ARHGEF7 Antibody / Rho guanine nucleotide exchange factor 7 (FY12862)

Catalog No.	Formulation	Size
FY12862	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	Q14155
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 2-5ug/ml Immunocytochemistry : 5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This ARHGEF7 antibody is available for research use only.

Description

ARHGEF7 antibody detects Rho guanine nucleotide exchange factor 7, a cytoskeletal signaling protein that regulates Rho GTPase activation, cell adhesion, and migration. Encoded by the ARHGEF7 gene on chromosome 13q34, this proteinÂ—also known as beta-PIX (PAK-interacting exchange factor beta)Â—functions as a guanine nucleotide exchange factor (GEF) for the small GTPases Rac1 and Cdc42. Through these interactions, ARHGEF7 controls actin cytoskeleton remodeling, focal adhesion turnover, and lamellipodia formation essential for cell motility and morphology.

Structurally, ARHGEF7 contains several modular domains, including an SH3 domain that interacts with PAK kinases, a DH (Dbl homology) domain responsible for nucleotide exchange activity, and a PH (pleckstrin homology) domain that binds phosphoinositides for membrane targeting. These domains enable ARHGEF7 to act as a scaffold connecting small GTPases, kinases, and adhesion proteins such as GIT1 and paxillin. It localizes predominantly at focal adhesions and synaptic sites, integrating extracellular signals with intracellular cytoskeletal responses.

The ARHGEF7 antibody is widely used in cell signaling, cancer biology, and neurobiology research to study cytoskeletal organization, cell motility, and synaptic regulation. Western blot analysis detects a 76 kilodalton band corresponding to ARHGEF7, while immunofluorescence reveals punctate staining along the cell cortex, focal adhesions, and neuronal synapses. This antibody supports exploration of actin dynamics and Rho GTPase signaling in both normal and pathological contexts.

Functionally, ARHGEF7 interacts with p21-activated kinases (PAKs) to form complexes that control Rac1/Cdc42 activation and downstream signaling to the MAPK and JNK pathways. In neurons, it contributes to dendritic spine formation and synaptic plasticity by linking postsynaptic density proteins to actin assembly machinery. Dysregulation of ARHGEF7 has been associated with cancer metastasis, psychiatric disorders, and developmental defects due to altered Rho signaling. The ARHGEF7 antibody provides a dependable tool for dissecting these pathways and quantifying GEF expression in various models. NSJ Bioreagents validates this antibody for western blotting, immunohistochemistry, and immunofluorescence, ensuring robust performance for cytoskeletal and signaling studies.

Application Notes

Optimal dilution of the ARHGEF7 antibody should be determined by the researcher.

Immunogen

E.coli-derived human ARHGEF7 recombinant protein (Position: S25-N637) was used as the immunogen for the ARHGEF7 antibody.

Storage

After reconstitution, the ARHGEF7 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.