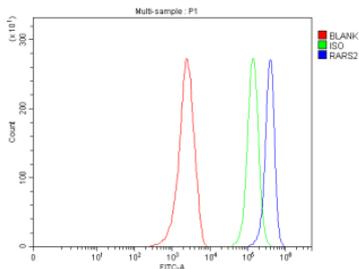


## RARS2 Antibody / Arginyl-tRNA synthetase 2 (FY12615)

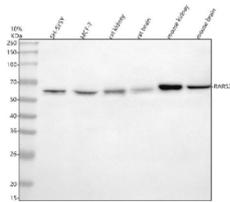
Catalog No.	Formulation	Size
FY12615	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

[Bulk quote request](#)

<b>Availability</b>	1-2 days
<b>Species Reactivity</b>	Human, Mouse, Rat
<b>Format</b>	Lyophilized
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal (rabbit origin)
<b>Isotype</b>	Rabbit IgG
<b>Purity</b>	Immunogen affinity purified
<b>Buffer</b>	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na <sub>2</sub> HPO <sub>4</sub> .
<b>UniProt</b>	Q5T160
<b>Applications</b>	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
<b>Limitations</b>	This RARS2 antibody is available for research use only.



Flow Cytometry analysis of MCF-7 cells using anti-RARS2 antibody. Overlay histogram showing MCF-7 cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-RARS2 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of RARS2 using anti-RARS2 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human SH-SY5Y whole cell lysates, Lane 2: human MCF-7 whole cell lysates, Lane 3: rat kidney tissue lysates, Lane 4: rat brain tissue lysates, Lane 5: mouse kidney tissue lysates, Lane 6: mouse brain tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-RARS2 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. A specific band was detected for RARS2 at approximately 66 kDa. The expected molecular weight of RARS2 is ~66 kDa.

## Description

RARS2 antibody detects Arginyl-tRNA synthetase 2, mitochondrial, an enzyme that catalyzes the attachment of arginine to its corresponding mitochondrial tRNA during protein synthesis. RARS2 plays a critical role in maintaining mitochondrial translation and respiratory chain function. The RARS2 antibody is used in mitochondrial biology, genetics, and neurodegenerative research to study mitochondrial protein synthesis and energy metabolism.

RARS2 is encoded by the RARS2 gene located on human chromosome 6q16.1. The protein is approximately 580 amino acids long and localizes to the mitochondrial matrix, where it contributes to the translation of 13 essential oxidative phosphorylation (OXPHOS) subunits encoded by mitochondrial DNA. RARS2 functions as part of the aminoacyl-tRNA synthetase family, ensuring fidelity of tRNA charging for mitochondrial translation.

The RARS2 antibody detects a 65 kilodalton protein by western blot and reveals mitochondrial localization under confocal imaging. RARS2 ensures accurate incorporation of arginine during protein synthesis, maintaining the stoichiometry of respiratory chain complexes. Loss of RARS2 activity disrupts mitochondrial protein translation, leading to decreased OXPHOS efficiency and increased oxidative stress.

Mutations in RARS2 cause pontocerebellar hypoplasia type 6, a neurodegenerative disorder characterized by developmental delay, seizures, and cerebellar atrophy. In cellular models, depletion of RARS2 impairs mitochondrial respiration, ATP production, and neuronal viability. Its regulation is closely tied to mitochondrial biogenesis and stress adaptation.

As an essential enzyme for mitochondrial translation and neural health, RARS2 is a valuable model for understanding mitochondrial gene expression and energy homeostasis. NSJ Bioreagents provides a validated RARS2 antibody optimized for its applications, supporting studies in mitochondrial translation, metabolic regulation, and neurodegenerative disease mechanisms.

## Application Notes

Optimal dilution of the RARS2 antibody should be determined by the researcher.

## Immunogen

E.coli-derived human RARS2 recombinant protein (Position: M1-R560) was used as the immunogen for the RARS2 antibody.

## Storage

After reconstitution, the RARS2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

