

ARC (A-2): sc-390949

BACKGROUND

ARC (apoptosis repressor with CARD domain), also designated nucleolar protein 3 (NOL3, NOP, NOP30) is a caspase-inhibiting protein that requires phosphorylation in order to prevent apoptosis. 5.5- and 1.0-kb ARC human transcripts are present in skeletal muscle and heart. Expression of the 1.0-kb transcript inhibits apoptosis in a dose-dependent manner when coexpressed with caspase-8. ARC interacts with caspase-2 and caspase-8 through its N-terminal death effector domain and is able to bind to caspase-8 in the mitochondria. ARC inhibits apoptosis induced by stimulation of CD95/FAS, tumor necrosis factor receptor-1 and TRAMP/death receptor-3. It is phosphorylated at threonine 149 by CK2, and this phosphorylation targets ARC to mitochondria.

REFERENCES

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3. Li, P.F., Li, J., Müller, E.C., Otto, A., Dietz, R. and von Harsdorf, R. 2002. Phosphorylation by protein kinase CK2: a signaling switch for the caspase-inhibiting protein ARC. *Mol. Cell* 10: 247-258.
4. Ekhterae, D., Platoshyn, O., Zhang, S., Remillard, C.V. and Yuan, J.X. 2003. Apoptosis repressor with caspase domain inhibits cardiomyocyte apoptosis by reducing K⁺ currents. *Am. J. Physiol., Cell Physiol.* 284: C1405-C1410.
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CHROMOSOMAL LOCATION

Genetic locus: NOL3 (human) mapping to 16q22.1; Nol3 (mouse) mapping to 8 D3.

SOURCE

ARC (A-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 79-112 within an internal region of ARC of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390949 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

ARC (A-2) is recommended for detection of ARC of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) 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-29722, ARC siRNA (m): sc-29723, ARC shRNA Plasmid (h): sc-29722-SH, ARC shRNA Plasmid (m): sc-29723-SH, ARC shRNA (h) Lentiviral Particles: sc-29722-V and ARC shRNA (m) Lentiviral Particles: sc-29723-V.

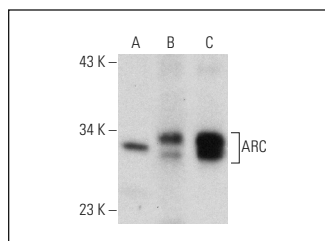
Molecular Weight of ARC: 30 kDa.

Positive Controls: C6 whole cell lysate: sc-364373, U-937 cell lysate: sc-2239 or HeLa whole cell lysate: sc-2200.

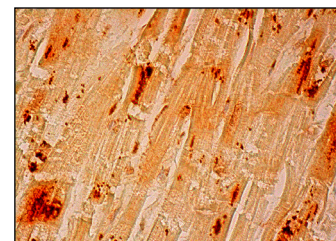
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



ARC (A-2): sc-390949. Western blot analysis of ARC expression in HeLa (A), C6 (B) and H19-7/IGF-IR (C) whole cell lysates.



ARC (A-2): sc-390949. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic and nuclear staining of myocytes.

SELECT PRODUCT CITATIONS

1. Xie, F., Mei, Z.S., Wang, X., Zhang, T., Zhao, Y., Wang, S.D. and Qian, L.J. 2020. Loss of nuclear ARC contributes to the development of cardiac hypertrophy in rats. *Acta Physiol.* 228: e13337.

RESEARCH USE

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