abcam

ab250933

# Anti-Septin 2 antibody [EPR12122] - 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** | EPR12122 |
| **Purification technique** | Affinity purification Protein A |
| **Concentration** | 1.035 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## ICC/IF

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |

| | |
|---|---|
| **Notes** | - |

### Expected

| | |
|---|---|
| **Species** | Mouse, Rat |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## WB

### Tested

| | |
|---|---|
| **Species** | Mouse, Human, Rat |
| **Dilution info** | - |
| **Notes** | - |

## Flow Cyt (Intra)

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

### Expected

| | |
|---|---|
| **Species** | Mouse, Rat |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## IHC-P

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

**Expected**

| | |
|---|---|
| **Species** | Mouse, Rat |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## Target data

See full target information SEPTIN2

| | |
|---|---|
| **Function** | Filament-forming cytoskeletal GTPase. Forms a filamentous structure with SEPTIN12, SEPTIN6, SEPTIN2 and probably SEPTIN4 at the sperm annulus which is required for the structural integrity and motility of the sperm tail during postmeiotic differentiation (PubMed:25588830). Required for normal organization of the actin cytoskeleton. Plays a role in the biogenesis of polarized columnar-shaped epithelium by maintaining polyglutamylated microtubules, thus facilitating efficient vesicle transport, and by impeding MAP4 binding to tubulin. Required for the progression through mitosis. Forms a scaffold at the midplane of the mitotic splindle required to maintain CENPE localization at kinetochores and consequently chromosome congression. During anaphase, may be required for chromosome segregation and spindle elongation. Plays a role in ciliogenesis and collective cell movements. In cilia, required for the integrity of the diffusion barrier at the base of the primary cilium that prevents diffusion of transmembrane proteins between the cilia and plasma membranes: probably acts by regulating the assembly of the tectonic-like complex (also named B9 complex) by localizing TMEM231 protein. May play a role in the internalization of 2 intracellular microbial pathogens, Listeria monocytogenes and Shigella flexneri. |

## 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

ab250933 is the carrier-free version of ab187654.

**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** | Septin 2 also known as septin-2 or SEPT2 is a GTP-binding protein with a molecular mass of approximately 41 kDa. It functions mechanically as a major component of the cytoskeletal structure playing an essential role in cellular organization and division. Septin 2 is expressed across various human tissues and cell types indicative of its fundamental role in maintaining cellular integrity. It participates in organizing the actin cytoskeleton and is necessary for cytokinesis. |
| **Biological function summary** | Septin 2 integrates into a filamentous network interacting closely with other septins to form hetero-oligomeric complexes essential for cellular dynamics. The protein contributes to the formation of diffusion barriers within membranes facilitating compartmentalization in the cells. As a structural element it supports cellular morphogenesis polarity and vesicle trafficking. The collaborative action within septin complexes ensures effective cell cycle progression and signal transduction. |
| **Pathways** | Septin 2 plays a part in key cellular pathways including the cell cycle and apoptosis pathways. The interaction of Septin 2 with proteins like Cdc42 and Rac1 impacts signaling cascades pivotal for actin cytoskeleton organization. The septin complex is important for modulating these pathways as it influences cellular responses to environmental cues. Through these pathways Septin 2 contributes to critical processes such as mitotic spindle positioning and stability. |

| | |
|---|---|
| **Associated diseases and disorders** | Altered expression or function of Septin 2 is linked to cancer including gliomas where septin dysregulation affects tumor growth and metastasis. Additionally the protein has connections to neurodegenerative disorders such as Alzheimer's disease. Within these contexts proteins like Cdc42 and Rac1 further influence Septin 2's role modulating disease progression through pathways involved in cell migration and proliferation. Understanding Septin 2 in these disorders provides insight into potential therapeutic targets for intervention. |

## 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**

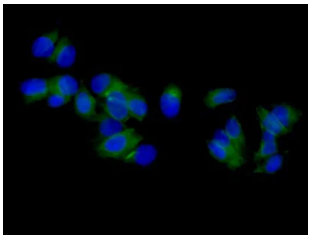
We do not recommend this combination. It is not covered by our product promise.

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.

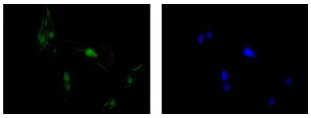
## 6 product images



### Immunocytochemistry/ Immunofluorescence - Anti-Septin 2 antibody [EPR12122] - BSA and Azide free (ab250933)

Septin 2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Septin 2 antibody

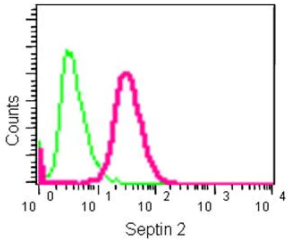
This data was developed using ab187654, the same antibody clone in a different buffer formulation.
Immunofluorescence analysis of MCF7 cells labeling Septin 2 using ab187654 at 1/100 dilution. A Goat anti rabbit IgG (Alexa Fluor488) at 1/200 dilution was used as secondary antibody. Cells were fixed with 4% paraformaldehyde. Counterstain: DAPI.



## Immunocytochemistry/ Immunofluorescence - Anti-Septin 2 antibody [EPR12122] - BSA and Azide free (ab250933)

Septin 2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Septin 2 antibody

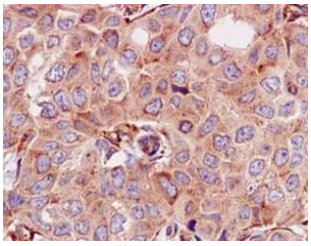
This data was developed using ab187654, the same antibody clone in a different buffer formulation.
Immunofluorescence analysis of, paraformaldehyde-fixed, MCF-7 cell line labeling Septin 2 with ab187654 at a 1/100 dilution. As secondary antibody goat anti-rabbit IgG (Alexa Fluor®488) was used at a 1/200 (left panel). In blue DAPI staining (right panel).




## Flow Cytometry (Intracellular) - Anti-Septin 2 antibody [EPR12122] - BSA and Azide free (ab250933)

Septin 2 Flow Cytometry (Intracellular) staining using rabbit Anti-Septin 2 antibody

This data was developed using ab187654, the same antibody clone in a different buffer formulation.
Intracellular Flow Cytometry analysis of paraformaldehyde-fixed Jurkat cells labeling Septin 2 with ab187654 at a 1/120 dilution and secondary antibody FITC goat anti-rabbit IgG (red) at a 1/150 dilution, or negative control rabbit IgG (green).

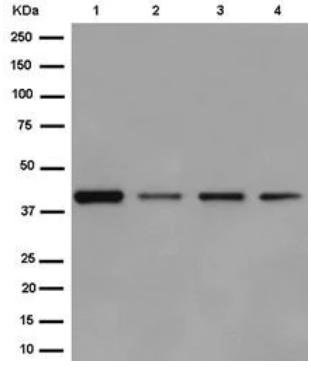


## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Septin 2 antibody [EPR12122] - BSA and Azide free (ab250933)

Septin 2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Septin 2 antibody

This data was developed using ab187654, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded, Human breast carcinoma tissue labeling Septin 2 with ab187654 at a 1/1000 dilution. Counter stained with hematoxylin.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.




## Western blot - Anti-Septin 2 antibody [EPR12122] - BSA and Azide free (ab250933)

Septin 2 Western blot staining using rabbit Anti-Septin 2 antibody

This data was developed using ab187654, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-Septin 2 antibody [EPR12122] (ab187654) at 1/10000 dilution

Lane 1:
Jurkat cell lysate at 20 µg

Lane 2:

MCF7 cell lysate at 20 µg

Lane 3:
U-87 MG cell lysate at 20 µg

Lane 4:
Human fetal brain lysate at 20 µg

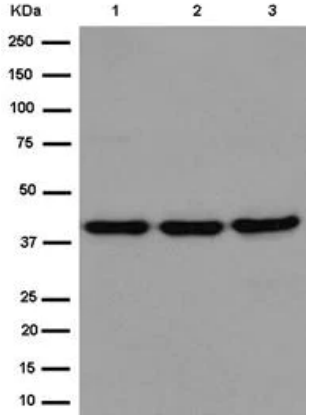
Secondary

All lanes:
goat anti-rabbit IgG, (H+L), peroxidase conjugated at 1/1000 dilution

Developed using the ECL technique.

Predicted band size: 41 kDa

Observed band size: 41 kDa




## Western blot - Anti-Septin 2 antibody [EPR12122] - BSA and Azide free (ab250933)

Septin 2 Western blot staining using rabbit Anti-Septin 2 antibody

This data was developed using ab187654, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-Septin 2 antibody [EPR12122] (ab187654) at 1/1000 dilution

Lane 1:
Raw 264.7 cell lysate at 10 µg

Lane 2:
PC-12 cell lysate at 10 µg

Lane 3:
NIH/3T3 cell lysate at 10 µg

Secondary

All lanes:
goat anti-rabbit IgG, (H+L), peroxidase conjugated at 1/1000 dilution

Developed using the ECL technique.

Predicted band size: 41 kDa

Observed band size: 41 kDa

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