abcam

ab250130

Anti-SMC4 antibody [EPR13366] - BSA and Azide free

Recombinant | RabMAb

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	EPR13366
Purification technique	Affinity purification

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information SMC4

Function Central component of the condensin complex, a complex required for conversion of interphase chromatin into mitotic-like condense chromosomes. The condensin complex probably introduces positive supercoils into relaxed DNA in the presence of type I topoisomerases and converts nicked DNA into positive knotted forms in the presence of type II topoisomerases.

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

ab250130 is the carrier-free version of ab179831.

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.

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

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	SMC4 also known as Structural Maintenance of Chromosomes protein 4 is a core component of the condensin complex. It weighs approximately 141 kDa and localizes to the nucleus of cells. SMC4 plays a mechanical role during mitosis where it ensures chromosomes condense correctly allowing for proper segregation. This protein's expression occurs widely across different tissue types reflecting its critical involvement in cell division and genomic integrity.
Biological function summary	SMC4 operates as a part of the condensin complex which consists of several proteins including SMC2. This complex is essential in chromosome architecture mediating the compression and cohesion of sister chromatids. This structural role stabilizes chromosomes to prevent damage during cell cycle phases. By maintaining chromosomal morphology SMC4 contributes to genetic stability across generations of cells.
Pathways	SMC4 functions prominently within the chromosome segregation and cell cycle pathways. Alongside its partner SMC2 it helps manage the chromosomal landscape during mitotic events. This positioning within pathways highlights interactions with other key proteins such as cohesin which also plays a role in chromosome cohesion. By ensuring proper chromosomal condensation SMC4 synchronizes with various checkpoints throughout the cell cycle.
Associated diseases and disorders	SMC4 has links to certain cancers including glioblastoma and colorectal cancer where abnormal expression or function can disrupt mitosis and promote genomic instability. In these contexts SMC4 often interacts with other cancer-related proteins such as p53 which plays roles in cell cycle regulation and apoptosis. The

misregulation of SMC4 can contribute to unchecked cell proliferation and tumor development making it a significant focus of cancer research.

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

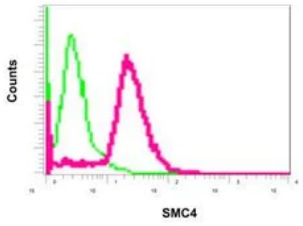
We do not recommend this combination. It is not covered by our product promise.

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.

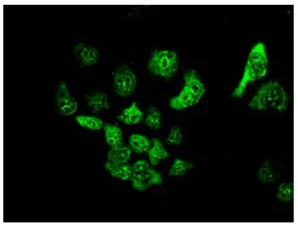
3 product images



Flow Cytometry (Intracellular) - Anti-SMC4 antibody [EPR13366] - BSA and Azide free (ab250130)

SMC4 Flow Cytometry (Intracellular) staining using rabbit Anti-SMC4 antibody

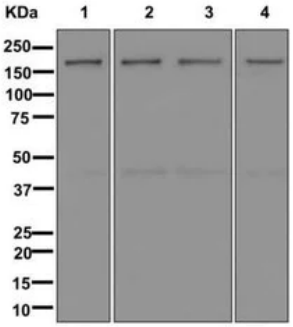
This data was developed using ab179831, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of permeabilized Raji cells using ab179831 at 1/10 (red) or a rabbit IgG negative (green).



Immunocytochemistry/ Immunofluorescence - Anti-SMC4 antibody [EPR13366] - BSA and Azide free (ab250130)

SMC4 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SMC4 antibody

This data was developed using ab179831, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of HeLa cells labeling SMC4 with ab179831 at 1/50 dilution.



Western blot - Anti-SMC4 antibody [EPR13366] - BSA and Azide free (ab250130)

This data was developed using ab179831, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-SMC4 antibody [EPR13366] - C-terminal (ab179831) at 1/1000 dilution

Lane 1:
Ramos cell lysate at 10 µg

Lane 2:
293T (Human embryonic kidney epithelial cell) cell lysate at 10 µg

Lane 3:
HeLa cell lysate at 10 µg

Lane 4:
Raji cell lysate at 10 µg

Secondary

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

Predicted band size: 147 kDa

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