

DESCRIPTION

Species Reactivity	Human/Rhesus Macaque
Specificity	Detects rhesus macaque IL-18/IL-1F4 in direct ELISAs and Western blots. In Western blots, approximately 10% cross-reactivity with recombinant mouse IL-18, recombinant rat IL-18, and recombinant porcine IL-18 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant rhesus macaque IL-18/IL-1F4 Tyr37-Asp193 Accession # AAK13416
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
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 as a 0.2 µm filtered solution in PBS.

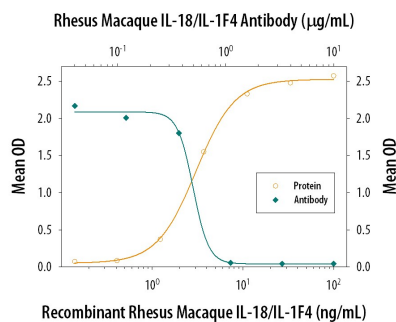
APPLICATIONS

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
Western Blot	0.1 µg/mL	Recombinant Rhesus Macaque IL-18/IL-1F4 (Catalog # 2548-RM)
Immunocytochemistry	5-15 µg/mL	See Below
Neutralization	Measured by its ability to neutralize IL-18/IL-1F4-induced IFN-γ secretion in the KG-1 human acute myelogenous leukemia cell line. Novick, D. <i>et al.</i> (1999) <i>Immunity</i> 10 (1):127. The Neutralization Dose (ND ₅₀) is typically 0.4-1.2 µg/mL in the presence of 10 ng/mL Recombinant Rhesus Macaque IL-18/IL-1F4 and 20 ng/mL Recombinant Human TNF-α.	

DATA

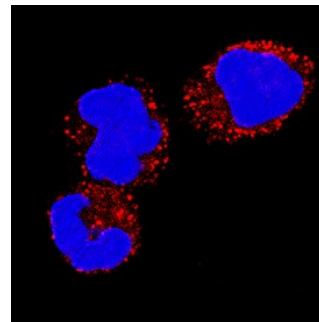
Neutralization



IFN-γ Secretion Induced by IL-18/IL-1F4 and Neutralization by Primate IL-18/IL-1F4 Antibody.

In the presence of Recombinant Human TNF-α (20 ng/mL, Catalog # 210-TA), Recombinant Rhesus Macaque IL-18/IL-1F4 (Catalog # 2548-RM) stimulates IFN-γ secretion in the KG-1 human acute myelogenous leukemia cell line in a dose-dependent manner (orange line), as measured by the Human IFN-γ Quantikine ELISA Kit (Catalog # DIF50). Under these conditions, IFN-γ secretion elicited by Recombinant Rhesus Macaque IL-18/IL-1F4 (10 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human/Rhesus Macaque IL-18/IL-1F4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2548). The ND₅₀ is typically 0.4-1.2 µg/mL.

Immunocytochemistry



IL-18/IL-1F4 in Human PBMCs. IL-18/IL-1F4 was detected in immersion fixed human peripheral blood mononuclear cells (PBMCs) using Goat Anti-Human/Rhesus Macaque IL-18/IL-1F4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2548) at 5 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counterstained with DAPI (green). Specific staining was localized to cytoplasm. View our protocol for [Fluorescent ICC Staining of Non-adherent Cells](#).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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. <ul style="list-style-type: none"> ● 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.

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 R α which then recruits the signaling subunit IL-18 R β (7, 8). The IL-1 family member IL-1F7 also binds to IL-18 R α but does not recruit IL-18 R β 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).

References:

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