abcam

ab249682

Anti-SA2 antibody [EPR10993] - BSA and Azide free

Recombinant | RabMAb | KO Validated

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	EPR10993
Purification technique	Affinity purification
Concentration	1.033 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information STAG2

Function Component of cohesin complex, a complex required for the cohesion of sister chromatids after DNA replication. The cohesin complex apparently forms a large proteinaceous ring within which sister chromatids can be trapped. At anaphase, the complex is cleaved and dissociates from chromatin, allowing sister chromatids to segregate. The cohesin complex may also play a role in spindle pole assembly during mitosis.

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

ab249682 is the carrier-free version of ab171970.

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 SA2 protein also known as stromal antigen 2 is a component of the cohesin complex playing a significant role in chromosomal dynamics. With an approximate molecular weight of 152 kDa SA2 exhibits high expression in the nucleus of proliferating cells particularly during interphase. This cohesin component contributes critically to maintaining sister chromatid cohesion and ensuring proper segregation during cell division serving as a functional partner in the cohesin complex with other components like SMC1 SMC3 and RAD21.
Biological function summary	SA2 plays an important role in regulating gene expression by forming loops that connect different genomic regions. SA2 as a member of the cohesin complex also participates in DNA repair by facilitating accurate recombination enhancing genome stability. This involvement is essential for maintaining chromatin structure which influences diverse cellular processes. Its expression can be an important modulator in the dynamic environment of cellular proliferation and differentiation.
Pathways	SA2 functions integrally within the cohesin-mediated sister chromatid cohesion pathway and the DNA damage response pathway. In these pathways SA2 teams with proteins such as CTCF in insulator function regulation and BRCA1 in DNA repair mechanisms. The cohesin-SA2 interaction with these proteins ensures proper chromosomal architecture and integrity which are essential for the accurate transmission of genetic material across generations of cells.
Associated diseases and disorders	SA2 mutations or dysregulations have been linked to Cornelia de Lange Syndrome (CdLS) and certain cancers. In CdLS SA2 mutations disrupt normal cohesin function affecting developmental processes. In cancer contexts abnormal SA2 function or expression can lead to improper DNA repair contributing to genomic instability

and tumorigenesis. It is often studied in concert with other cohesin proteins and regulatory elements like NIPBL which provides insights into cohesin-related pathologies and potential therapeutic targets.

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

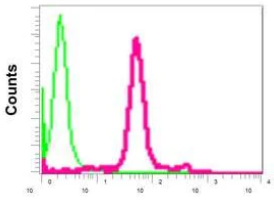
We do not recommend this combination. It is not covered by our product promise.

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.

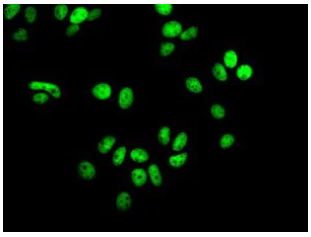
4 product images



Flow Cytometry (Intracellular) - Anti-SA2 antibody [EPR10993] - BSA and Azide free (ab249682)

SA2 Flow Cytometry (Intracellular) staining using rabbit Anti-SA2 antibody

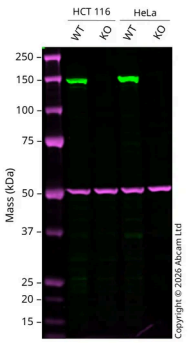
This data was developed using ab171970, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of permeabilized Jurkat cells, labeling SA2 using ab171970 at a 1/10 dilution (red) or a rabbit IgG as negative control (green).



Immunocytochemistry/ Immunofluorescence - Anti-SA2 antibody [EPR10993] - BSA and Azide free (ab249682)

SA2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SA2 antibody

This data was developed using ab171970, the same antibody clone in a different buffer formulation.
Immunofluorescence analysis of MCF7 cells, labeling SA2 using ab171970 at a 1/100 dilution.



Western blot - Anti-SA2 antibody [EPR10993] - BSA and Azide free (ab249682)

SA2 Western blot staining using rabbit Anti-SA2 antibody

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab171970).

Western blot: Anti-SA2 antibody [EPR10993] - N-terminal ab171970 staining at 1/1000 dilution, shown in green; Mouse anti alpha Tubulin ab7291 loading control staining at 1/20000 dilution, shown in magenta. A band was observed at 150 kDa in Wild-type HCT 116 cell lysates with no signal observed at this size in STAG2 knockout HCT 116 cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3% Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW and Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-SA2 antibody [EPR10993] - N-terminal (ab171970) at 1/1000 dilution

Lane 1:
Wild-type HCT 116 cell lysates at 20 µg

Lane 2:
Western blot - Human STAG2 knockout HCT116 cell line (ab287783) at 20 µg

Lane 3:
Wild-type HeLa cell lysates at 20 µg

Lane 4:
Western blot - Human STAG2 (SA2) knockout HeLa cell line (ab265461) at 20 µg

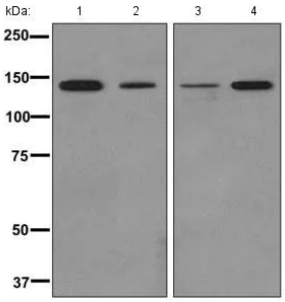
Secondary

All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 141 kDa

Observed band size: 150 kDa



Western blot - Anti-SA2 antibody [EPR10993] - BSA and Azide free (ab249682)

This data was developed using ab171970, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-SA2 antibody [EPR10993] - N-terminal (ab171970) at 1/1000 dilution

Lane 1:
Jurkat cell lysate at 10 µg

Lane 2:
K-562 cell lysate at 10 µg

Lane 3:
MCF7 cell lysate at 10 µg

Lane 4:
HeLa cell lysate at 10 µg

Secondary

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

Developed using the ECL technique.

Predicted band size: 141 kDa

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