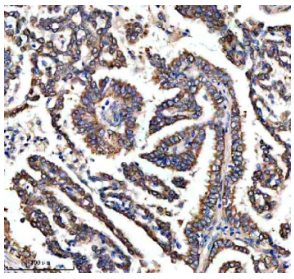
RASAL3 Antibody / Ras GTPase-activating-like protein 3 (FY13111)

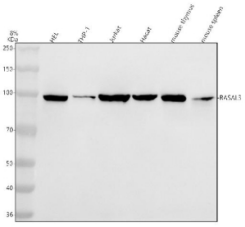
Catalog No.	Formulation	Size
FY13111	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

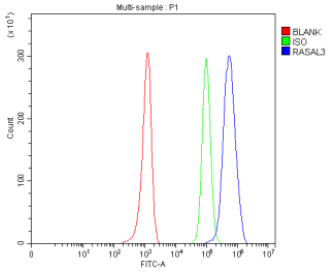
Availability	1-2 days
Species Reactivity	Human, Mouse
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q86YV0
Localization	Cytoplasm
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 2-5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This RASAL3 antibody is available for research use only.



Immunohistochemical staining of RASAL3 using anti-RASAL3 antibody. RASAL3 was detected in a paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-RASAL3 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



Western blot analysis of RASAL3 using anti-RASAL3 antibody. Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human HEL whole cell lysates, Lane 2: human THP-1 whole cell lysates, Lane 3: human Jurkat whole cell lysates, Lane 4: human Hacat whole cell lysates, Lane 5: mouse thymus tissue lysates, Lane 6: mouse spleen 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-RASAL3 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 an ECL Plus Western Blotting Substrate. RASAL3 antibody detects a single band just below 100 kDa across human and mouse lysates. Although the calculated mass is ~112 kDa, RASAL3 commonly migrates at ~95-100 kDa on SDS-PAGE, consistent with known mobility anomalies of multi-domain Ras-GAP family proteins and expression of shorter transcript variants.



Flow Cytometry analysis of Raji cells using anti-RASAL3 antibody. Overlay histogram showing Raji cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-RASAL3 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.

Description

RASAL3 antibody detects Ras GTPase-activating-like protein 3, a Ras signaling regulator that acts as a negative modulator of Ras activity in immune cells. The UniProt recommended name is Ras GTPase-activating-like protein 3 (RASAL3). This protein converts active GTP-bound Ras into its inactive GDP-bound form, thereby controlling proliferation and activation signals in lymphocytes and other hematopoietic cells.

Functionally, RASAL3 antibody identifies a 944-amino-acid cytoplasmic protein containing C2 and RasGAP domains responsible for lipid membrane binding and GTPase activation. RASAL3 inhibits Ras-dependent pathways, including ERK/MAPK signaling, limiting excessive immune cell activation and promoting homeostasis. It acts downstream of receptor stimulation to fine-tune immune responses.

The RASAL3 gene is located on chromosome 19q13.3 and is highly expressed in natural killer cells, T cells, and macrophages. It serves as a negative feedback regulator of immune activation by controlling Ras signaling intensity following antigen or cytokine stimulation. In NK cells, RASAL3 influences cytotoxic granule release and antiviral responses.

Pathologically, dysregulation of RASAL3 contributes to immune dysfunction and inflammation. Loss of function enhances Ras activity, promoting lymphoproliferative and autoimmune phenotypes. In cancer, RASAL3 downregulation may facilitate tumor immune evasion by disturbing immune regulation. Research using RASAL3 antibody supports investigations into Ras pathway modulation, immune signaling, and oncogenic Ras control.

RASAL3 antibody is validated for western blotting, immunohistochemistry, and flow cytometry to detect RasGAP proteins and Ras activity regulators. NSJ Bioreagents offers RASAL3 antibody reagents optimized for studies in immune signaling, GTPase biology, and cellular regulation.

Structurally, Ras GTPase-activating-like protein 3 contains an N-terminal C2 lipid-binding domain and a C-terminal

catalytic GAP domain. This architecture enables membrane association and inactivation of Ras. This antibody facilitates research on RASAL3's inhibitory role in signal transduction and immune modulation.

Application Notes

Optimal dilution of the RASAL3 antibody should be determined by the researcher.

Immunogen

E.coli-derived human RASAL3 recombinant protein (Position: R48-Q925) was used as the immunogen for the RASAL3 antibody.

Storage

After reconstitution, the RASAL3 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.