Anti-Human IL-18 Antibody [PSH02-08]

HA721767

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	WB, IHC-P, IF-Tissue
Molecular Wt:	Predicted band size: 22 kDa
Clone number:	PSH02-08

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 Human IL-18 aa 37-193.
Positive control:	U-2 OS cell lysate, A549 cell lysate, HeLa cell lysate, HepG2 cell lysate, human liver tissue, human spleen tissue, human tonsil tissue.
Subcellular location:	Cytoplasm, Secreted.
Database links:	SwissProt: Q14116 Human
Recommended Dilutions:	
WB	1:1,000
IHC-P	1:5,000-1:10,000
IF-Tissue	1:1,000
Storage Buffer:	PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.
Storage Instruction:	Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.
Purity:	Protein A affinity purified.

Images

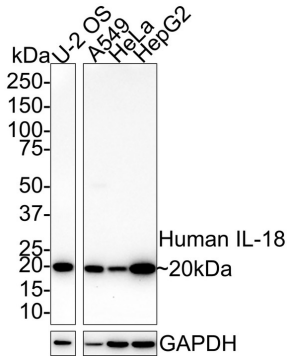

Fig1: Western blot analysis of Human IL-18 on different lysates with Rabbit anti-Human IL-18 antibody (HA721767) at 1/1,000 dilution.

Lane 1: U-2 OS cell lysate (20 µg/Lane)
Lane 2: A549 cell lysate (20 µg/Lane)
Lane 3: HeLa cell lysate (20 µg/Lane)
Lane 4: HepG2 cell lysate (20 µg/Lane)

Predicted band size: 22 kDa
Observed band size: 20 kDa

Exposure time: 1 minute 45 seconds;
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 (HA721767) at 1/1,000 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/100,000 dilution was used for 1 hour at room temperature.

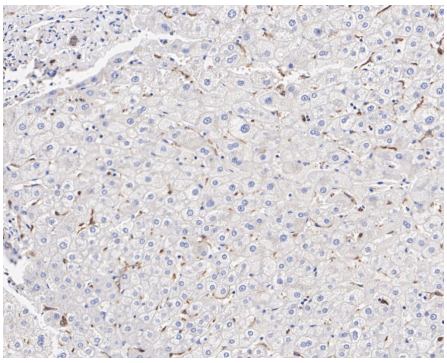

Fig2: Immunohistochemical analysis of paraffin-embedded human liver tissue with Rabbit anti-Human IL-18 antibody (HA721767) at 1/5,000 dilution.

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 (HA721767) at 1/5,000 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.

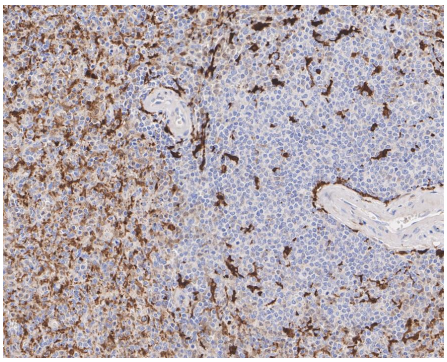

Fig3: Immunohistochemical analysis of paraffin-embedded human spleen tissue with Rabbit anti-Human IL-18 antibody (HA721767) at 1/10,000 dilution.

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 (HA721767) at 1/10,000 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.

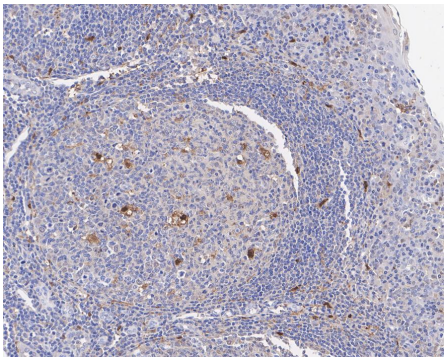

Fig4: Immunohistochemical analysis of paraffin-embedded human tonsil tissue with Rabbit anti-Human IL-18 antibody (HA721767) at 1/10,000 dilution.

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 (HA721767) at 1/10,000 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.

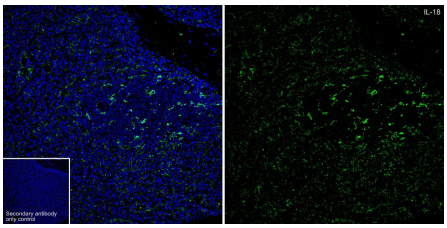

Fig5: Application: IF-Tissue

Species: Human

Site: spleen

Sample: Paraffin-embedded section

Antibody concentration: 1/1,000

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