Anti-IL-18 Antibody [PSH12-04] - BSA and Azide free

HA751511

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Mouse
Applications:	WB, IF-Cell, FC
Molecular Wt:	Predicted band size: 22 kDa
Clone number:	PSH12-04

Description: Interleukin-18 (IL-18), also known as interferon-gamma inducing factor is a protein which in humans is encoded by the IL18 gene. The protein encoded by this gene is a proinflammatory cytokine. Many cell types, both hematopoietic cells and non-hematopoietic cells, have the potential to produce IL-18. It was first described in 1989 as a factor that induced interferon-γ (IFN-γ) production in mouse spleen cells. Originally, IL-18 production was recognized in Kupffer cells, liver-resident macrophages. However, IL-18 is constitutively expressed in non-hematopoietic cells, such as intestinal epithelial cells, keratinocytes, and endothelial cells. IL-18 can modulate both innate and adaptive immunity and its dysregulation can cause autoimmune or inflammatory diseases. IL-18 belongs to the IL-1 superfamily and is produced mainly by macrophages but also other cell types, stimulates various cell types and has pleiotropic functions. IL-18 is a proinflammatory cytokine that facilitates type 1 responses. Together with IL-12, it induces cell-mediated immunity following infection with microbial products like lipopolysaccharide (LPS). IL-18 in combination with IL12 acts on CD4, CD8 T cells and NK cells to induce IFNγ production, type II interferon that plays an important role in activating the macrophages or other cells. The combination of this IL-18 and IL-12 has been shown to inhibit IL-4 dependent IgE and IgG1 production and enhance IgG2a production in B cells. Importantly, without IL-12 or IL-15, IL-18 does not induce IFNγ production, but plays an important role in the differentiation of naive T cells into Th2 cells and stimulates mast cells and basophils to produce IL-4, IL-13, and chemical mediators such as histamine.

Immunogen:	Recombinant protein within Mouse IL-18 aa 36-192.
Positive control:	RAW264.7 cell lysate, J774A.1 cell lysate, Mouse spleen tissue lysate, RAW264.7.
Subcellular location:	Cytoplasm, Secreted.
Database links:	SwissProt: P70380 Mouse
Recommended Dilutions:	
WB	1:5,000
IF-Cell	1:100
FC	1:1,000
Storage Buffer:	1*PBS (pH7.4).
Storage Instruction:	Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.
Purity:	Protein A affinity purified.

Images

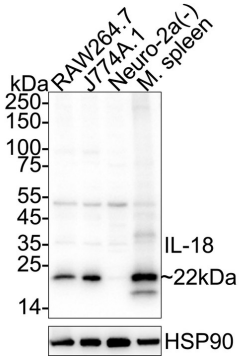

Fig1: Western blot analysis of IL-18 on different lysates with Rabbit anti-IL-18 antibody (HA751511) at 1/5,000 dilution.

Lane 1: RAW264.7 cell lysate (20 µg/Lane)
Lane 2: J774A.1 cell lysate (20 µg/Lane)
Lane 3: Neuro-2a cell lysate (negative) (20 µg/Lane)
Lane 4: Mouse spleen tissue lysate (40 µg/Lane)

Predicted band size: 22 kDa
Observed band size: 22 kDa

Exposure time: 10 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA751511) at 1/5,000 dilution was used in primary antibody dilution (K1803) at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

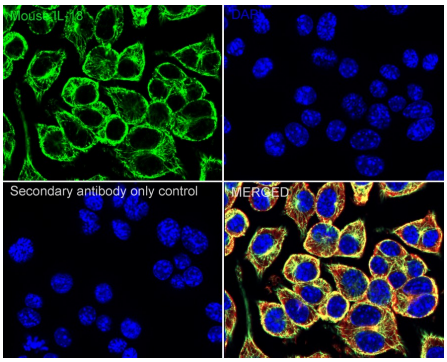

Fig2: Immunocytochemistry analysis of RAW264.7 cells labeling IL-18 with Rabbit anti-IL-18 antibody (HA751511) at 1/100 dilution.

Cells were fixed in 4% paraformaldehyde for 15 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-IL-18 antibody (HA751511) at 1/100 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (HA601187, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

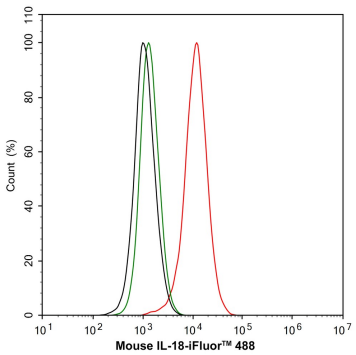

Fig3: Flow cytometric analysis of RAW264.7 cells labeling IL-18.

Cells were fixed and permeabilized. Then stained with the primary antibody (HA751511, 1/1,000) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4℃ for an hour, the cells were stained with a iFluor™ 488 conjugate-Goat anti-Rabbit IgG Secondary antibody (HA1121) at 1/1,000 dilution for 30 minutes at +4℃. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Zhang X et al. IL18 signaling causes islet β cell development and insulin secretion via different receptors on acinar and β cells. Dev Cell. 2022 Jun
2. Lin T et al. NET-Triggered NLRP3 Activation and IL18 Release Drive Oxaliplatin-Induced Peripheral Neuropathy. Cancer Immunol Res. 2022 Dec