

# ARC (G-4): sc-398121

## 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

1. Koseki, T., et al. 1998. ARC, an inhibitor of apoptosis expressed in skeletal muscle and heart that interacts selectively with caspases. *Proc. Natl. Acad. Sci. USA* 95: 5156-5160.
2. Stoss, O., et al. 1999. Alternative splicing determines the intracellular localization of the novel nuclear protein Nop30 and its interaction with the splicing factor SRp30c. *J. Biol. Chem.* 274: 10951-10962.
3. Li, P.F., et al. 2002. Phosphorylation by protein kinase CK2: a signaling switch for the caspase-inhibiting protein ARC. *Mol. Cell* 10: 247-258.
4. Ekhterae, D., et al. 2003. Apoptosis repressor with caspase domain inhibits cardiomyocyte apoptosis by reducing K<sup>+</sup> currents. *Am. J. Physiol., Cell Physiol.* 284: C1405-C1410.
5. Jo, D.G., et al. 2004. Calcium binding of ARC mediates regulation of caspase 8 and cell death. *Mol. Cell. Biol.* 24: 9763-9770.

## CHROMOSOMAL LOCATION

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

## SOURCE

ARC (G-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 101-134 within an internal region of ARC of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> 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-398121 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.

## RESEARCH USE

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

## APPLICATIONS

ARC (G-4) 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) 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.

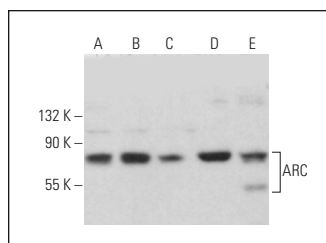
Molecular Weight of ARC: 30 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, ARC (h2): 293T Lysate: sc-159884 or Raji whole cell lysate: sc-364236.

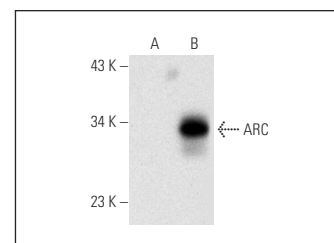
## RECOMMENDED SUPPORT REAGENTS

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.

## DATA



ARC (G-4): sc-398121. Western blot analysis of ARC expression in Raji (A), BJAB (B), RAW 264.7 (C), WEHI-231 (D) and MM-142 (E) whole cell lysates.



ARC (G-4): sc-398121. Western blot analysis of ARC expression in non-transfected: sc-117752 (A) and human ARC transfected: sc-159884 (B) 293T whole cell lysates.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.