Anti-Human IL-18 Antibody [PSH01-71] - BSA and Azide free (Capture)

HA721722

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	ELISA(Cap)
Molecular Wt:	Predicted band size: 22.3 kDa
Clone number:	PSH01-71

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:	Recombinant human IL-18 protein (HA210779).
Subcellular location:	Cytoplasm, Secreted.
Database links:	SwissProt: Q14116 Human
Recommended Dilutions:	
ELISA(Cap)	Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Rabbit monoclonal [PSH01-70] to Human IL-18 (Detector) (HA721723). The reference range value is 15.6-3800 pg/ml.
Storage Buffer:	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

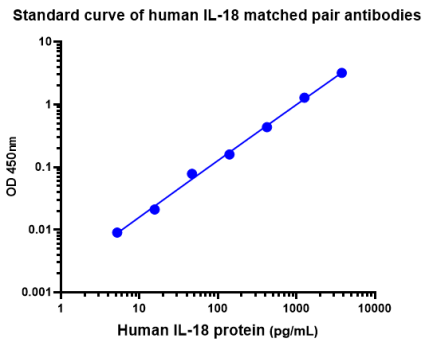

Fig1: Sandwich ELISA analysis of human IL-18 matched pair antibodies

Elisa assay was performed by coating wells of a 96-well plate with 100 µl per well of capture antibody (HA721722) diluted in carbonate/bicarbonate buffer, at a concentration of 4 µg/mL overnight at 4℃. Wells of the plate were washed, blocked with 150 µl 0.05% tween-20 1%BSA blocking buffer, and incubated with serial diluted human IL-18 protein starting from 3800 pg/ml to 0 pg/ml and detect antibody [PSH01-70]-Biotin (0.2 µg/ml) for 1 hour at 30℃ with shaking. Then the plate was washed and incubated with 100 µl per well of SA-HRP for 0.5 hour at 30℃ with shaking. Detection was performed using an Ultra TMB Substrate for 10 minutes at room temperature in the dark. The reaction was stopped with sulfuric acid and absorbances were read on a spectrophotometer at 450 nm.

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