abcam

ab109252

Anti-S100 Calcium Binding Protein A13/S100A13 antibody [EPR4510]

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR4510
Purification technique	Affinity purification Protein A
Concentration	0.348 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/250 - 1/500
Notes	Use of a HRP/AP polymerized antibody recommended.

Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

IP

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information Protein S100-A13

Function	Plays a role in the export of proteins that lack a signal peptide and are secreted by an alternative pathway. Binds two calcium ions per subunit. Binds one copper ion. Binding of one copper ion does not interfere with calcium binding. Required for the copper-dependent stress-induced export of IL1A and FGF1. The calcium-free protein binds to lipid vesicles containing phosphatidylserine, but not to vesicles containing phosphatidylcholine (By similarity).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Storage information	Stable for 12 months at -20°C

Notes

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

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

Activity summary	S100 Calcium Binding Protein A13 also known as S100A13 is a member of the S100 protein family and displays calcium-binding abilities usually binding two calcium ions. This small protein has a molecular mass of approximately 11 kDa. S100A13 is

	expressed in a variety of tissues including the heart brain and skeletal muscle. Its expression can be altered in different cellular conditions suggesting an adaptive role in diverse physiological contexts.
Biological function summary	S100A13 influences several cellular processes related to growth and differentiation. This protein facilitates secretion of fibroblast growth factor 1 (FGF1) and interleukin-1 alpha (IL-1α) through a non-classical pathway. S100A13 does not function alone; it engages in complexes with other proteins to execute its roles. It often works together with S100A6 and calcyclin-binding protein in these secretory pathways.
Pathways	S100A13 participates in the regulation of angiogenesis and inflammation. It is involved in the FGF signal transduction pathway by affecting the externalization of FGF1 an important player in angiogenesis. Additionally S100A13 contributes to inflammation-related processes. Its activity is linked to proteins such as p53 and FGF1 integrating it into wider cellular systems.
Associated diseases and disorders	S100A13 is implicated in cancer and chronic inflammatory conditions. Overexpression of S100A13 has links to tumor progression and aggressiveness suggesting a role in cancer. In chronic inflammation S100A13 associates with increased levels of inflammatory cytokines. It connects to proteins like FGF1 and IL-1α in these contexts linking it with pathophysiological mechanisms that underlie these conditions.

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

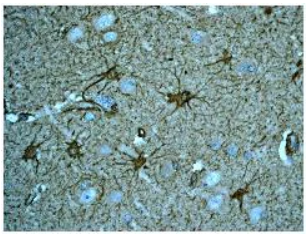
We do not recommend this combination. It is not covered by our product promise.

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.

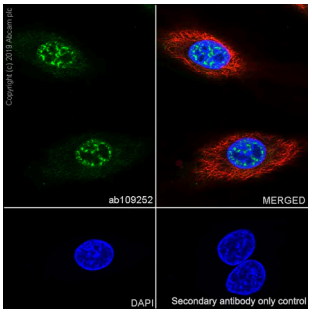
8 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-S100 Calcium Binding Protein A13/S100A13 antibody [EPR4510] (ab109252)

S100 Calcium Binding Protein A13/S100A13 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-S100 Calcium Binding Protein A13/S100A13 antibody

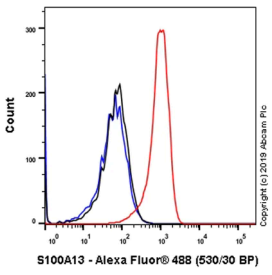
ab109252, at a 1/250 dilution, staining S100 Calcium Binding Protein A13/S100A13 in Human brain, by Immunohistochemistry, Paraffin-embedded tissue.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-S100 Calcium Binding Protein A13/S100A13 antibody [EPR4510] (ab109252)

S100 Calcium Binding Protein A13/S100A13 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-S100 Calcium Binding Protein A13/S100A13 antibody

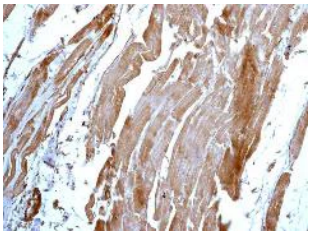
Immunocytochemistry/ Immunofluorescence analysis of HUVEC (human umbilical vein endothelial cell) cells labeling S100 Calcium Binding Protein A13/S100A13 with purified ab109252 at 1/100 dilution (10 µg/mL). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 (2.5 µg/mL). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1/1000 (2 µg/mL) dilution. DAPI (blue) was used as nuclear counterstain. ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 (2.5 µg/mL) was used as the secondary antibody only control.



Flow Cytometry (Intracellular) - Anti-S100 Calcium Binding Protein A13/S100A13 antibody [EPR4510] (ab109252)

S100 Calcium Binding Protein A13/S100A13 Flow Cytometry (Intracellular) staining using rabbit Anti-S100 Calcium Binding Protein A13/S100A13 antibody

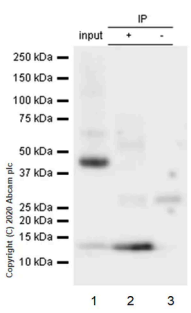
Intracellular Flow Cytometry analysis of HUVEC (Human umbilical vein endothelial cell) cells labeling S100 Calcium Binding Protein A13/S100A13 with purified ab109252 at 1/100 dilution (10 µg/mL) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cells without incubation with primary antibody and secondary antibody (Blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-S100 Calcium Binding Protein A13/S100A13 antibody [EPR4510] (ab109252)

S100 Calcium Binding Protein A13/S100A13 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-S100 Calcium Binding Protein A13/S100A13 antibody

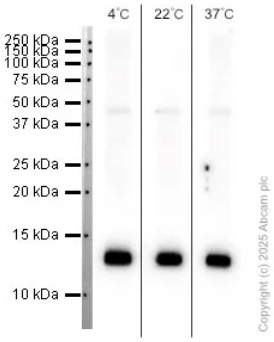
ab109252, at a 1/250 dilution, staining S100 Calcium Binding Protein A13/S100A13 in Human muscle, by Immunohistochemistry, Paraffin-embedded tissue.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunoprecipitation - Anti-S100 Calcium Binding Protein A13/S100A13 antibody [EPR4510] (ab109252)

Purified ab109252 at 1/50 dilution (2µg) immunoprecipitating S100 Calcium Binding Protein A13/S100A13 in Human heart lysate.
Lane 1 (input): Human heart lysate 10µg
Lane 2 (+): ab109252 + Human heart lysate.
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab109252 in Human heart lysate.
VeriBlot for IP Detection Reagent (HRP) (ab131366) (1/1000 dilution) was used for Western blotting.
Blocking Buffer and concentration: 5% NFDM/TBST.
Diluting buffer and concentration: 5% NFDM/TBST.
Observed band size: 11 kDa
All lanes:
Immunoprecipitation - Anti-S100 Calcium Binding Protein A13/S100A13 antibody [EPR4510] (ab109252)

Predicted band size: 11 kDa



Western blot - Anti-S100 Calcium Binding Protein A13/S100A13 antibody [EPR4510] (ab109252)

S100 Calcium Binding Protein A13/S100A13 Western blot staining of HUVEC whole cell lysate using rabbit Anti-S100 Calcium Binding Protein A13/S100A13 antibody

This blot was produced using 14% SDS-PAGE containing 15 µg of HUVEC whole cell lysate per lane at 150V for 50 minutes before being transferred onto a 0.45 µm PVDF membrane at 72V for 50 minutes. The membrane was then blocked for 1hr using 5% NFDM/TBST, then incubated with ab109252 (1/1000) at room temperature for 1hr. After being washed three times in TBST, the membrane was incubated with Peroxidase conjugated goat anti-rabbit IgG at 1/2000 dilution for 1hr at room temperature. The membrane was washed three times again. Then the signal was developed using the ECL technique.

ab109252 was stored at a range of temperatures (+4°C, +22°C, +37°C) for 1 week before being tested in WB. The image shows the band intensity remains relatively constant across all storage temperatures, demonstrating that antibody activity is not affected under these conditions. This data was generated as part of a structured antibody stability study supporting Abcam’ s transition from cold⊠chain to ambient shipping.

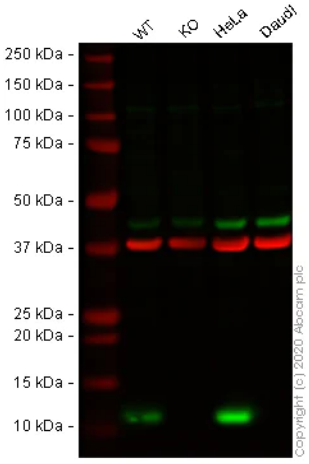
All lanes:
Western blot - Anti-S100 Calcium Binding Protein A13/S100A13 antibody [EPR4510] (ab109252) at 1/1000 dilution

All lanes:
HUVEC whole cell lysate at 15 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/2000 dilution

Exposure time: 7s



Western blot - Anti-S100 Calcium Binding Protein A13/S100A13 antibody [EPR4510] (ab109252)

S100 Calcium Binding Protein A13/S100A13 Western blot staining using rabbit Anti-S100 Calcium Binding Protein A13/S100A13 antibody

Lanes 1 - 4: Merged signal (red and green). Green - ab109252 observed at 13 kDa. Red - loading control ab8245 (Mouse anti-GAPDH antibody [6C5]) observed at 37 kDa.
ab109252 was shown to react with S100 Calcium Binding Protein A13/S100A13 in wild-type HEK-293T cells in Western blot with loss of signal observed in S100A13 knockout cell line ab266065 (S100A13 knockout cell lysate ab258183). Wild-type HEK-293T and S100A13 knockout cell lysates were subjected to SDS-PAGE. Membranes were blocked in 3 % milk in TBS-T (0.1 % Tween®) before incubation with ab109252 and ab8245 (Mouse anti-GAPDH antibody [6C5]) overnight at 4°C at a 1 in 1000 dilution and a 1 in 20000 dilution respectively. Blots were incubated with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 h at room temperature before imaging.

All lanes:
Western blot - Anti-S100 Calcium Binding Protein A13/S100A13 antibody [EPR4510] (ab109252) at 1/1000 dilution

Lane 1:
Wild-type HEK-293T cell lysate at 20 µg

Lane 2:
S100A13 knockout HEK-293T cell lysate at 20 µg

Lane 2:
Western blot - Human S100A13 (S100 Calcium Binding Protein A13) knockout HEK-293T cell line (ab266065)

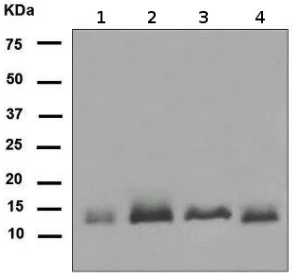
Lane 3:
HeLa cell lysate at 20 µg

Lane 4:
Daudi cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 11 kDa

Observed band size: 13 kDa



Western blot - Anti-S100 Calcium Binding Protein A13/S100A13 antibody [EPR4510] (ab109252)

All lanes:
Western blot - Anti-S100 Calcium Binding Protein A13/S100A13 antibody [EPR4510] (ab109252) at 1/1000 dilution

Lane 1:
Human thyroid tissue lysate at 10 µg

Lane 2:
Human testis tissue lysate at 10 µg

Lane 3:
HUVEC lysate at 10 µg

Lane 4:
ECV304 lysate at 10 µg

Predicted band size: 11 kDa

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