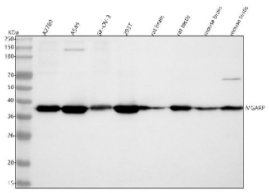
MGARP Antibody / Mitochondria-localized glutamic acid-rich protein (FY12477)

Catalog No.	Formulation	Size
FY12477	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q8TDB4
Applications	Western Blot: 0.25-0.5ug/ml ELISA: 0.1-0.5ug/ml
Limitations	This MGARP antibody is available for research use only.



Western blot analysis of C4orf49/MGARP using anti-MGARP antibody. Lane 1: human whole cell lysates, Lane 2: human whole cell lysates, Lane 3: human SK-OV-3 whole cell lysates, Lane 4: human 293T whole cell lysates, Lane 5: rat brain tissue lysates, Lane 6: rat testis tissue lysates, Lane 7: mouse brain tissue lysates, Lane 8: mouse testis 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-MGARP antibody at 0.25 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 enhanced chemiluminescent. MGARP (~25 kDa predicted) was detected at ~38 kDa, consistent with anomalously slow SDS-PAGE migration of this glutamic-acidâ€“rich, intrinsically disordered mitochondrial transmembrane protein.

Description

MGARP antibody detects Mitochondria-localized glutamic acid-rich protein, a mitochondrial membrane-associated protein that regulates organelle dynamics, energy metabolism, and neuronal development. MGARP functions as an adaptor involved in mitochondrial transport, positioning, and biogenesis, particularly in highly active tissues such as brain and retina. The MGARP antibody is widely used in studies of mitochondrial biology, neurodevelopment, and metabolic regulation, offering insight into mechanisms that control cellular energy distribution and organelle communication.

MGARP is encoded by the MGARP gene located on human chromosome 4q28.1. The protein is approximately 25 kilodaltons in size and characterized by an N-terminal mitochondrial targeting sequence and two C-terminal transmembrane domains that anchor it to the outer mitochondrial membrane. It interacts with proteins involved in mitochondrial motility and positioning, including Miro, TRAK1, and kinesin motor complexes. Through these interactions, MGARP mediates mitochondrial trafficking along microtubules and maintains energy homeostasis in neurons and photoreceptors.

The MGARP antibody is typically used to identify mitochondrial localization via immunofluorescence microscopy, where it produces a distinct punctate pattern consistent with the mitochondrial network. Western blot analysis detects a band near 38 kilodaltons. MGARP expression is enriched in neural tissues, endocrine organs, and energy-demanding cell types. Experimental evidence shows that it modulates mitochondrial fission and fusion dynamics, contributing to the distribution of mitochondria within axons and synaptic terminals. Loss or dysregulation of MGARP disrupts mitochondrial motility and impairs neuronal differentiation, emphasizing its importance in developmental neurobiology.

Beyond neuronal systems, MGARP has been implicated in steroid hormone biosynthesis and cellular stress adaptation. In steroidogenic cells, MGARP expression is upregulated by cAMP signaling and may influence mitochondrial cholesterol import. Its expression is responsive to hypoxia, oxidative stress, and glucose deprivation, indicating a role in cellular adaptation to metabolic stress. NSJ Bioreagents offers a validated MGARP antibody optimized for western blot, immunofluorescence, and immunohistochemistry, supporting research into mitochondrial dynamics, intracellular transport, and neuroendocrine function.

Application Notes

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

Immunogen

E.coli-derived human C4orf49/MGARP recombinant protein (Position: M1-E155) was used as the immunogen for the MGARP antibody.

Storage

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

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