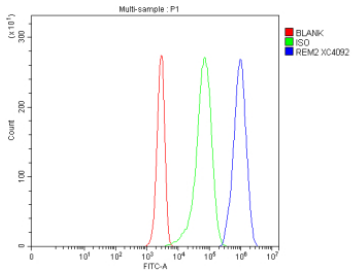
REM2 Antibody / Rad and Gem-like GTP-binding protein 2 (FY12503)

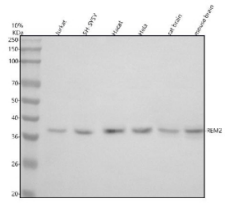
Catalog No.	Formulation	Size
FY12503	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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	Q8IYK8
Applications	Western Blot: 0.25-0.5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This REM2 antibody is available for research use only.



Flow Cytometry analysis of Jurkat cells using anti-REM2 antibody. Overlay histogram showing Jurkat cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-REM2 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 REM2 using anti-REM2 antibody. Lane 1: human Jurkat whole cell lysates, Lane 2: human SH-SY5Y whole cell lysates, Lane 3: human Hacat whole cell lysates, Lane 4: human Hela whole cell lysates, Lane 5: rat brain 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-REM2 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 enhanced chemiluminescent. The expected molecular weight of REM2 is ~37 kDa.

Description

REM2 antibody detects Ras-related protein REM2, a small GTP-binding protein belonging to the RGK (Rad, Gem, Kir, and Rem) family of Ras-like GTPases. REM2 regulates calcium channel activity, cytoskeletal organization, and neuronal development. Unlike classical Ras proteins, REM2 lacks membrane-targeting motifs and is primarily cytosolic. The REM2 antibody is used in neuroscience and signaling research to study calcium regulation, neuronal differentiation, and small GTPase function.

REM2 is encoded by the REM2 gene on human chromosome 14q23.2. The protein is approximately 36 kilodaltons and shares structural similarity with other RGK family members. It acts as a potent inhibitor of voltage-dependent calcium channels by binding to beta subunits, reducing calcium influx in excitable cells. This activity modulates neuronal excitability and synaptic plasticity, linking REM2 expression to learning and memory processes.

The REM2 antibody detects a 36-38 kilodalton protein by western blot and exhibits cytoplasmic staining in neurons, muscle cells, and other excitable tissues. REM2 expression is dynamically regulated by neuronal activity and signaling pathways involving calcium/calmodulin-dependent kinases and cAMP response element-binding protein (CREB). Overexpression of REM2 suppresses calcium current density, alters actin filament organization, and inhibits dendritic spine formation. Conversely, its downregulation promotes neurite outgrowth and synaptic connectivity.

Beyond neuronal contexts, REM2 contributes to cytoskeletal remodeling and cell proliferation. It interacts with 14-3-3 proteins and signaling kinases, coordinating calcium-dependent gene expression and structural plasticity. Dysregulation of REM2 has been associated with mood disorders, neuropathic pain, and cardiac remodeling. NSJ Bioreagents provides a validated REM2 antibody, supporting detailed analysis of GTPase-mediated calcium signaling and neuronal differentiation.

Application Notes

Optimal dilution of the REM2 antibody should be determined by the researcher.

Immunogen

E.coli-derived human REM2 recombinant protein (Position: R65-E257) was used as the immunogen for the REM2 antibody.

Storage

After reconstitution, the REM2 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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