

## p21-Arc

Cat.No. 303 011; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

### Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. Azide was added before lyophilization. For <b>reconstitution</b> add 100 µl H <sub>2</sub> O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C to -80°C until use. Antibodies should be stored at +4°C when still lyophilized. Do not freeze! For detailed information, see back of the data sheet.
Applications	<b>WB:</b> 1 : 100 up to 1 : 500 (AP staining) <b>IP:</b> not tested yet <b>ICC:</b> yes <b>IHC:</b> not tested yet <b>IHC_P:</b> not tested yet <b>ELISA:</b> yes
Clone	24A6
Subtype	IgG2b (κ light chain)
Immunogen	Recombinant protein corresponding to AA 1 to 178 from human p21-Arc (UniProt Id: O15145)
Epitop	Epitop: AA 109 to 120 from human p21-Arc (UniProt Id: O15145)
Reactivity	Reacts with: human (O15145), rat (Q4V7C7), mouse (Q9JM76), hamster. Other species not tested yet.

**TO BE USED IN VITRO / FOR RESEARCH ONLY**  
**NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS**

### Background

Actin polymerization is a necessary event for cell motility. Spontaneous actin oligomerization is slow at given monomeric actin concentrations in cells. The **Arp 2/3 complex** which is about 220 kDa in size has turned out to initiate the polymerization of new actin filaments. This complex consists of two actin like proteins Arp2 and Arp3 and five additional proteins: **p16-Arc** (ArpC5), **p20-Arc** (ArpC4), **p21-Arc** (ArpC3), **p34-Arc** (ArpC2) and p41-Arc (ArpC1). Expression of partial complexes revealed that a heterodimer of p20-Arc and p34-Arc constitutes the core of the complex whereas the remaining subunits are peripherally located.

### Selected References for 303 011

Antiparkinsonian trophic action of glial cell line-derived neurotrophic factor and transforming growth factor β1 is enhanced after co-infusion in rats.  
Gonzalez-Aparicio R, Flores JA, Fernandez-Espejo E  
Experimental neurology (2010) 226:1: 136-47. . **WB**

Aging-Associated Changes in Oxidative Stress Negatively Impacts the Urinary Bladder Urothelium.  
de Rijk MM, Wolf-Johnston A, Kullmann AF, Taiclet S, Kanai AJ, Shiva S, Birder LA  
International neurology journal (2022) 262: 111-118. . **WB; tested species: rat**

Effects of acute and repeated cocaine on markers for neural plasticity within the mesolimbic system in rats.  
Rodriguez-Espinosa N, Fernandez-Espejo E  
Psychopharmacology (2015) 232:1: 57-62. . **WB**

Molecular anatomy of a trafficking organelle.  
Takamori S, Holt M, Stenius K, Lemke EA, Grønborg M, Riedel D, Urlaub H, Schenck S, Brügger B, Ringler P, Müller SA, et al.  
Cell (2006) 127:4: 831-46. . **WB**

Filopodia formation in the absence of functional WAVE- and Arp2/3-complexes.  
Steffen A, Faix J, Resch GP, Linkner J, Wehland J, Small JV, Rottner K, Stradal TE  
Molecular biology of the cell (2006) 17: 2581-91. . **WB**

### Selected General References

Structural insights into actin-binding, branching and bundling proteins.  
Winder SJ  
Current opinion in cell biology (2003) 15:1: 14-22. .

Cellular motility driven by assembly and disassembly of actin filaments.  
Pollard TD, Borisy GG  
Cell (2003) 112:4: 453-65. .

Structure and function of the Arp2/3 complex.  
Pollard TD, Beltzner CC  
Current opinion in structural biology (2002) 12:6: 768-74. .

Reconstitution of human Arp2/3 complex reveals critical roles of individual subunits in complex structure and activity.  
Gournier H, Goley ED, Niederstrasser H, Trinh T, Welch MD  
Molecular cell (2001) 8:5: 1041-52. .

Access the online factsheet including applicable protocols at <https://sysy.com/product/303011> or scan the QR-code.



## FAQ - How should I store my antibody?

### Shipping Conditions

- All our antibodies and control proteins / peptides are shipped lyophilized (vacuum freeze-dried) and are stable in this form without loss of quality at ambient temperatures for several weeks.

### Storage of Sealed Vials after Delivery

- **Unlabeled** and **biotin-labeled antibodies** and **control proteins** should be stored at 4°C before reconstitution. **They must not be stored in the freezer when still lyophilized!** Temperatures below zero may cause loss of performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long term storage (several months) may lead to aggregation.
- **Control peptides** should be kept at -20°C before reconstitution.

### Long Term Storage after Reconstitution (General Considerations)

- The storage freezer must not be of the frost-free variety ("no-frost freezer"). This cycle between freezing and thawing (to reduce frost-build-up), which is exactly what should be avoided. For the same reason, antibody vials should be placed in an area of the freezer that has minimal temperature fluctuations, for instance towards the back rather than on a door shelf.
- Aliquot the antibody and store frozen (-20°C to -80°C). Avoid very small aliquots (below 20 µl) and use the smallest storage vial or tube possible. The smaller the aliquot, the more the stock concentration is affected by evaporation and adsorption of the antibody to the surface of the storage vial or tube. Adsorption of the antibody to the surface leads to a substantial loss of activity.
- The addition of glycerol to a final concentration of 50% lowers the freezing point of your stock and keeps your antibody at -20°C in liquid state. This efficiently avoids freeze and thaw cycles.

### Product Specific Hints for Storage

#### Control proteins / peptides

- Store at -20°C to -80°C.

#### Monoclonal Antibodies

- **Ascites** and **hybridoma supernatant** should be stored at -20°C up to -80°C. **Prolonged storage at 4°C is not recommended!** Unlike serum, ascites may contain proteases that will degrade the antibodies.
- **Purified IgG** should be stored at -20°C up to -80°C. Adding a carrier protein like BSA will increase long term stability. Many of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

#### Polyclonal Antibodies

- **Crude antisera:** With anti-microbials added, they may be stored at 4°C. However, frozen storage (-20°C up to -80°C) is preferable.
- **Affinity purified antibodies:** Less robust than antisera. Storage at -20°C up to -80°C is recommended. Adding a carrier protein like BSA will increase long term stability. Most of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

#### Fluorescence-labeled Antibodies

- Store as a liquid with 1 : 1 (v/v) glycerol at -20°C. Protect these antibodies from light exposure.

## Avoid repeated freeze-thaw cycles for all antibodies!

## FAQ - How should I reconstitute my antibody?

### Reconstitution

- All our purified antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the amount of deionized water given in the respective datasheet. If higher volumes are preferred, add water as mentioned above and then the desired amount of PBS and a stabilizing carrier protein (e.g. BSA) to a final concentration of 2%. Some of our antibodies already contain albumin. Take this into account when adding more carrier protein. For complete reconstitution, carefully remove the lid. After adding water, briefly vortex the solution. You can spin down the liquid by placing the vial into a 50 ml centrifugation tube filled with paper.
- If desired, add small amounts of azide or thimerosal to prevent microbial growth. This is especially recommended if you want to keep an aliquot at 4°C.
- After reconstitution of fluorescence-labeled antibodies, add 1 : 1 (v/v) glycerol to a final concentration of 50%. This lowers the freezing point of your stock and keeps your antibody in liquid state at -20°C.
- Glycerol may also be added to unlabeled primary antibodies. It is a suitable way to avoid freeze-thaw cycles.
- Please refer to our **tips and hints for subsequent storage** of reconstituted antibodies and control peptides and proteins.