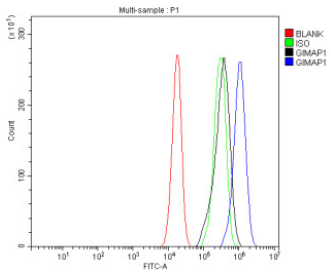
GIMAP1 Antibody / GTPase IMAP family member 1 (FY13245)

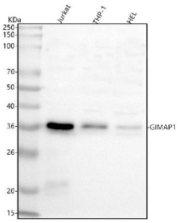
Catalog No.	Formulation	Size
FY13245	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
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	Q8WWP7
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This GIMAP1 antibody is available for research use only.



Flow Cytometry analysis of human JK cells using anti-GIMAP1 antibody. Overlay histogram showing JK 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-GIMAP1 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. U2OS sample (Black line) was used as a negative control.



Western blot analysis of GIMAP1 using anti-GIMAP1 antibody. Lane 1: human Jurkat whole cell lysates, Lane 2: human THP-1 whole cell lysates, Lane 3: human HEL 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-GIMAP1 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 GIMAP1 is ~34 kDa.

Description

GIMAP1 antibody detects GTPase IMAP family member 1, a small GTP-binding protein involved in lymphocyte survival and immune regulation. The UniProt recommended name is GTPase IMAP family member 1 (GIMAP1). This protein belongs to the GIMAP (GTPase of immunity-associated proteins) family, which participates in T-cell development, apoptosis resistance, and mitochondrial homeostasis within immune cells.

Functionally, GIMAP1 antibody identifies a 320-amino-acid cytoplasmic and mitochondrial membrane-associated GTPase. GIMAP1 regulates cell survival by maintaining mitochondrial integrity and preventing apoptotic signaling during lymphocyte maturation. It interacts with other GIMAP family members and BCL2-related proteins to modulate intrinsic apoptosis pathways. GIMAP1 expression is induced during T-cell activation and may help coordinate metabolic adaptation and survival under stress conditions.

The GIMAP1 gene is located on chromosome 7q36.1 and is expressed predominantly in thymus, spleen, and peripheral lymphocytes. Its expression pattern mirrors that of immune cell differentiation markers, underscoring its role in adaptive immunity. GIMAP1 acts as a key survival regulator in the transition of T-cells from double-positive to single-positive stages in the thymus.

Pathologically, GIMAP1 dysregulation has been linked to autoimmune disorders and lymphoid malignancies. Loss of function leads to increased apoptosis of lymphocytes and immunodeficiency, while overexpression contributes to T-cell survival in leukemia. Research using GIMAP1 antibody supports studies in immunology, cell survival pathways, and mitochondrial regulation in immune cells.

GIMAP1 antibody is validated for western blotting, immunofluorescence, and flow cytometry to detect small GTPases involved in immune cell regulation. NSJ Bioreagents provides GIMAP1 antibody reagents optimized for research in lymphocyte biology, apoptosis resistance, and mitochondrial signaling.

Structurally, GTPase IMAP family member 1 contains conserved GTP-binding motifs typical of small GTPases, including the P-loop, switch I, and switch II regions that mediate nucleotide binding and hydrolysis. Its membrane association and GTP-dependent conformational changes regulate interactions with mitochondrial and cytoskeletal components. This antibody enables detailed analysis of GIMAP1's role in immune homeostasis and cell survival signaling.

Application Notes

Optimal dilution of the GIMAP1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human GIMAP1 recombinant protein (Position: M1-E238) was used as the immunogen for the GIMAP1 antibody.

Storage

After reconstitution, the GIMAP1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at

-20oC. Avoid repeated freezing and thawing.