abcam

ab248263

# Anti-Arp2 antibody [EPR7979] - 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** | EPR7979 |
| **Purification technique** | Affinity purification |
| **Dissociation constant** | $1.75 \times 10^{-11}$ M |

## Reactivity data

## 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** | - |

## ICC/IF

### 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 ACTR2

**Function**

ATP-binding component of the Arp2/3 complex, a multiprotein complex that mediates actin polymerization upon stimulation by nucleation-promoting factor (NPF) (PubMed:9000076). The Arp2/3 complex mediates the formation of branched actin networks in the cytoplasm, providing the force for cell motility (PubMed:9000076). Seems to contact the pointed end of the daughter actin filament (PubMed:9000076). In podocytes, required for the formation of lamellipodia downstream of AVIL and PLCE1 regulation (PubMed:29058690). In addition to its role in the cytoplasmic cytoskeleton, the Arp2/3 complex also promotes actin polymerization in the nucleus, thereby regulating gene transcription and repair of damaged DNA (PubMed:17220302, PubMed:29925947). The Arp2/3 complex promotes homologous recombination (HR) repair in response to DNA damage by promoting nuclear actin polymerization, leading to drive motility of double-strand breaks (DSBs) (PubMed:29925947).

## 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

ab248263 is the carrier-free version of ab129018.

**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** | Arp2 also known as actin-related protein 2 is a subunit of the Arp2/3 complex which plays an important role in nucleating actin filaments. This protein facilitates the formation of branched actin networks important for cellular functions. Arp2 has a mass of approximately 44 kDa and is widely expressed across different tissues especially in regions with significant actin cytoskeletal remodeling such as the cortex of cells. |
| **Biological function summary** | Arp2 acts as a central component within the Arp2/3 complex which regulates actin polymerization and branching. This complex consists of seven subunits and Arp2 in concert with Arp3 and additional regulatory proteins initiates new actin filament branches from pre-existing ones. As a result it is essential for cellular processes like cell movement phagocytosis and maintaining cell shape by controlling the spatial and temporal organization of actin filaments. |
| **Pathways** | The Arp2/3 complex is integral to the actin polymerization pathway and the pathway for cell motility. Arp2 influences the dynamics of filamentous actin interacting with proteins such as Wiskott-Aldrich syndrome protein (WASP) to promote branching. This process affects various cellular activities linked to actin forming connections with the Rho GTPase signaling network which regulates cytoskeletal dynamics and cellular signaling pathways. |
| **Associated diseases and disorders** | Disruptions in the function of the Arp2/3 complex have been associated with Wiskott-Aldrich syndrome and cancer metastasis. Wiskott-Aldrich syndrome linked with mutations in the WASP protein shows impaired actin branching capability due to insufficient Arp2/3 complex activity. Additionally aberrant regulation of actin polymerization in cancer cells leads to enhanced invasive properties implicating Arp2 as a potential factor in the pathology of metastatic progression. |

## 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.

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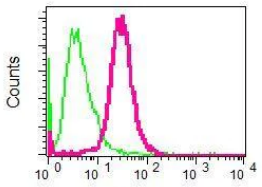
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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## 3 product images

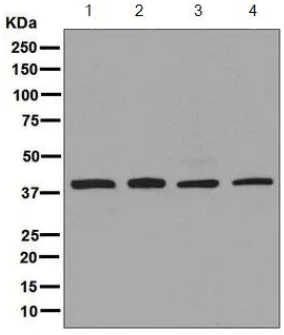



### Flow Cytometry (Intracellular) - Anti-Arp2 antibody [EPR7979] - BSA and Azide free (ab248263)

Arp2 Flow Cytometry (Intracellular) staining using rabbit Anti-Arp2 antibody

This data was developed using ab129018, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of permeabilized MCF-7 cells using ab129018 at 1/10 (red) or a rabbit IgG (negative) (green)

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### Western blot - Anti-Arp2 antibody [EPR7979] - BSA and Azide free (ab248263)

This data was developed using ab129018, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-Arp2 antibody [EPR7979] (ab129018) at 1/1000 dilution

Lane 1:
Jurkat cell lysate at 10 µg

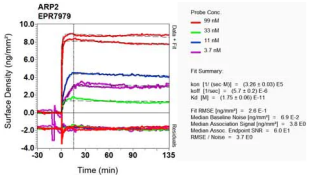
Lane 2:
HUVEC cell lysate at 10 µg

Lane 3:
MCF-7 cell lysate at 10 µg

Lane 4:
HeLa cell lysate at 10 µg

Predicted band size: 45 kDa

Observed band size: 37 kDa




## OI-RD Scanning - Anti-Arp2 antibody [EPR7979] - BSA and Azide free (ab248263)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.

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