Anti-IL-18 Antibody [PSH18-15] - BSA and Azide free

HA751661

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P, IP
Molecular Wt:	Predicted band size: 22 kDa
Clone number:	PSH18-15

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 1-192.
Positive control:	HeLa cell lysate, RAW264.7 cell lysate, J774A.1 cell lysate, C6 cell lysate, Mouse liver tissue lysate, Mouse thymus tissue lysate, Rat liver tissue lysate, mouse liver tissue, mouse thymus tissue, rat thymus tissue.
Subcellular location:	Cytoplasm, cytosol, Secreted.
Database links:	SwissProt: Q14116 Human | P70380 Mouse | P97636 Rat
Recommended Dilutions:	
WB	1:5,000
IHC-P	1:2,000
IP	1-2μg/sample
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

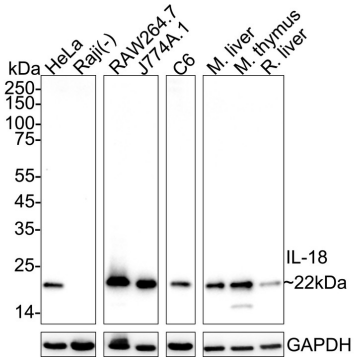

Fig1: Western blot analysis of IL-18 on different lysates with Rabbit anti-IL-18 antibody (HA751661) at 1/5,000 dilution.

Lane 1: HeLa cell lysate
Lane 2: Raji cell lysate (negative)
Lane 3: RAW264.7 cell lysate
Lane 4: J774A.1 cell lysate
Lane 5: C6 cell lysate
Lane 6: Mouse liver tissue lysate
Lane 7: Mouse thymus tissue lysate
Lane 8: Rat liver tissue lysate

Lysates/proteins at 20 µg/Lane.

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

Exposure time: 3 minutes; 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 (HA751661) 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.

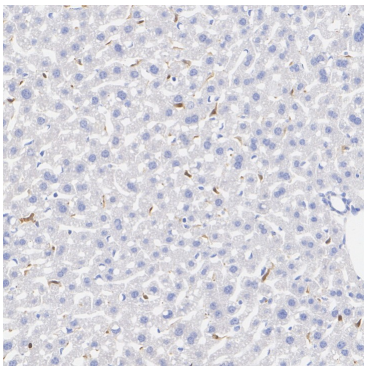

Fig2: Immunohistochemical analysis of paraffin-embedded mouse liver tissue with Rabbit anti-IL-18 antibody (HA751661) at 1/2,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA751661) at 1/2,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

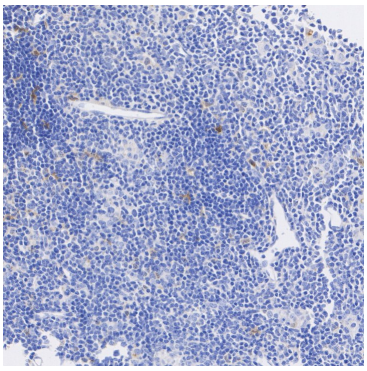

Fig3: Immunohistochemical analysis of paraffin-embedded mouse thymus tissue with Rabbit anti-IL-18 antibody (HA751661) at 1/2,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA751661) at 1/2,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

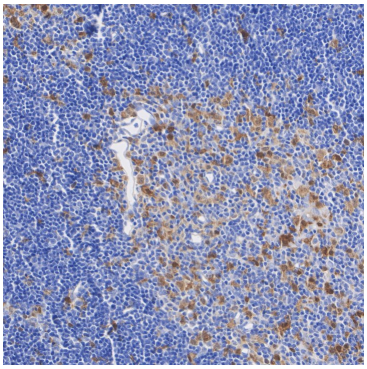

Fig4: Immunohistochemical analysis of paraffin-embedded rat thymus tissue with Rabbit anti-IL-18 antibody (HA751661) at 1/2,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA751661) at 1/2,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

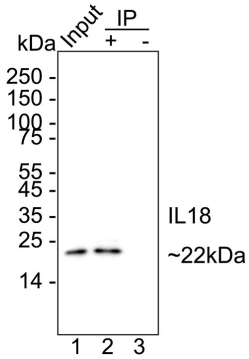

Fig5: IL-18 was immunoprecipitated from 0.2 mg J774A.1 cell lysate with HA751661 at 2 µg/10 µl beads. Western blot was performed from the immunoprecipitate using HA751661 at 1/5,000 dilution. HRP Conjugated Anti-Rabbit IgG for IP Nano-secondary antibody at 1/5,000 dilution was used for 1 hour at room temperature.

Lane 1: J774A.1 cell lysate (input)
Lane 2: HA751661 IP in J774A.1 cell lysate
Lane 3: Rabbit IgG instead of HA751661 in J774A.1 cell lysate

Blocking/Dilution buffer: primary antibody dilution (K1803)
Exposure time: 10 seconds; ECL: K1801

Background References

1. Jaspers JE et al. IL-18-secreting CAR T cells targeting DLL3 are highly effective in small cell lung cancer models. J Clin Invest. 2023 May
2. Landy E et al. Biological and clinical roles of IL-18 in inflammatory diseases. Nat Rev Rheumatol. 2024 Jan