

Arg3.1 Polyclonal Antibody

Catalog Number PA1-18301

Product data sheet

Details	
Size	100 µL
Host/Isotope	Rabbit / IgG
Class	Polyclonal
Type	Antibody
Immunogen	Synthetic peptide corresponding to the C-terminal residues of human Arg3.1.
Conjugate	Unconjugated
Form	Lyophilized
Concentration	Conc. Not Determined
Storage buffer	whole serum
Contains	no preservative
Storage Conditions	-20° C, Avoid Freeze/Thaw Cycles

Species Reactivity	
Species reactivity	Human, Mouse, Rat
Tested Applications	
Immunohistochemistry (Frozen) (IHC (F))	Dilution * 1:50-1:1,000

* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

Product specific information

PA1-18301 detects Arg3.1 from mouse and rat samples. PA1-18301 has been successfully used in immunohistochemistry procedures. The PA1-18301 immunogen is a synthetic peptide corresponding to the C-terminal residues of human Arg3.1, conjugated to Blue Carrier Protein. The sequence is 100% conserved in mouse and rat. After reconstitution keep aliquots at -20°C, avoiding freeze/thaw cycles, or 4°C, with an appropriate antibacterial agent. Glycerol (1:1) may be added for an additional stability. Reconstitute with 100 µL of distilled water.

Background/Target Information

Master regulator of synaptic plasticity that self-assembles into virion-like capsids that encapsulate RNAs and mediate intercellular RNA transfer in the nervous system. ARC protein is released from neurons in extracellular vesicles that mediate the transfer of ARC mRNA into new target cells, where ARC mRNA can undergo activity-dependent translation. ARC capsids are endocytosed and are able to transfer ARC mRNA into the cytoplasm of neurons. Acts as a key regulator of synaptic plasticity: required for protein synthesis-dependent forms of long-term potentiation (LTP) and depression (LTD) and for the formation of long-term memory. Regulates synaptic plasticity by promoting endocytosis of AMPA receptors (AMPA) in response to synaptic activity: this endocytic pathway maintains levels of surface AMPARs in response to chronic changes in neuronal activity through synaptic scaling, thereby contributing to neuronal homeostasis. Acts as a postsynaptic mediator of activity-dependent synapse elimination in the developing cerebellum by mediating elimination of surplus climbing fiber synapses. Accumulates at weaker synapses, probably to prevent their undesired enhancement. This suggests that ARC-containing virion-like capsids may be required to eliminate synaptic material. Required to transduce experience into long-lasting changes in visual cortex plasticity and for long-term memory. Involved in postsynaptic trafficking and processing of amyloid-beta A4 (APP) via interaction with PSEN1. In addition to its role in synapses, also involved in the regulation of the immune system: specifically expressed in skin-migratory dendritic cells and regulates fast dendritic cell migration, thereby regulating T-cell activation.

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