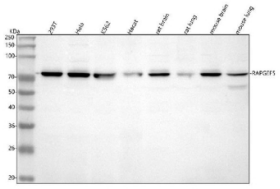
RAPGEF5 Antibody / Rap guanine nucleotide exchange factor 5 (FY13178)

Catalog No.	Formulation	Size
FY13178	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	Q92565
Applications	Western Blot: 0.25-0.5ug/ml ELISA: 0.1-0.5ug/ml
Limitations	This RAPGEF5 antibody is available for research use only.



Western blot analysis of RAPGEF5 using anti-RAPGEF5 antibody. Lane 1: human 293T whole cell lysates, Lane 2: human Hela whole cell lysates, Lane 3: human K562 whole cell lysates, Lane 4: human Hacat whole cell lysates, Lane 5: rat brain tissue lysates, Lane 6: rat lung tissue lysates, Lane 7: mouse brain tissue lysates, Lane 8: mouse lung 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-RAPGEF5 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. Western blot of RAPGEF5 shows a single band in the low-70s kDa range, consistent with the expected size (~68 kDa) and the known tendency of RAPGEF5 to migrate slightly larger on SDS-PAGE.

Description

RAPGEF5 antibody detects Rap guanine nucleotide exchange factor 5, a signaling protein that activates Rap1 and Rap2

small GTPases to regulate cell adhesion, polarity, and differentiation. The UniProt recommended name is Rap guanine nucleotide exchange factor 5 (RAPGEF5). This exchange factor converts inactive GDP-bound Rap GTPases into active GTP-bound forms, facilitating intracellular signaling cascades that govern morphogenesis and tissue organization.

Functionally, RAPGEF5 antibody identifies a 914-amino-acid cytoplasmic protein containing Ras exchange motif (REM) and CDC25 homology domains responsible for nucleotide exchange activity. RAPGEF5 is regulated by cyclic AMP and interacts with Rap-binding scaffolds to control cell junction assembly and migration. It acts as an important mediator of epithelial integrity and neural development.

The RAPGEF5 gene is located on chromosome 7p15.1 and is expressed in brain, lung, and epithelial tissues. Through Rap GTPase activation, RAPGEF5 coordinates cell-cell adhesion, endothelial barrier function, and axon guidance during development.

Pathologically, altered RAPGEF5 expression has been linked to cancer progression, vascular leakage, and neurological disorders. Dysregulation may lead to impaired Rap signaling, causing aberrant cell polarity and migration. Research using RAPGEF5 antibody supports studies in GTPase signaling, development, and cell adhesion regulation.

RAPGEF5 antibody is validated for western blotting, immunohistochemistry, and immunofluorescence to detect guanine nucleotide exchange factors. NSJ Bioreagents provides RAPGEF5 antibody reagents optimized for research in signaling, cytoskeletal regulation, and morphogenesis.

Structurally, Rap guanine nucleotide exchange factor 5 contains a cAMP-binding regulatory domain and catalytic regions that mediate activation of Rap GTPases. This antibody enables detailed analysis of RAPGEF5's contribution to intracellular signaling and polarity control.

Application Notes

Optimal dilution of the RAPGEF5 antibody should be determined by the researcher.

Immunogen

E.coli-derived human RAPGEF5 recombinant protein (Position: E164-H574) was used as the immunogen for the RAPGEF5 antibody.

Storage

After reconstitution, the RAPGEF5 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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