Human IL-18/IL-1F4 Antibody

Monoclonal Mouse IgG_1 Clone # 925008

Catalog Number: MAB2548

DESCRIPTION

Species Reactivity	Human
Specificity	Detects Rhesus monkey and Human IL-18/IL-1F4 in direct ELISAs.
Source	Monoclonal Mouse IgG_1 Clone # 925008
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant Rhesus monkey IL-18/IL-1F4 Tyr37-Asp193 Accession # Q14116
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Immunocytochemistry	5-25 µg/mL	See Below
Intracellular Staining by Flow Cytometry	0.25 µg/10^6 cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
ELISA	This antibody functions as an ELISA detection antibody when paired with Rabbit Anti-Human IL-18/IL-1F4 Monoclonal Antibody (Catalog # MAB91243). *This product is intended for assay development on various assay platforms requiring antibody pairs. We recommend the Human Total IL-18 DuoSet ELISA Kit (Catalog # DY318-05) for convenient development of a sandwich ELISA or the Human Total IL-18/IL-1F4 Quantikine ELISA Kit (Catalog # DL180) for a complete optimized ELISA.*	

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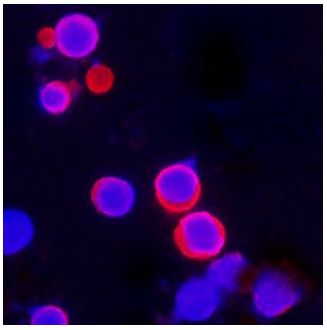
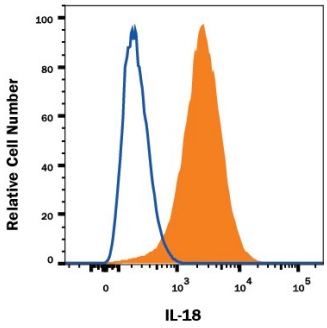
DATA

Immunocytochemistry



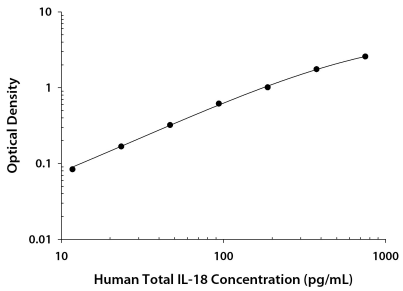
Detection of IL-18/IL-1F4 in Human PBMC's. IL-18/IL-1F4 was detected in immersion fixed human PBMC's using Mouse Anti-Human IL-18/IL-1F4 Monoclonal Antibody (Catalog # MAB2548) at 25 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Non-adherent Cells.

Intracellular Staining by Flow Cytometry



Detection of IL-18/IL-1F4 in Human THP-1 cell line by Flow Cytometry. THP-1 Human acute monocytic leukemia cell line was stained with Mouse Anti-Human IL-18/IL-1F4 Monoclonal Antibody (Catalog # MAB2548, filled histogram) or isotype control antibody (Catalog # MAB002, open histogram), followed by PE-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0102B). To facilitate intracellular staining, cells were fixed with paraformaldehyde and permeabilized with saponin. View our protocol for Staining Intracellular Molecules.

ELISA



Human IL-18/IL-1F4 ELISA Standard Curve. Recombinant Human IL-18/IL-1F4 protein was serially diluted 2-fold and captured by Rabbit Anti-Human IL-18/IL-1F4 Monoclonal Antibody (Catalog # MAB91243) coated on a Clear Polystyrene Microplate (Catalog # DY990). Mouse Anti-Human IL-18/IL-1F4 Monoclonal Antibody (Catalog # MAB2548) was biotinylated and incubated with the protein captured on the plate. Detection of the standard curve was achieved by incubating Streptavidin-HRP (Catalog # DY998) followed by Substrate Solution (Catalog # DY999) and stopping the enzymatic reaction with Stop Solution (Catalog # DY994).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

Interleukin-18 (IL-18), also known as IL-1F4 and IFN-γ inducing factor (IGIF), is a member of the IL-1 family of cytokines and is a key molecule in the innate immune response (1). Rhesus IL-18 is synthesized as a 24 kDa proprotein that contains a 36 amino acid (aa) propeptide and a 157 aa mature region (2). Under inflammatory conditions, the propeptide is cleaved by Caspase-1 in the cytoplasm to liberate the mature nonglycosylated 18 kDa monomeric IL-18 (3, 4). Mature rhesus IL-18 shares 96% aa sequence identity with human IL-18 and 60-76% with mouse, rat, canine, feline, and porcine IL-18. IL-18 is secreted by a variety of cell types including macrophages, dendritic cells, and epithelial cells (1, 5). Circulating mature IL-18 is sequestered by soluble IL-18 binding proteins (IL-18 BP) that inhibit IL-18 bioactivity (6). IL-18 interacts with the widely expressed IL-18 Rα which then recruits the signaling subunit IL-18 Rβ (7, 8). The IL-1 family member IL-1F7 also binds to IL-18 Rα but does not recruit IL-18 Rβ or induce signaling (9). IL-1F7 binds IL-18 BP and enhances its neutralizing effect on IL-18 activity (9). IL-18 synergizes with other cytokines to activate NK, Th1, and Th17 cells and to increase the production of IFN-γ (1, 5, 10-12). IL-18 can also promote Th2 cytokine release which reduces the effectiveness of antiviral responses (13, 14). Increased levels of active IL-18 contribute to the severity of autoimmunity and hypertension, while deficiency of IL-18 results in symptoms of metabolic syndrome (1, 5, 15, 16). In cancer, IL-18 stimulates Th1 and NK cells to target tumor cells, but it can also promote angiogenesis, metastasis, and tumor cell immune evasion (11).

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