# Human IL-18/IL-1F4 Antibody

Monoclonal Mouse $IgG_{2A}$ Clone # 914205

Catalog Number: MAB91241

## DESCRIPTION

| | |
|---|---|
| **Species Reactivity** | Human |
| **Specificity** | Detects human IL-18/IL-1F4 in direct ELISAs. |
| **Source** | Monoclonal Mouse $IgG_{2A}$ Clone # 914205 |
| **Purification** | Protein A or G purified from hybridoma culture supernatant |
| **Immunogen** | Human IL-18/IL-1F4 synthetic peptide<br>Accession # Q14116 |
| **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.<br>*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.*

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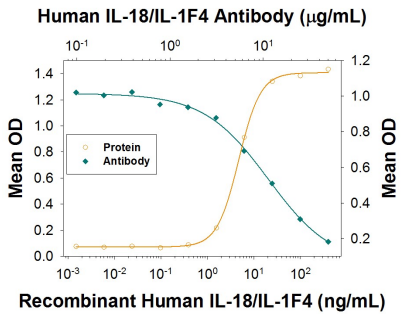
| **Neutralization** | Measured by its ability to neutralize IL-18/IL-1F4-induced IFN-γ secretion in the KG-1 human acute myelogenous leukemia cell line. Novick, D. *et al.* (1999) Immunity **10**(1):127. The Neutralization Dose ($ND_{50}$) is typically 3-15 µg/mL in the presence of 10 ng/mL Recombinant Human 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 Human IL-18/IL-1F4 Antibody.** In the presence of Recombinant Human TNF-α (20 ng/mL, Catalog # 210-TA), Recombinant Human IL-18/IL-1F4 (Catalog # 9124-IL) 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 HumanIL-18/IL-1F4 (10 ng/mL) is neutralized (green line) by increasing concentrations of Rabbit Anti-Human IL-18/IL-1F4 Monoclonal Antibody (Catalog # MAB91241). The $ND_{50}$ is typically 3-15 µg/mL.

## PREPARATION AND STORAGE

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| **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.<br>*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.**<br>● 12 months from date of receipt, -20 to -70 °C as supplied.<br>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.<br>● 6 months, -20 to -70 °C under sterile conditions after reconstitution. |



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## BACKGROUND

Interleukin-18 (IL-18) is a proinflammatory cytokine in the IL-1 family that exerts distinct immune effects depending on the local cytokine environment. It is expressed as a 24 kDa precursor by endothelial and epithelial cells, keratinocytes, γδ T cells, and phagocytes. The precursor is activated intracellularly by Caspase-1 mediated proteolysis to release the 17 kDa mature cytokine. The precursor can also be released by necrotic cells for extracellular cleavage by multiple proteases. IL-18 activation is induced by infection or tissue damage and contributes to disease pathology in chronic inflammation (1-3). IL-18 binds to the widely expressed IL-18 Rα which recruits IL-18 Rβ to form the signaling receptor complex (4, 5). Its bioactivity is negatively regulated by interactions with IL-18 binding proteins and virally encoded IL-18BP homologs (6). In the presence of IL-12 or IL-15, IL-18 enhances anti-viral Th1 immune responses by inducing IFN-γ production and the cytolytic activity of $CD8^+$ T cells and NK cells (7, 8). In the absence of IL-12 or IL-15, however, IL-18 promotes production of the Th2 cytokines IL-4 and IL-13 by $CD4^+$ T cells and basophils (9, 10). In the presence of IL-1β or IL-23, IL-18 induces the antigen-independent production of IL-17 by γδ T cells and $CD4^+$ T cells (11). IL-18 also promotes myeloid dendritic cell maturation and triggers neutrophil respiratory burst (12, 13). In cancer, IL-18 exhibits diverse activities including enhancing anti-tumor immunity, inhibiting or promoting angiogenesis, and promoting tumor cell metastasis (14). Mature human IL-18 shares approximately 63% amino acid sequence identity with mouse and rat IL-18 (15). Alternative splicing in human ovarian cancer generates an isoform that is resistant to Caspase-1 activation (16). A cell surface form can be expressed on M-CSF induced macrophages and released in response to bacterial endotoxin (17).

**References:**

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