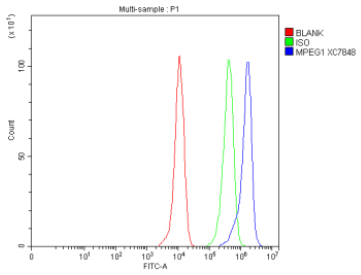
MPEG1 Antibody / Macrophage-expressed gene 1 / Perforin 2 (FY12465)

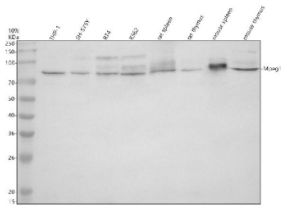
Catalog No.	Formulation	Size
FY12465	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
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	A1L314
Applications	Western Blot: 0.25-0.5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This MPEG1 antibody is available for research use only.



Flow Cytometry analysis of THP-1 cells using anti-MPEG1 antibody. Overlay histogram showing THP-1 cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-MPEG1 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.



Western blot analysis of MPEG1 using anti-MPEG1 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human THP-1 whole cell lysates, Lane 2: human SH-SY5Y whole cell lysates, Lane 3: human RT4 whole cell lysates, Lane 4: human K562 whole cell lysates, Lane 5: rat spleen tissue lysates, Lane 6: rat thymus tissue lysates, Lane 7: mouse spleen tissue lysates, Lane 8: mouse thymus 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-MPEG1 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. The expected molecular weight of MPEG1 is ~79 kDa, but the glycosylated form of the protein may be observed at higher molecular weights.

Description

MPEG1 antibody detects Macrophage-expressed gene 1 protein, also known as Perforin-2, a pore-forming immune effector that contributes to host defense against intracellular pathogens. MPEG1 belongs to the MACPF (membrane-attack-complex/perforin) superfamily of pore-forming proteins, which includes complement components and cytotoxic lymphocyte perforins. The MPEG1 antibody is an essential research tool for investigating innate immunity, host-pathogen interactions, and macrophage antimicrobial mechanisms that protect cells from bacterial infection.

MPEG1 is encoded by the MPEG1 gene on human chromosome 11q12.1. The protein contains a signal peptide, an N-terminal MACPF domain responsible for membrane pore formation, and a C-terminal transmembrane region that anchors it to endosomal and plasma membranes. MPEG1 is predominantly expressed in macrophages, dendritic cells, and other phagocytes, where it localizes to endolysosomal compartments. Upon bacterial invasion, MPEG1 is upregulated and translocated to pathogen-containing vacuoles, where it inserts into microbial membranes to mediate lysis.

The MPEG1 antibody reveals an ~79 kDa band in western blot corresponding to full-length MPEG1/Perforin-2. Immunofluorescence microscopy demonstrates punctate cytoplasmic and vesicular localization consistent with its endosomal distribution. Functional studies have shown that loss of MPEG1 impairs bacterial killing and increases susceptibility to infection. It acts downstream of pattern-recognition receptor activation, integrating with pathways controlled by NF-?B and interferon signaling. MPEG1 also interacts with ESCRT-associated and autophagic machinery to remove damaged or infected vacuoles.

In addition to antimicrobial defense, MPEG1 contributes to tissue homeostasis and inflammation control. It modulates cytokine production and can influence antigen presentation by professional phagocytes. Structural analyses reveal that MPEG1 forms ring-like oligomers that perforate target membranes, similar to complement MAC pores. The protein's activity is tightly regulated to prevent host cell damage. NSJ Bioreagents offers a validated MPEG1 antibody optimized for western blot, immunofluorescence, and immunohistochemistry, enabling researchers to study Perforin-2 function in innate immunity, infection biology, and inflammatory disorders.

Application Notes

Optimal dilution of the MPEG1 antibody should be determined by the researcher.

Immunogen

E.coli-derived mouse MPEG1 recombinant protein (Position: F31-D645) was used as the immunogen for the MPEG1 antibody.

Storage

After reconstitution, the MPEG1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at

-20oC. Avoid repeated freezing and thawing.

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