

Product datasheet

Anti-Calpain small subunit 1 antibody [SP81] ab101683

Recombinant RabMAb

6 Images

Overview

Product name	Anti-Calpain small subunit 1 antibody [SP81]
Description	Rabbit monoclonal [SP81] to Calpain small subunit 1
Host species	Rabbit
Tested applications	Suitable for: IHC-P, Flow Cyt (Intra)
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Synthetic peptide within Human Calpain small subunit 1 aa 50-150 (internal sequence). The exact sequence is proprietary. Database link: P04632
Positive control	Flow Cyt (Intra): HeLa, PC-12 and NIH/3T3IHC-P: Human breast carcinoma tissue
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: <ul style="list-style-type: none"> - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information see here . This product is FOR RESEARCH USE ONLY. For commercial use, please contact partnerships@abcam.com.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Do Not Freeze.
Storage buffer	pH: 7.60 Preservative: 0.1% Sodium azide Constituents: PBS, 1% BSA
Purity	Protein A/G purified
Purification notes	Purified from TCS by protein A/G.
Clonality	Monoclonal
Clone number	SP81

Isotype

IgG

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab101683 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. Antigen retrieval is recommended: boil tissue section in 10mM citrate buffer, pH 6.0 for 10 min followed by cooling at RT for 20 min.
Flow Cyt (Intra)		1/20.

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

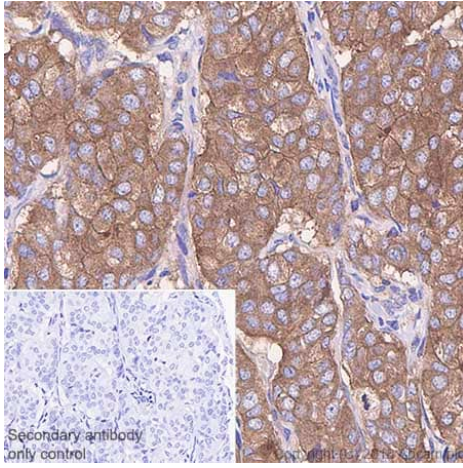
The contact of the 5th EF-hand domain from each monomer allows the formation of the homodimer and also appears to mediate the contact between the large catalytic subunit and small regulatory subunit for the formation of the heterodimer.

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

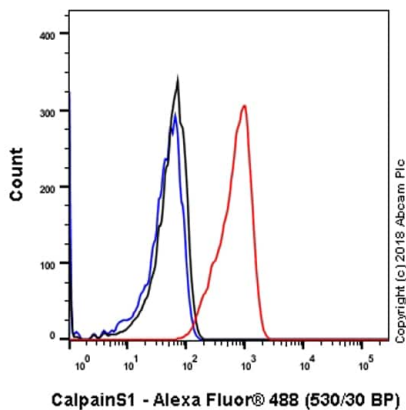
Cytoplasm. Cell membrane. Translocates to the plasma membrane upon calcium binding.

Images



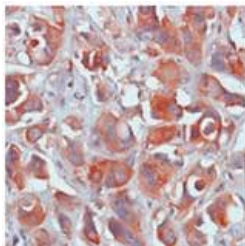
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Calpain small subunit 1 antibody [SP81] (ab101683)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human breast carcinoma tissue sections labeling Calpain small subunit 1 with ab101683 at 1/100 dilution (0.94 $\mu\text{g/ml}$). Heat mediated antigen retrieval with sodium citrate buffer (pH 6.0, epitope retrieval solution 1) for 10mins. Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**) was used as the secondary antibody. Hematoxylin was used as a counterstain. Positive staining on human breast carcinoma, performed on a Leica Biosystems BOND™ RX instrument. The section was incubated with ab101683 for 30 mins at room temperature.



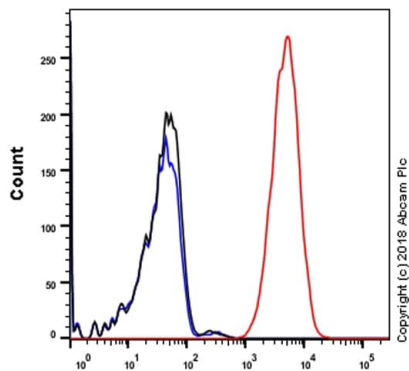
Flow Cytometry (Intracellular) - Anti-Calpain small subunit 1 antibody [SP81] (ab101683)

Flow cytometry analysis of HeLa (human cervix adenocarcinoma) labeling Calpain small subunit 1 with purified ab101683 at 1/20 dilution (4.5 $\mu\text{g/ml}$) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. Goat anti rabbit IgG (Alexa Fluor® 488, **ab150077**) at 1/2000 dilution was used as a secondary antibody. Isotype control - Rabbit monoclonal IgG (**ab172730**) (Black). Unlabeled control - Unlabelled cells (blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Calpain small subunit 1 antibody [SP81] (ab101683)

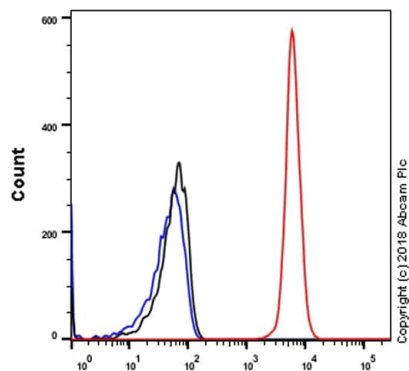
Immunohistochemical analysis of Calpain expression in formalin-fixed, paraffin-embedded Human breast carcinoma using ab101683 at 1/100 dilution.



CalpainS1 - Alexa Fluor® 488 (530/30 BP)

Flow Cytometry (Intracellular) - Anti-Calpain small subunit 1 antibody [SP81] (ab101683)

Flow cytometry analysis of PC-12 (rat adrenal gland pheochromocytoma) labeling Calpain small subunit 1 with purified ab101683 at 1/20 dilution (4.5 µg/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. Goat anti rabbit IgG (Alexa Fluor® 488, [ab150077](#)) at 1/2000 dilution was used as a secondary antibody. Isotype control - Rabbit monoclonal IgG ([ab172730](#)) (Black). Unlabeled control - Unlabelled cells (blue).



CalpainS1 - Alexa Fluor® 488 (530/30 BP)

Flow Cytometry (Intracellular) - Anti-Calpain small subunit 1 antibody [SP81] (ab101683)

Flow cytometry analysis of NIH/3T3 (mouse embryo) labeling Calpain small subunit 1 with purified ab101683 at 1/20 dilution (4.5 µg/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. Goat anti rabbit IgG (Alexa Fluor® 488, [ab150077](#)) at 1/2000 dilution was used as a secondary antibody. Isotype control - Rabbit monoclonal IgG ([ab172730](#)) (Black). Unlabeled control - Unlabelled cells (blue).

Why choose a recombinant antibody?



Research with confidence
Consistent and reproducible results



Long-term and scalable supply
Recombinant technology



Success from the first experiment
Confirmed specificity



Ethical standards compliant
Animal-free production

Anti-Calpain small subunit 1 antibody [SP81]
(ab101683)

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