

Product Information

Monoclonal Anti-Interferon- γ

Clone 25718

produced in mouse, purified immunoglobulin

Catalog Number **I5521**

Product Description

Monoclonal Anti-Interferon- γ (IFN- γ) (IgG2a isotype) is purified from a hybridoma produced by the fusion of mouse myeloma cells and B cells from a mouse immunized with recombinant human interferon- γ (GeneID: 3458) expressed and purified from *Escherichia coli*. The antibody is purified by Protein A affinity chromatography.

Monoclonal Anti-Interferon- γ recognizes human interferon- γ . Applications include immunohistochemistry, ELISA, and neutralization. The antibody has the ability to neutralize the biological activity of recombinant human interferon- γ .

Interferon- γ exerts a variety of biological effects including antiviral activity,¹ inhibition of cell or tumor growth,^{2,3} and promotion of differentiation of B cells into immunoglobulin-producing cells.^{4,5} In addition to antiviral activity, human IFN- γ is a potent modulator of immune response and modifies cellular processes.⁶ IFN- γ is classified as immune interferon.⁶ It functions as an activating factor to prime macrophages (MAF) for non-specific tumoricidal activity⁷ and activates monocytes to exert enhanced cytotoxicity against tumor cells.⁸ IFN- γ acts as a signal for major histocompatibility antigen expression.⁹ It also boosts cytotoxicity of natural killer cells and stimulates T cell cytotoxicity. The species specificity of IFN- γ resides in the interaction of IFN- γ with its receptor. Human IFN- γ does not bind specifically to mouse, hamster, or bovine cells.¹⁰

Reagent

Supplied lyophilized from a 0.2 μ m filtered solution of phosphate buffered saline with 5% trehalose.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

To one vial of lyophilized powder, add 1 mL of 0.2 μ m filtered phosphate buffered saline to produce a 0.5 mg/mL stock solution. If aseptic technique is used, no further filtration should be necessary for use in cell culture environments.

Storage/Stability

Prior to reconstitution, store at -20 °C. Reconstituted product may be stored at 2-8 °C for up to one month. For extended storage, freeze in working aliquots at -20 °C. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended.

Neutralization

To measure the ability of this antibody to neutralize the bioactivity of recombinant human interferon- γ on HeLa cells¹¹, interferon- γ was added to various concentrations of the antibody. The antigen-antibody mixture was added to confluent cultures of HeLa cells in a 96 well plate. The assay mixture in a total volume of 100 μ L, containing antibody at concentrations between 0.001-10 μ g/mL and recombinant human interferon- γ at 5 ng/mL was incubated at 37 °C for 20-24 hours in a humidified CO₂ incubator. At the end of this incubation period, medium was aspirated from the wells, and an appropriate titrated amount of Encephalomyocarditis virus (EMCV) in prewarmed culture medium was added to each test well. After an additional 20-24 hour incubation period, the cells were fixed, stained, and scored for cytopathic effect by measurement of optical densities in a microplate reader at 540 nm. The ND₅₀ of this antibody is approximately 0.02-0.06 μ g/mL.

The Neutralization Dose₅₀ (ND₅₀) for this antibody is defined as that concentration of antibody required to yield one-half maximal inhibition of the cytokine activity on a responsive cell line, when that cytokine is present at a concentration just high enough to elicit a maximum response.

Product Profile

Immunohistochemistry: a working concentration of ~25 µg/mL is recommended to detect recombinant human interferon-γ in human peripheral blood mononuclear cells.

Indirect ELISA: a working concentration of 0.5-1.0 µg/mL is recommended. The detection limit for recombinant human interferon-γ is ~25 ng/well.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

Endotoxin: <0.1 EU/µg antibody as determined by the LAL method.

References

1. Vilcek, J., et al., *Lymphokines*, **11**, 1 (1985).
2. Gresser, I., et al., *Proc. Natl. Acad. Sci., USA*, **66**, 1052 (1970).
3. Knight Jr., E., *Nature*, **262**, 302 (1976).
4. Perussia, B., et al., *J. Exp. Med.*, **158**, 1092 (1983).
5. Opdenakker, G., et al., *Experienta (Basel)*, **45**, 513 (1989).
6. Fisher, O., et al., *Pharmac. Ther.*, **27**, 143 (1985).
7. Schreiber, R., et al., *Lymphokines*, **11**, 87 (1985).
8. Le, J., et al., *Cell. Immun.*, **85**, 278 (1984).
9. Pfizenmaier, K., et al., *Can. Res.*, **45**, 3503 (1985).
10. Pestka, S., et al., *Ann. Rev. Biochem.*, **56**, 727 (1987).
11. Meager, A., *Lymphokines and Interferons, A Practical Approach*, Clemens, M., et al., (eds.), IRL Press, Oxford, 129 (1987).

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