

## Technical Data Sheet

### Anti-Human IFN $\gamma$

**Catalog Number:** 110601  
**Size:** 100  $\mu$ g  
**Target Name:** IFN $\gamma$ , IFN-g, IFN-gamma, Interferon- $\gamma$   
**Regulatory Status:** RUO

#### Product Details

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**Clone:** 4S.B3  
**Application:** FC  
**Reactivity:** Human  
**Format:** Purified  
**Isotype:** Mouse IgG1  
**Antibody Type:** Monoclonal  
**Formulation:** Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide  
**Protein Concentration:** 0.5 mg/mL  
**Storage&Handling:** The antibody solution should be stored between 2°C and 8°C  
**Release Date:** Nov-25

#### Background Information

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Human Interferon gamma (hIFN- $\gamma$ ) is the sole member of Type II interferons and a potent macrophage-activating cytokine produced mainly by activated T lymphocytes and natural killer (NK) cells. Structurally, it is an antiparallel homodimeric glycoprotein of approximately 45 kDa, consisting of two identical 146-amino-acid subunits. Binding of hIFN- $\gamma$  to its receptor (IFN- $\gamma$ R1) activates the JAK/STAT signaling pathway, leading to the transcription of genes involved in antiviral, antibacterial, and immunoregulatory responses. Functionally, hIFN- $\gamma$  upregulates MHC class I and II expression, enhances antigen presentation, and promotes Th1-type immune responses. It recruits and activates macrophages, NK cells, and cytotoxic T lymphocytes (CTLs), reinforcing innate and adaptive immunity. Although crucial for host defense, IFN- $\gamma$  can also contribute to immune escape and tumor resistance in certain cancers.