abcam

ab124805

Anti-S100A4 antibody [EPR2761(2)]

Anti-S100A4 antibody [EPR2761(2)] (ab124805) is a rabbit monoclonal antibody detecting S100A4 in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF**. Suitable for **Human**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency
- Over 50 publications

Recombinant | RabMAb | KO Validated | 20ul selling size

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	EPR2761(2)
Purification technique	Affinity purification Protein A
Specificity	Some optimisation may be required for detection of the target protein due to low levels of endogenous expression in some samples. Please see images below for suitable positive controls.
Concentration	0.488 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	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	1/80 - 1/800

Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information S100A4

Function	Calcium-binding protein that plays a role in various cellular processes including motility, angiogenesis, cell differentiation, apoptosis, and autophagy (PubMed:16707441, PubMed:23752197, PubMed:30713770). Increases cell motility and invasiveness by interacting with non-muscle myosin heavy chain (NMMHC) IIA/MYH9 (PubMed:16707441). Mechanistically, promotes filament depolymerization and increases the amount of soluble myosin-IIA, resulting in the formation of stable protrusions facilitating chemotaxis (By similarity). Also modulates the pro-apoptotic function of TP53 by binding to its C-terminal transactivation domain within the nucleus and reducing its protein levels (PubMed:23752197). Within the extracellular space, stimulates cytokine production including granulocyte colony-stimulating factor and CCL24 from T-lymphocytes (By similarity). In addition, stimulates T-lymphocyte chemotaxis by acting as a chemoattractant complex with PGLYRP1 that promotes lymphocyte migration via CCR5 and CXCR3 receptors (PubMed:26654597, PubMed:30713770).

Storage

Shipped at conditions	Conditional Ambient
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	Stable for 12 months at -20°C

Notes

What is this antibody validated in?
Anti-S100A4 antibody [EPR2761(2)] (ab124805) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human samples.

What is the molecular weight of S100A4?

Anti-S100A4 [EPR2761(2)] (ab124805) specifically detects a band for S100A4 (UniProt: P26447) at a molecular weight of 12kDa.

Trusted by the scientific community
Anti-S100A4 [EPR2761(2)] (ab124805) was first used in a scientific publication in 2012 and has been cited over 50 times in peer-reviewed journals.

Reviewed by scientists
Anti-S100A4 [EPR2761(2)] (ab124805) has over 5 independent reviews from customers.

Specificity confirmed
The specificity of Anti-S100A4 antibody [EPR2761(2)] (ab124805) has been confirmed by Western blot testing in S100A4 Knockout A549 cell line, ab261865.

Other related products
We have a range of other formats of antibody clone [EPR2761(2)] also available for your convenience: ab124805, Alexa Fluor® 647 - ab196168, Alexa Fluor® 488 - ab196380, Carrier free - ab216003, Carrier free - ab281227, PE - ab305390, APC - ab305391, HRP - ab305392, Alkaline Phosphatase - ab309072, Alexa Fluor® 594 - ab310689, Alexa Fluor® 555 - ab312219, Alexa Fluor® 568 - ab312708, Alexa Fluor® 750 - ab320979

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

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

Activity summary	S100A4 also known as metastasin or MTS1 is a protein with a molecular weight of approximately 12 kDa. It functions by binding calcium which induces conformational changes aiding in its interaction with target proteins. S100A4 is part of the S100 family of proteins characterized by two EF-hand calcium-binding motifs. Expression of S100A4 is observed in various cell types including fibroblasts

	endothelial cells and several tumor cells where it contributes to processes like cell motility invasion and angiogenesis.
Biological function summary	The role of S100A4 extends beyond mere calcium binding; it associates with the cytoskeleton promoting cell structures related to movement and metastasis. It does not act alone but often partners with proteins like myosin IIA to regulate cytoskeletal dynamics. Additionally S100A4 modulates extracellular matrix components and interacts with signaling pathways that control cancer progression making it significant in both normal physiological contexts and pathological states.
Pathways	Functional activities of S100A4 integrate into important pathways involved in cellular movement and metastasis. S100A4 plays roles in the regulation of the Wnt/B-catenin pathway which is pivotal for cell-cell interaction and fate determination. It also interacts with matrix metalloproteinases like MMPs thereby managing processes of tissue invasion and remodeling essential in cancer metastasis. Other pathways influencing cell adhesion and signal transduction may indirectly involve S100A4 through related proteins.
Associated diseases and disorders	Elevated S100A4 levels have implications in cancer particularly in enhancing metastasis in breast and colorectal cancers. The protein promotes tumor developments by inducing changes in the tumor microenvironment making it a target of interest in oncology. S100A4 also interacts with proteins like p53 and B-catenin which are critical in the pathology of tumors. Moreover S100A4 contributes to fibrotic diseases accentuating tissue remodeling activities by modulating fibroblast behavior and extracellular matrix deposition.

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

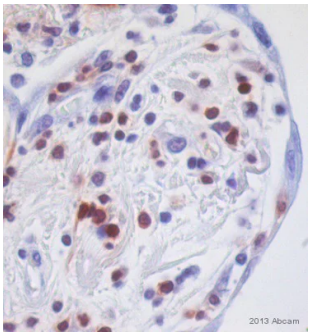
We do not recommend this combination. It is not covered by our product promise.

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.

13 product images

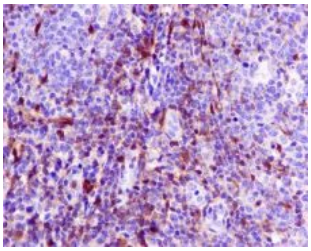


This image is courtesy of an anonymous customer review

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-S100A4 antibody [EPR2761(2)] (ab124805)

Immunohistochemical analysis of Human lung tissue, staining S100A4 with unpurified ab124805.

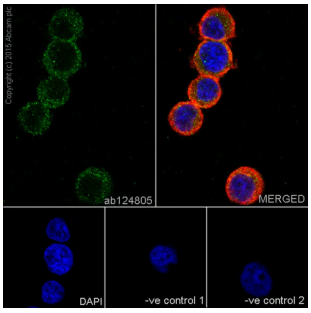
Tissue was fixed with HOPE and blocked with blocking solution for 5 minutes at 25°C. Samples were incubated with primary antibody (1/1000 in diluent) for 1 hour at 25°C. An undiluted HRP-conjugated goat anti-rabbit polyclonal IgG was used as the secondary antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-S100A4 antibody [EPR2761(2)] (ab124805)

S100A4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-S100A4 antibody

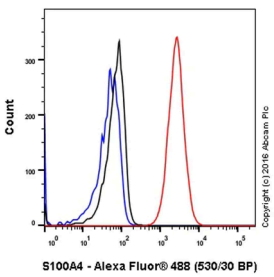
Unpurified ab124805, at 1/250 dilution, staining S100A4 in paraffin-embedded Human tonsil tissue by Immunohistochemistry.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-S100A4 antibody [EPR2761(2)] (ab124805)

S100A4 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-S100A4 antibody

ab124805 staining S100A4 in Jurkat (human acute T cell leukemia) cells by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with 4% Paraformaldehyde and permeabilized with 0.1% Triton X-100. Samples were incubated with primary antibody at a dilution of 1/250. A goat anti rabbit IgG (Alexa Fluor® 488) (ab150077) was used as the secondary antibody at 1/500. ab7291 and ab150120 were used as counterstains for primary antibody ab124805 and secondary antibody ab150077 respectively and DAPI was used as a nuclear counterstain.
Negative control 1: Rabbit primary antibody and anti-mouse secondary antibody (ab150120)
Negative control 2: Mouse primary antibody (ab7291) and anti-rabbit secondary antibody (ab150077)

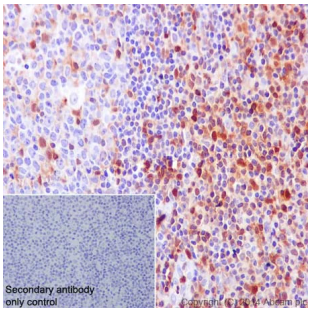


Flow Cytometry (Intracellular) - Anti-S100A4 antibody [EPR2761(2)] (ab124805)

S100A4 Flow Cytometry (Intracellular) staining using rabbit Anti-S100A4 antibody

ab124805 staining S100A4 in HeLa (human cervix adenocarcinoma) by intracellular flow cytometry. Cells were fixed with 80% methanoland permeabilised with 0.1% Triton X-100 (in PBS). The sample was incubated with the primary antibody at a dilution of 1/80. A goat anti rabbit IgG (Alexa Fluor® 488) at a dilution of 1/2000 was used as the secondary antibody.
Isoytype control: ab172730 rabbit monoclonal IgG (Black)

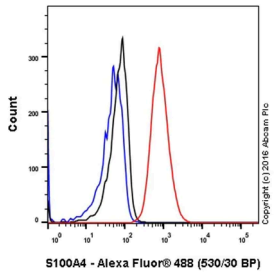
Unlabelled control: Cell without incubation with primary antibody and secondary antibody (Blue)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-S100A4 antibody [EPR2761(2)] (ab124805)

S100A4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-S100A4 antibody

ab124805 staining S100A4 in human tonsil tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with paraformaldehyde and antigen retrieval was by heat mediation in a EDTA buffer. Samples were incubated with primary antibody at a dilution of 1/500. A goat anti-rabbit IgG H&L (HRP) ab97051 was used as the secondary antibody at a dilution of 1/500.
Negative control 1: PBS in place of primary antibody.

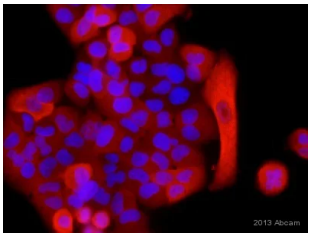


Flow Cytometry (Intracellular) - Anti-S100A4 antibody [EPR2761(2)] (ab124805)

S100A4 Flow Cytometry (Intracellular) staining using rabbit Anti-S100A4 antibody

ab124805 staining S100A4 in HeLa (human cervix adenocarcinoma) by intracellular flow cytometry. Cells were fixed with 80% methanoland permeabilised with 0.1% Triton X-100 (in PBS). The sample was incubated with the primary antibody at a dilution of 1/800. A goat anti rabbit IgG (Alexa Fluor® 488) at a dilution of 1/2000 was used as the secondary antibody.
Isoytype control: ab172730 rabbit monoclonal IgG (Black)

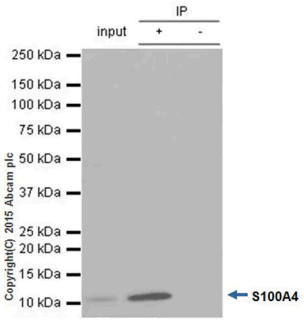
Unlabelled control: Cell without incubation with primary antibody and secondary antibody (Blue)



This image is courtesy of an anonymous customer review

Immunocytochemistry/ Immunofluorescence - Anti-S100A4 antibody [EPR2761(2)] (ab124805)

Unpurified ab124805 staining S100A4 in the A549 cell line from Human lungs by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with paraformaldehyde and permeabilized with Triton X-100 0.25% in PBS. Samples were incubated with primary antibody (1/100) for 45 minutes at 25°C. A TRITC-conjugated Goat anti-rabbit polyclonal was used as the secondary antibody.



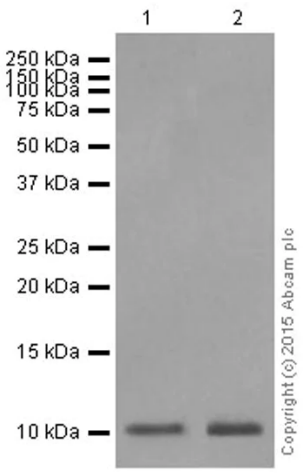
Immunoprecipitation - Anti-S100A4 antibody [EPR2761(2)] (ab124805)

ab124805 immunoprecipitating S100A4. 10µg of cell lysate was incubated with primary antibody at a dilution of 1/30 and Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at a dilution of 1/1500.
Lane 1: Human tonsil whole cell lysate (10ug)
Lane 2: Human tonsil whole cell lysate
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab124805 in human tonsil whole cell lysate

All lanes:
Immunoprecipitation - Anti-S100A4 antibody [EPR2761(2)] (ab124805)

Predicted band size: 12 kDa

Observed band size: 12 kDa



Western blot - Anti-S100A4 antibody [EPR2761(2)] (ab124805)

S100A4 Western blot staining using rabbit Anti-S100A4 antibody

Blocking Buffer: 5% NFDM /TBST
Diluting Buffer: 5% NFDM /TBST

All lanes:
Western blot - Anti-S100A4 antibody [EPR2761(2)] (ab124805) at 1/2500 dilution

Lane 1:
Human tonsil tissue lysate at 10 µg

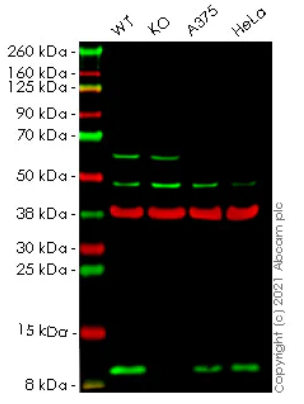
Lane 2:
A375 (human malignant melanoma) whole cell lysate at 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 12 kDa

Observed band size: 12 kDa



Western blot - Anti-S100A4 antibody [EPR2761(2)] (ab124805)

S100A4 Western blot staining using rabbit Anti-S100A4 antibody

Lanes 1 - 4: Merged signal (red and green). Green - ab124805 observed at 12 kDa. Red - loading control ab8245 (Mouse anti-GAPDH antibody [6C5]) observed at 37 kDa.
ab124805 was shown to react with S100A4 in wild-type A549 cells in Western blot with loss of signal observed in S100A4 knockout cell line ab261865 (knockout cell lysate ab261674). Wild-type A549 and S100A4 knockout cell lysates were subjected to SDS-PAGE. Membranes were blocked in 3 % milk in TBS-T (0.1 % Tween®) before incubation with ab124805 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-S100A4 antibody [EPR2761(2)] (ab124805) at 1/1000 dilution

Lane 1:
Wild-type A549 (Human lung carcinoma cell line) whole cell lysate at 20 µg

Lane 2:
S100A4 knockout A549 (Human lung carcinoma cell line) whole cell lysate at 20 µg

Lane 2:
Western blot - Human S100A4 knockout A549 cell line (ab261865)

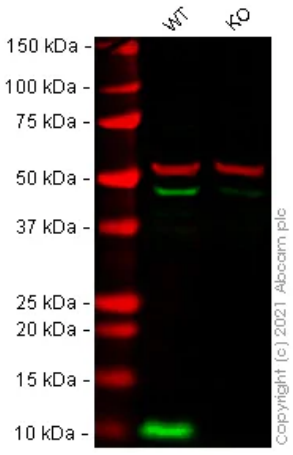
Lane 3:
A-375 (Human malignant melanoma cell line) whole cell lysate at 20 µg

Lane 4:
HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 12 kDa

Observed band size: 12 kDa



Western blot - Anti-S100A4 antibody [EPR2761(2)] (ab124805)

S100A4 Western blot staining using rabbit Anti-S100A4 antibody

Lanes 1 - 2: Merged signal (red and green). Green - ab124805 observed at 11 kDa. Red - loading control ab7291 (Mouse anti-Alpha Tubulin [DM1A]) observed at 55 kDa.
ab124805 was shown to react with S100A4 in wild-type HeLa cells in Western blot with loss of signal observed in S100A4 knockout cell line ab265709 (S100A4 knockout cell lysate ab257046). Wild-type HeLa and S100A4 knockout cell lysates were subjected to SDS-PAGE. Membranes were blocked in 3 % milk in TBS-T (0.1 % Tween®) before incubation with ab124805 and ab7291 (Mouse anti-Alpha Tubulin [DM1A]) 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-S100A4 antibody [EPR2761(2)] (ab124805) at 1/1000 dilution

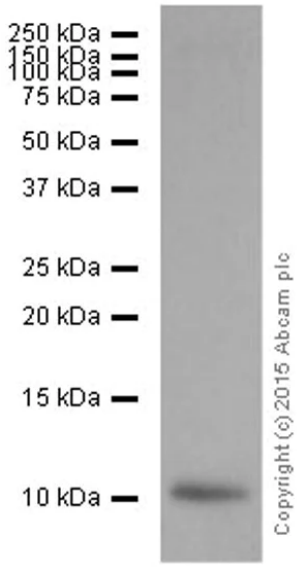
Lane 1:
Wild-type HeLa cell lysate at 20 µg

Lane 2:
Western blot - Human S100A4 knockout HeLa cell lysate (ab257046) at 20 µg

Performed under reducing conditions.

Predicted band size: 12 kDa

Observed band size: 11 kDa



Western blot - Anti-S100A4 antibody [EPR2761(2)] (ab124805)

Blocking buffer: 5% NFDM /TBST
Diluting Buffer: 5% NFDM /TBST

All lanes:
Western blot - Anti-S100A4 antibody [EPR2761(2)] (ab124805)

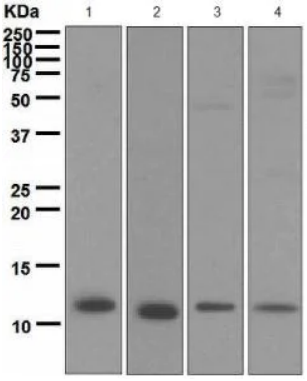
All lanes:
A549 (human lung carcinoma) whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 12 kDa

Observed band size: 12 kDa



Western blot - Anti-S100A4 antibody [EPR2761(2)] (ab124805)

All lanes:
Western blot - Anti-S100A4 antibody [EPR2761(2)] (ab124805) at 1/1000 dilution

Lane 1:
Human tonsil lysate at 10 µg

Lane 2:
A549 cell lysate at 10 µg

Lane 3:
A375 cell lysate at 10 µg

Lane 4:
Human small intestine lysate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 12 kDa

Observed band size: 12 kDa

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