

# ArgRS (F-16): sc-70018

## BACKGROUND

The fidelity of protein synthesis requires efficient discrimination of amino acid substrates by aminoacyl-tRNA synthetases. ArgRS (arginyl-tRNA synthetase), also known as RARS or DALRD1, belongs to the class-I aminoacyl-tRNA synthetase family that includes the related proteins LeuRS, ValRS and IleRS. These proteins are large monomeric proteins and play a major role in catalyzing the aminoacylation of tRNA by their cognate amino acid. ArgRS localizes to the cytoplasm and exists as a monomer but can also associate with other tRNA synthetases and auxiliary proteins to form a multisubunit complex. In the presence of ATP, arginine (Arg) and tRNA, ArgRS joins Arg to tRNA(Arg) at its synthetic active site. 2 cytoplasmic forms of ArgRS have been described in mammals, differing by the addition of a 73 amino acid sequence that is required for ArgRS assembly into the multisubunit complex.

## REFERENCES

1. Lazard, M. and Mirande, M. 1993. Cloning and analysis of a cDNA encoding mammalian arginyl-tRNA synthetase, a component of the multi-synthetase complex with a hydrophobic N-terminal extension. *Gene* 132: 237-245.
2. Girjes, A.A., et al. 1995. Cloning and characterization of cDNA encoding a human arginyl-tRNA synthetase. *Gene* 164: 347-350.
3. Quevillon, S., et al. 1999. Macromolecular assemblage of aminoacyl-tRNA synthetases: identification of protein-protein interactions and characterization of a core protein. *J. Mol. Biol.* 285: 183-195.
4. Robinson, J.C., et al. 2000. Macromolecular assemblage of aminoacyl-tRNA synthetases: quantitative analysis of protein-protein interactions and mechanism of complex assembly. *J. Mol. Biol.* 304: 983-994.
5. Li, J., et al. 2003. Arginyl-tRNA synthetase with signature sequence KMSK from *Bacillus stearotherophilus*. *Biochem. J.* 376: 773-779.

## CHROMOSOMAL LOCATION

Genetic locus: RARS (human) mapping to 5q34; Rars (mouse) mapping to 11 A4.

## SOURCE

ArgRS (F-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ArgRS of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-70018 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-70018 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

ArgRS (F-16) is recommended for detection of ArgRS of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

ArgRS (F-16) is also recommended for detection of ArgRS in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for ArgRS siRNA (h): sc-72532, ArgRS siRNA (m): sc-72533, ArgRS shRNA Plasmid (h): sc-72532-SH, ArgRS shRNA Plasmid (m): sc-72533-SH, ArgRS shRNA (h) Lentiviral Particles: sc-72532-V and ArgRS shRNA (m) Lentiviral Particles: sc-72533-V.

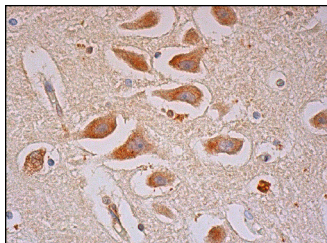
ArgRS (F-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of ArgRS free form: 60 kDa.

Molecular Weight of ArgRS complexed form: 74 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201.

## DATA



ArgRS (F-16): sc-70018. Immunoperoxidase staining of formalin fixed, paraffin-embedded human hippocampus tissue showing cytoplasmic staining of neuronal cells and glial cells.

## RESEARCH USE

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

## PROTOCOLS

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


 MONOS  
 Satisfaction  
 Guaranteed

Try **ArgRS (ZB-12): sc-100990**, our highly recommended monoclonal alternative to ArgRS (F-16).