

Anti-Arc / Arg3.1 Antibody [PSH10-67] - BSA and Azide free

HA751369



Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Mouse, Rat, Cynomolgus monkey, Pig
Applications:	WB, IHC-P, IHC-Fr
Molecular Wt:	Predicted band size: 45 kDa
Clone number:	PSH10-67

Description: Activity-regulated cytoskeleton-associated protein is a plasticity protein that in humans is encoded by the ARC gene. The gene is believed to derive from a retrotransposon. The protein is found in the neurons of tetrapods and other animals where it can form virus-like capsids that transport RNA between neurons. ARC mRNA is localized to activated synaptic sites in an NMDA receptor-dependent manner, where the newly translated protein is believed to play a critical role in learning and memory-related molecular processes. Arc protein is widely considered to be important in neurobiology because of its activity regulation, localization, and utility as a marker for plastic changes in the brain. Dysfunction in the production of Arc protein has been implicated as an important factor in understanding various neurological conditions, including amnesia, Alzheimer's disease, Autism spectrum disorders, and Fragile X syndrome.

Immunogen: Recombinant protein within Mouse Arc aa 1-396.

Positive control: Mouse brain tissue, rat brain tissue, Mouse brain tissue lysate, Rat brain tissue lysate.

Subcellular location: Extracellular vesicle membrane.

Database links: SwissProt: Q9WW31 Mouse | Q63053 Rat

Recommended Dilutions:

WB	1:2,000
IHC-P	1:200
IHC-Fr	1:500

Storage Buffer: 1*PBS (pH7.4).

Storage Instruction: Store at +4°C after thawing. Aliquot store at -20°C. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

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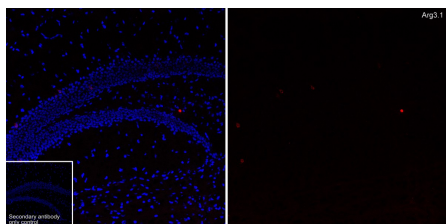
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Images

**Fig1:** Application: IHC-Fr

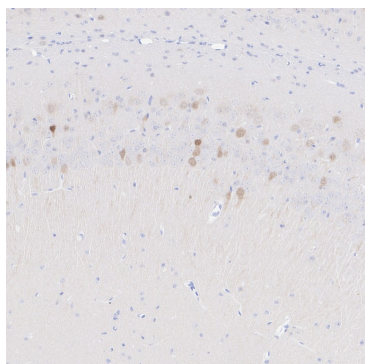
Species: Mouse

Site: Hippocampus

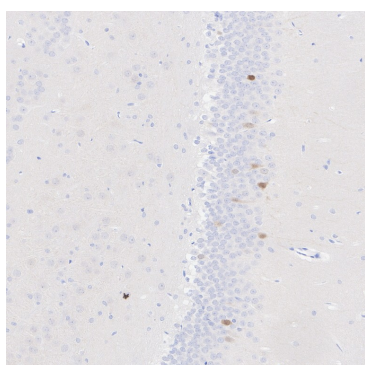
Sample: Frozen section

Antibody concentration: 1/500

Antigen retrieval: The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for about 2 minutes in microwave oven.

**Fig2:** Immunohistochemical analysis of paraffin-embedded mouse brain tissue with Rabbit anti-Arc / Arg3.1 antibody (HA751369) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA751369) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

**Fig3:** Immunohistochemical analysis of paraffin-embedded rat brain tissue with Rabbit anti-Arc / Arg3.1 antibody (HA751369) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA751369) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

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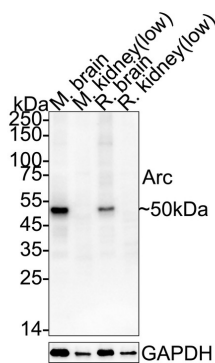
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Fig4: Western blot analysis of Arc / Arg3.1 on different lysates with Rabbit anti-Arc / Arg3.1 antibody (HA751369) at 1/2,000 dilution.

Lane 1: Mouse brain tissue lysate
 Lane 2: Mouse kidney tissue lysate (low expression)
 Lane 3: Rat brain tissue lysate
 Lane 4: Rat kidney tissue lysate (low expression)



Lysates/proteins at 20 µg/Lane.

Predicted band size: 45 kDa

Observed band size: 50 kDa

Exposure time: 1 minute; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA751369) at 1/2,000 dilution was used in primary antibody dilution at 4°C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Zhang H et al. Arc/Arg3.1 function in long-term synaptic plasticity: Emerging mechanisms and unresolved issues. *Eur J Neurosci.* 2021 Oct
2. Hedde PN et al. Membrane Remodeling by Arc/Arg3.1. *Front Mol Biosci.* 2021 Mar

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