

ARALAR (H-67): sc-98815

BACKGROUND

Calcium signaling in mitochondria is important in order for it to function in response to a variety of extracellular stimuli. Signaling begins with Ca^{2+} entry in mitochondria via the Ca^{2+} uniporter followed by Ca^{2+} activation of three dehydrogenases in the mitochondrial matrix. ARALAR, the neuronal Ca^{2+} -binding mitochondrial aspartate-glutamate carrier, has Ca^{2+} binding domains facing the extramitochondrial space and functions in the malate-aspartate NADH shuttle (MAS). ARALAR is encoded by the SLC25a12 gene and is expressed in brain and skeletal muscle. ARALAR is required for the synthesis of brain aspartate and N-acetylaspartate and plays a role in myelin formation. It is also essential for the transmission of small Ca^{2+} signals to mitochondria via an increase in mitochondrial NADH. In addition, ARALAR is implicated in conferring susceptibility to schizophrenia.

REFERENCES

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2. Pardo, B., et al. 2006. Essential role of ARALAR in the transduction of small Ca^{2+} signals to neuronal mitochondria. *J. Biol. Chem.* 281: 1039-1047.
3. Contreras, L., et al. 2007. Ca^{2+} Activation kinetics of the two aspartate-glutamate mitochondrial carriers, ARALAR and citrin: role in the heart malate-aspartate NADH shuttle. *J. Biol. Chem.* 282: 7098-7106.
4. Satrústegui, J., et al. 2007. Role of ARALAR, the mitochondrial transporter of aspartate-glutamate, in brain N-acetylaspartate formation and Ca^{2+} signaling in neuronal mitochondria. *J. Neurosci. Res.* 85: 3359-3366.
5. Satrústegui, J., et al. 2007. Mitochondrial transporters as novel targets for intracellular calcium signaling. *Physiol. Rev.* 87: 29-67.
6. Hong, C.J., et al. 2007. Association study of polymorphisms in the mitochondrial aspartate/glutamate carrier SLC25A12 (ARALAR) gene with schizophrenia. *Prog. Neuropsychopharmacol. Biol. Psychiatry* 31: 1510-1513.

CHROMOSOMAL LOCATION

Genetic locus: SLC25A12 (human) mapping to 2q31.1; Slc25a12 (mouse) mapping to 2 C2.

SOURCE

ARALAR (H-67) is a rabbit polyclonal antibody raised against amino acids 1-67 mapping at the N-terminus of ARALAR1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

ARALAR (H-67) is recommended for detection of ARALAR1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

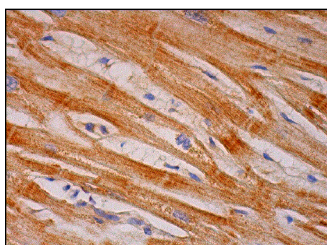
ARALAR (H-67) is also recommended for detection of ARALAR1 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for ARALAR siRNA (h): sc-94426, ARALAR siRNA (m): sc-141183, ARALAR shRNA Plasmid (h): sc-94426-SH, ARALAR shRNA Plasmid (m): sc-141183-SH, ARALAR shRNA (h) Lentiviral Particles: sc-94426-V and ARALAR shRNA (m) Lentiviral Particles: sc-141183-V.

Molecular Weight of ARALAR: 70 kDa.

Positive Controls: Ramos cell lysate: sc-2216, SW-13 cell lysate: sc-24778 or Jurkat whole cell lysate: sc-2204.

DATA



ARALAR (H-67): sc-98815. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **ARALAR (B-2): sc-271056** or **ARALAR (8): sc-135840**, our highly recommended monoclonal alternatives to ARALAR (H-67).