abcam

ab273051

Anti-S100A12/CGRP antibody [EPR23677-111] - BSA and Azide free

Recombinant | RabMAb | Advanced Validation

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR23677-111
Purification technique	Affinity purification Protein A
Concentration	0.978 - 0.995 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	-

Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

mIHC

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information S100A12

Function	S100A12 is a calcium-, zinc- and copper-binding protein which plays a prominent role in the regulation of inflammatory processes and immune response. Its pro-inflammatory activity involves recruitment of leukocytes, promotion of cytokine and chemokine production, and regulation of leukocyte adhesion and migration. Acts as an alarmin or a danger associated molecular pattern (DAMP) molecule and stimulates innate immune cells via binding to receptor for advanced glycation endproducts (AGER). Binding to AGER activates the MAP-kinase and NF-kappa-B signaling pathways leading to production of pro-inflammatory cytokines and up-regulation of cell adhesion molecules ICAM1 and VCAM1. Acts as a monocyte and mast cell chemoattractant. Can stimulate mast cell degranulation and activation which generates chemokines, histamine and cytokines inducing further leukocyte recruitment to the sites of inflammation. Can inhibit the activity of matrix metalloproteinases; MMP2, MMP3 and MMP9 by chelating Zn(2+) from their active sites. Possesses filariacidal and filariastatic activity. Calcitermin possesses antifungal activity against C.albicans and is also active against E.coli and P.aeruginosa but not L.monocytogenes and S.aureus.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab273051 is the carrier-free version of ab272713.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	The S100A12 protein also known as Calgranulin C or CGRP (Calcitonin Gene-Related Peptide) has a molecular mass of approximately 10.4 kDa. This protein shows expression primarily in neutrophils but is also present in other types of cells such as epithelial cells and certain cell lines. S100A12 belongs to the S100 protein family which is part of the EF-hand calcium-binding proteins known for playing roles in cell regulation. The protein binds calcium ions which influence its structural conformation.
Biological function summary	S100A12 is important in the inflammatory response and immune system regulation. It acts as a pro-inflammatory mediator attracting leukocytes to sites of inflammation. Furthermore it can bind to receptors on cell surfaces like RAGE (Receptor for Advanced Glycation End Products) which induces signaling cascades that amplify immune responses. S100A12 does not function alone but often forms homodimers or heterodimers with other S100 proteins enhancing its biological activities.
Pathways	S100A12 participates in pathways like the inflammatory response pathway and the RAGE signaling pathway. By interacting with RAGE and possibly other receptors it impacts cellular responses associated with stress injury and microbial infection. This interaction connects S100A12 to other proteins in the same pathways such as NF-kB an important transcription factor involved in inflammation and immune responses.
Associated diseases and disorders	S100A12 has connections with conditions like rheumatoid arthritis and inflammatory bowel disease. Elevated levels of S100A12 often correlate with disease activity and severity suggesting its potential as a biomarker. In rheumatoid arthritis it contributes to the inflammatory environment while in inflammatory bowel disease it associates not only with inflammation but also with proteins like

IL-6 and TNF-alpha which are significant cytokines in the pathogenesis of these diseases.

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

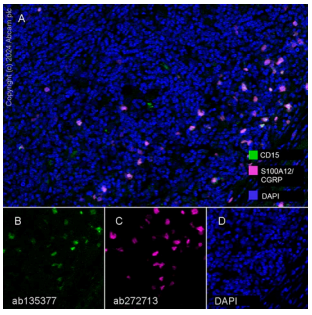
We do not recommend this combination. It is not covered by our product promise.

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



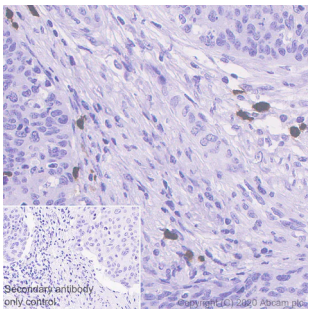
Multiplex immunohistochemistry - Anti-S100A12/CGRP antibody [EPR23677-111] - BSA and Azide free (ab273051)

This data was developed using ab272713, the same antibody clone in a different buffer formulation.
Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded human Hodgkin's lymphoma tissue staining CD15 with ab135377 at a 1/50 dilution and ab272713 anti-S100A12/CGRP used at 1/5000 dilution. Opal Polymer HRP Ms + Rb was used as a secondary, and DAPI was used for a nuclear counter stain. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

Panel A: merged staining of anti-CD15 (green; Opal™520) and anti-S100A12/CGRP (magenta; Opal™690) on human Hodgkin's lymphoma.
Panel B: anti-CD15 stained granulocytes and monocytes on human Hodgkin's lymphoma.
Panel C: anti-S100A12/CGRP stained neutrophils and monocytes on human Hodgkin's lymphoma.
Panel D: Nuclear DNA was labeled with DAPI (shown in blue).

The section was incubated in three rounds of staining: in the order of ab135377 and ab272713 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.



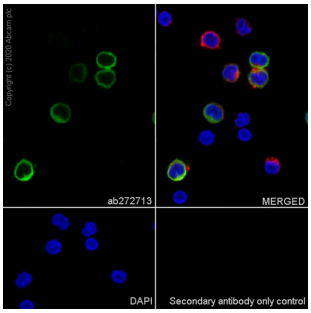
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-S100A12/CGRP antibody [EPR23677-111] - BSA and Azide free (ab273051)

S100A12/CGRP Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-S100A12/CGRP antibody

Immunohistochemical analysis of paraffin-embedded human cervical cancer tissue labeling S100A12/CGRP with ab272713 at 1/5000 dilution followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on granulocytes of human cervical cancer (PMID: 31993369). The section was incubated with ab272713 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab272713).

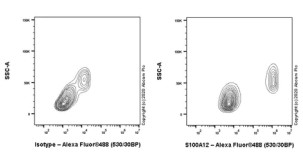


Immunocytochemistry/ Immunofluorescence - Anti-S100A12/CGRP antibody [EPR23677-111] - BSA and Azide free (ab273051)

S100A12/CGRP Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-S100A12/CGRP antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized human PBMC cells labelling S100A12/CGRP with ab272713 at 1/100 dilution, followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 2 µg/ml dilution (Green). Confocal image showing cytoplasmic staining in subsets of human PBMC cell line. ab195889 anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The nuclear counterstain was DAPI (Blue).
Secondary antibody only control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 2 µg/ml dilution.

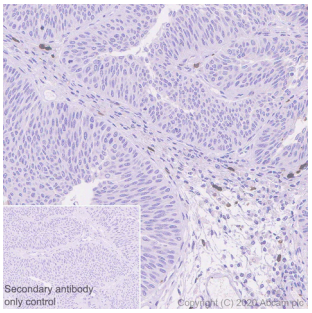
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab272713).



Flow Cytometry (Intracellular) - Anti-S100A12/CGRP antibody [EPR23677-111] - BSA and Azide free (ab273051)

S100A12/CGRP Flow Cytometry (Intracellular) staining using rabbit Anti-S100A12/CGRP antibody

Intracellular flow cytometric analysis of 2% paraformaldehyde-fixed, 0.1% Tween-20 permeabilized human peripheral blood mononuclear cell (PBMC) cells labeling S100A12/CGRP with ab272713 at 1/400 dilution (0.1µg) (Right panel), compared with a Rabbit monoclonal IgG (ab172730) isotype control (Left panel). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab272713).



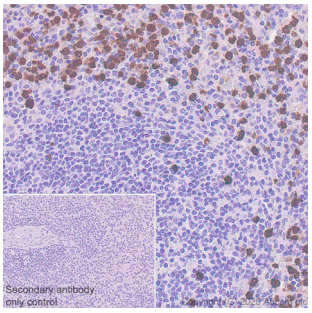
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-S100A12/CGRP antibody [EPR23677-111] - BSA and Azide free (ab273051)

S100A12/CGRP Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-S100A12/CGRP antibody

Immunohistochemical analysis of paraffin-embedded human bladder cancer tissue labeling S100A12/CGRP with ab272713 at 1/5000 dilution followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on granulocytes of human bladder cancer (PMID: 31993369). The section was incubated with ab272713 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab272713).



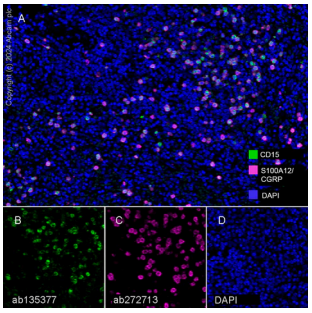
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-S100A12/CGRP antibody [EPR23677-111] - BSA and Azide free (ab273051)

S100A12/CGRP Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-S100A12/CGRP antibody

Immunohistochemical analysis of paraffin-embedded human spleen tissue labeling S100A12/CGRP with ab272713 at 1/5000 dilution followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on granulocytes of human spleen (PMID: 10464253). The section was incubated with ab272713 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab272713).



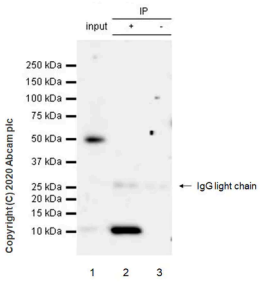
Multiplex immunohistochemistry - Anti-S100A12/CGRP antibody [EPR23677-111] - BSA and Azide free (ab273051)

This data was developed using ab272713, the same antibody clone in a different buffer formulation.
Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded human spleen tissue staining CD15 with ab135377 at a 1/50 dilution and ab272713 anti-S100A12/CGRP used at 1/5000 dilution. Opal Polymer HRP Ms + Rb was used as a secondary, and DAPI was used for a nuclear counter stain. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

Panel A: merged staining of anti-CD15 (green; Opal™520), anti-S100A12/CGRP (magenta; Opal™690) on human spleen.
Panel B: anti-CD15 stained granulocytes and monocytes on human spleen.
Panel C: anti-S100A12/CGRP stained neutrophils and monocytes on human spleen.
Panel D: Nuclear DNA was labeled with DAPI (shown in blue).

The section was incubated in three rounds of staining: in the order of ab135377 and ab272713 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.



Immunoprecipitation - Anti-S100A12/CGRP antibody [EPR23677-111] - BSA and Azide free (ab273051)

S100A12/CGRP was immunoprecipitated from 0.35 mg human lymph node tissue lysate 10 µg with ab272713 at 1/30 dilution (2µg in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab272713 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366) was used at 1/5000 dilution.
Lane 1: Human lymph node tissue lysate 10 µg.

Lane 2: ab272713 IP in Human lymph node tissue lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab272713 in human lymph node tissue lysate.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 50 seconds.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab272713).

All lanes:
Immunoprecipitation - Anti-S100A12/CGRP antibody [EPR23677-111] (ab272713)

Predicted band size: 10 kDa

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