

ARHGEF2 Antibody / Rho guanine nucleotide exchange factor 2 / GEF-H1 (FY13062)

Catalog No.	Formulation	Size
FY13062	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
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	Q92974
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 2-5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This ARHGEF2 antibody is available for research use only.

Description

ARHGEF2 antibody detects Rho guanine nucleotide exchange factor 2, also known as GEF-H1, a microtubule-associated protein that activates Rho family GTPases to regulate cytoskeletal organization and cell polarity. The UniProt recommended name is Rho guanine nucleotide exchange factor 2 (ARHGEF2). This signaling factor converts Rho GTPases from inactive GDP-bound to active GTP-bound states, controlling cell shape, motility, and junctional dynamics.

Functionally, ARHGEF2 antibody identifies a 986-amino-acid cytoplasmic protein containing Dbl homology (DH) and pleckstrin homology (PH) domains responsible for its guanine nucleotide exchange activity. ARHGEF2 activates RHOA and RHOC, stimulating actin stress fiber formation, contractility, and focal adhesion turnover. When bound to microtubules, ARHGEF2 remains inactive; upon microtubule depolymerization, it is released into the cytoplasm, where it activates RHOA signaling.

The ARHGEF2 gene is located on chromosome 1q22 and encodes a protein expressed in epithelial cells, neurons, and endothelial tissues. ARHGEF2 plays a key role in linking microtubule dynamics to actin cytoskeletal remodeling,

influencing cell junction integrity and migration. In epithelial cells, it regulates tight junction assembly and polarity through interactions with PAR6 and AMPK. In neurons, ARHGEF2 contributes to axon guidance and dendritic spine morphology.

Pathologically, dysregulation of ARHGEF2 activity has been associated with cancer progression, inflammation, and neurodevelopmental disorders. Overactivation of RHOA signaling by ARHGEF2 promotes tumor invasion, while loss of its regulation can impair barrier function in inflammatory bowel disease. ARHGEF2 also mediates cytokine-induced cytoskeletal remodeling during immune responses, linking microtubule organization to inflammatory signaling pathways.

ARHGEF2 antibody is widely used in cytoskeletal, cell signaling, and cancer biology research. It is suitable for immunoblotting, immunofluorescence, and immunoprecipitation to detect ARHGEF2 expression and RHOA activation states. This antibody supports studies of cell polarity, microtubule-actin crosstalk, and epithelial integrity. In biomedical research, ARHGEF2 serves as a molecular bridge between cytoskeletal regulation and signal transduction.

Structurally, ARHGEF2 contains modular domains for RHOA interaction, microtubule binding, and regulation by phosphorylation. Its activity is modulated by kinases including MARK2 and Aurora A, which control its release from microtubules. NSJ Bioreagents provides ARHGEF2 antibody reagents validated for use in RHO GTPase signaling, cytoskeletal remodeling, and epithelial biology research.

Application Notes

Optimal dilution of the ARHGEF2 antibody should be determined by the researcher.

Immunogen

E.coli-derived human GEF-H1/ARHGEF2 recombinant protein (Position: Q94-E923) was used as the immunogen for the ARHGEF2 antibody.

Storage

After reconstitution, the ARHGEF2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.