-1, does not cross react with the other calpain family members (calpain S-2, calpain-1, calpain-2, calpain-3, etc.).
Tested applications	Suitable for: IHC-P, ICC/IF
Species reactivity	Reacts with: Human
Immunogen	Synthetic peptide corresponding to Human Calpain small subunit 1 (N terminal).
Positive control	mouse brain tissue lysate
General notes	<p>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.</p> <p>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</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.05% Sodium azide Constituent: 50% Glycerol
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab28237 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		
ICC/IF		

Application notes

ICC/IF: Use at a concentration of 1 µg/ml.

IHC-P: Use at a concentration of 1 µg/ml. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

WB: 1/1000 when using colorimetric substrates - 1/5000 for chemiluminescent substrates.

Predicted molecular weight: 30 kDa. Dilution optimised using Chromogenic detection. Not yet tested in other applications. Optimal dilutions/concentrations should be determined by the end user.

Target

Function

Regulatory subunit of the calcium-regulated non-lysosomal thiol-protease which catalyzes limited proteolysis of substrates involved in cytoskeletal remodeling and signal transduction.

Sequence similarities

Contains 5 EF-hand domains.

Domain

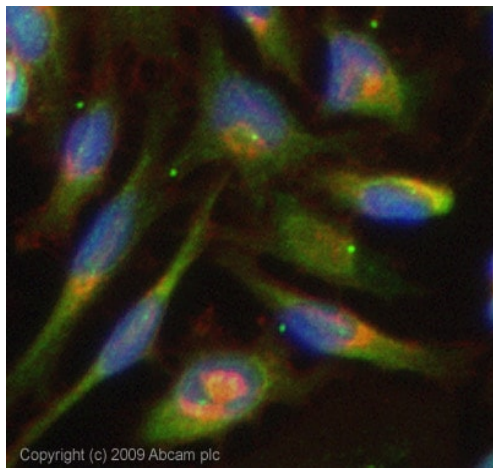
The contact of the 5th EF-hand domain from each monomer allows the formation of the homodimer and also appears to mediate the contact between the large catalytic subunit and small regulatory subunit for the formation of the heterodimer.

EF-hand domains are paired. EF-hand 1 is paired with EF-hand 2 and EF-hand 3 is paired with EF-hand 4. The fifth EF-hand domain, left unpaired, does not bind the calcium but is responsible of the dimerization by EF-embrace. The first four EF-hand domains bind calcium, however it is not sure if the binding of EF-hand 4 to calcium is physiologically relevant.

Cellular localization

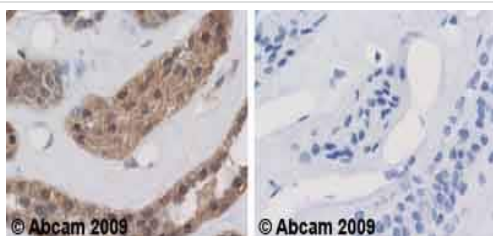
Cytoplasm. Cell membrane. Translocates to the plasma membrane upon calcium binding.

Images



Immunocytochemistry/ Immunofluorescence - Anti-Calpain small subunit 1 antibody (ab28237)

ICC/IF image of ab28237 stained HeLa cells. The cells were 100% Methanol fixed (5 min) and then incubated in 1%BSA / 10% normal Goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab28237, 1µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 Goat anti-Rabbit IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Calpain small subunit 1 antibody (ab28237)

Ab28237 staining Human normal renal medulla. Staining is localized the nucleus and cytoplasm.

Left panel: with primary antibody at 1 ug/ml. Right panel: isotype control.

Sections were stained using an automated system DAKO Autostainer Plus , at room temperature. Sections were rehydrated and antigen retrieved with the Dako 3-in-1 AR buffer EDTA pH 9.0 in a DAKO PT Link. Slides were peroxidase blocked in 3% H₂O₂ in methanol for 10 minutes. They were then blocked with Dako Protein block for 10 minutes (containing casein 0.25% in PBS), then incubated with primary antibody for 20 minutes, and detected with Dako Envision Flex amplification kit for 30 minutes. Colorimetric detection was completed with diaminobenzidine for 5 minutes. Slides were counterstained with Haematoxylin and coverslipped under DePeX. Please note that for manual staining we recommend to optimize the primary antibody concentration and incubation time (overnight incubation), and amplification may be required.

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

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