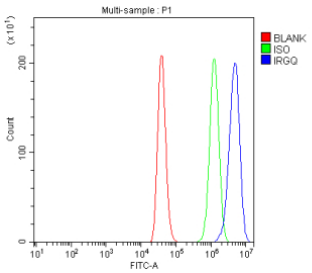
IRGQ Antibody / Immunity-related GTPase family Q protein (FY13147)

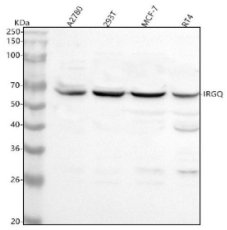
Catalog No.	Formulation	Size
FY13147	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
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	Q8WZA9
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This IRGQ antibody is available for research use only.



Flow Cytometry analysis of HEL cells using anti-IRGQ antibody. Overlay histogram showing HEL 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-IRGQ 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 (Red line) was also used as a control.



Western blot analysis of IRGQ using anti-IRGQ antibody. Lane 1: human whole cell lysates, Lane 2: human 293T whole cell lysates, Lane 3: human MCF-7 whole cell lysates, Lane 4: human RT4 whole cell 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-IRGQ 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 IRGQ is ~63 kDa.

Description

IRGQ antibody detects Immunity-related GTPase family Q protein, a dynamin-like GTPase that participates in vesicular trafficking, membrane remodeling, and host defense mechanisms. The UniProt recommended name is Immunity-related GTPase family Q protein (IRGQ). This enzyme belongs to the immunity-related GTPase (IRG) family, known for regulating intracellular pathogen resistance and organelle dynamics in immune cells.

Functionally, IRGQ antibody identifies a 409-amino-acid GTP-binding protein localized mainly to the endoplasmic reticulum and Golgi apparatus. IRGQ hydrolyzes GTP to drive conformational changes that remodel intracellular membranes during immune activation and stress response. It is induced by interferon signaling and contributes to vesicle trafficking between endoplasmic reticulum and Golgi compartments.

The IRGQ gene is located on chromosome 19q13.33 and is expressed in immune-related tissues such as spleen, liver, and macrophages. Through its role in intracellular trafficking and vesicle fusion, IRGQ coordinates membrane remodeling events necessary for protein secretion and immune signaling.

Pathologically, IRGQ dysregulation has been associated with inflammatory and infectious diseases. Reduced IRGQ activity may impair vesicle transport, while overactivation can affect Golgi organization and cytokine secretion. Research using IRGQ antibody supports studies in GTPase biology, membrane dynamics, and immune regulation.

IRGQ antibody is validated for western blotting, immunohistochemistry, and immunofluorescence to detect small GTPases and membrane-associated enzymes. NSJ Bioreagents provides IRGQ antibody reagents optimized for cellular trafficking, immune function, and molecular signaling research.

Structurally, Immunity-related GTPase family Q protein features conserved GTP-binding motifs (P-loop, switch I and II regions) and a C-terminal amphipathic helix that mediates membrane association. This antibody facilitates detailed study of IRGQ's GTPase-dependent mechanisms in host defense and vesicular transport.

Application Notes

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

Immunogen

E.coli-derived human IRGQ recombinant protein (Position: D7-Q623) was used as the immunogen for the IRGQ antibody.

Storage

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