**BACKGROUND**

Growth factor stimulation has been shown to induce the expression of immediate early genes in non-neuronal cells, which encode a variety of molecules that are potentially involved in long-term cellular responses. Similar responses induced by neurotransmitter stimulation have also been seen in neuronal cells and evidence suggests that protein synthesis is required for long-term synaptic plasticity. Arc (for activity-regulated cytoskeleton-associated protein) is a growth factor and immediate early gene that is enriched in brain. Arc mRNA and protein levels are induced by neuronal activity, which is necessary to stimulate neuroplasticity, indicating a potential role for Arc in activity-dependent changes in dendrite function. Arc expression has been detected in neuronal cell bodies and dendrites in the hippocampus, amygdala, hypothalamus, striatum and cortex. Arc has been shown to localize to the cytoskeleton of neuronal cells and appears to co-localize with F-actin, although it may associate with an actin-associated protein rather than directly with F-actin. It has been shown that cocaine-stimulated neuronal activity results in increased Arc mRNA levels in striatum.

**CHROMOSOMAL LOCATION**

Genetic locus: ARC (human) mapping to 8q24.3; Arc (mouse) mapping to 15 D3.

**SOURCE**

Arc (C-7) is a mouse monoclonal antibody raised against amino acids 1-300 of Arc (activity regulated cytoskeleton associated protein) of human origin.

**PRODUCT**

Each vial contains 200 µg IgG2a in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Arc (C-7) is conjugated to agarose (sc-17839 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-17839 HRP), 200 µg/ml, for WB, IHC(P) and FCM.

Arc (C-7) is recommended for detection of Arc of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:5000), immunoprecipitation (1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:5000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Arc siRNA (h): sc-29721, Arc siRNA (m): sc-29724, Arc shRNA Plasmid (h): sc-29721-SH, Arc shRNA Plasmid (m): sc-29724-SH, Arc shRNA (h) Lentiviral Particles: sc-29721-V and Arc shRNA (m) Lentiviral Particles: sc-29724-V.

Molecular Weight of Arc: 55 kDa.

Positive Controls: Arc (h2): 293T Lysate: sc-170557, U-87 MG cell lysate: sc-2411 or SH-SY5Y whole cell lysate and mouse brain tissue extract (C).

**APPLICATIONS**

Arc (C-7): sc-17839 is a growth factor and immediate early gene that is enriched in brain. Arc (C-7) is recommended for detection of Arc of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:500), immunoprecipitation (1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:5000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Arc siRNA (h): sc-29721, Arc siRNA (m): sc-29724, Arc shRNA Plasmid (h): sc-29721-SH, Arc shRNA Plasmid (m): sc-29724-SH, Arc shRNA (h) Lentiviral Particles: sc-29721-V and Arc shRNA (m) Lentiviral Particles: sc-29724-V.

Molecular Weight of Arc: 55 kDa.

Positive Controls: Arc (h2): 293T Lysate: sc-170557, U-87 MG cell lysate: sc-2411 or SH-SY5Y cell lysate: sc-3812.

**STORAGE**

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**DATA**

![Western blot analysis of Arc expression in U-87 MG (A) and SH-SY5Y (B) whole cell lysates and mouse brain tissue extract (C).](image1)

![Western blot analysis of Arc expression in non-transfected: sc-117752 (A) and human Arc transfected: sc-170557 (B) 293T whole cell lysates.](image2)

**SELECT PRODUCT CitATIONS**


**RESEARCH USE**

For research use only, not for use in diagnostic procedures.