Monoclonal Anti-Human IFN-\(\gamma\) Receptor (IgG1 isotype) is purified from a mouse hybridoma produced by the fusion of mouse myeloma cells and splenocytes from immunized BALB/c mice. Purified human interferon-\(\gamma\) receptors obtained from human placenta were used as immunogen.\(^1\) The antibody is purified by Protein G affinity chromatography. Monoclonal Anti-IFN-\(\gamma\) Receptor is provided as a liquid in phosphate buffered saline, to which no preservatives are added.

**Description**

Interferon-\(\gamma\) (IFN-\(\gamma\)) exerts a variety of biological effects including antiviral activity,\(^2\) inhibition of cell or tumor growth\(^3,4\) and promotion of differentiation of B cells into immunoglobulin-producing cells.\(^5,6\) In addition to antiviral activity, human IFN-\(\gamma\) is a potent modulator of immune response and modifies cellular processes.\(^7\) IFN-\(\gamma\) is classified as immune interferon.\(^7\) IFN-\(\gamma\) functions as an activating factor to prime macrophages (MAF) for non-specific tumoricidal activity and activates monocytes to exert enhanced cytotoxicity against tumor cells.\(^8\) IFN-\(\gamma\) acts as a signal for major histocompatibility antigen expression.\(^10\) IFN-\(\gamma\) boosts cytotoxicity of natural killer cells and stimulates T cell cytotoxicity. The species specificity of IFN-\(\gamma\) resides in the interaction of IFN-\(\gamma\) with its receptor.\(^11\) Human IFN-\(\gamma\) does not bind specifically to mouse, hamster or bovine cells.\(^11\)

The Interferon-\(\gamma\) receptor is a complex of a high affinity IFN\(\gamma\) binding chain (CDw119) and a second accessory protein required for signal transduction.\(^12\) The interferon binding subunit is a single chain transmembrane glycoprotein with a disulphide bond which is essential for function.\(^12\) The IFN-\(\gamma\) receptor is a member of the class II cytokine receptor family which also includes the IFN-\(\alpha/\beta\) receptor and the IL-10 receptor.

**Performance**

Monoclonal Anti-Human IFN-\(\gamma\) Receptor is tested for its ability to neutralize the biological activity of recombinant human IFN-\(\gamma\) on WiDr cells,\(^16\) by blocking the binding of IFN-\(\gamma\) to cell surface receptors on human WiDr cells. The ND\(_{50}\) of the antibody is defined as the concentration of antibody resulting in a one-half maximal inhibition of bioactivity of recombinant human IFN-\(\gamma\) which is present at a concentration just high enough to elicit a maximum response. In this bioassay, recombinant human IFN-\(\gamma\) was mixed with various dilutions of the antibody and the antigen-antibody mixture was added to confluent cultures of WiDr cells in a 96-well plate. The assay mixture was incubated at 37°C in a humidified CO\(_2\) incubator. After incubation, MTT was added to the 96-well plate and the absorbance was read at 540 nm.

**Product Information**

- **Mass/vial:** 0.2 mg
- **Immunogen:** Purified human interferon-\(\gamma\) receptors obtained from human placenta.
- **Purity:** ≥ 90% by SDS-PAGE
- **Isotype:** Mouse IgG1
- **Formulation:** 0.2 µm-filtered PBS without additives.
- **Bioactivity:** ND\(_{50}\) = 0.4-8.0 µg/ml
- **Sterility:** 0.2 µm-filtered
- **Endotoxin:** ≤ 0.2 ng/vial by LAL method

**Reconstitution and Use**

Dilute the contents of the vial with 0.2 µm-filtered PBS containing 0.1% BSA or cell culture medium containing 10% serum. If aseptic technique is used, no further filtration should be needed for use in cell culture environments.

**Storage**

Store undiluted product at −70°C for a maximum of 6 months or at 2-8°C for a maximum of 4 weeks. For prolonged storage, freeze in working aliquots at −70°C. Avoid repeated freezing and thawing.

**References**

10. Pfizenmaier, K., et al., Cancer Research, 45, 3503

Sigma brand products are sold through Sigma-Aldrich, Inc. Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.