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IFN- γ (XMG1.2) Rat mAb (PE Conjugate)

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
FC-FP	M	Endogenous	Rat IgG1 kappa	#P01580	15978

Product Usage Information

For optimal flow cytometry results, we recommend 0.125 μ g of antibody per test.

Application

Flow Cytometry (Fixed/Permeabilized)

Dilution

1:160

Storage

Supplied in 10 mM NaH₂PO₄, 150 mM NaCl, 0.09% NaN₃, 0.1% gelatin, pH 7.2. This product is stable for 12 months when stored at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.

Specificity/Sensitivity

IFN- γ (XMG1.2) Rat mAb (PE Conjugate) recognizes endogenous levels of total IFN- γ protein. This antibody detects an epitope within the intracellular domain.

Source / Purification

This monoclonal antibody was purified from tissue culture supernatant via affinity chromatography. The purified antibody was conjugated under optimal conditions, with unreacted dye removed from the preparation.

Description

This Cell Signaling Technology antibody is conjugated to PE and tested in-house for direct flow cytometric analysis in mouse cells.

Background

IFN- γ plays key roles in both the innate and adaptive immune response. IFN- γ activates the cytotoxic activity of innate immune cells, such as macrophages and NK cells (1,2). IFN- γ production by NK cells and antigen presenting cells (APCs) promotes cell-mediated adaptive immunity by inducing IFN- γ production by T lymphocytes, increasing class I and class II MHC expression, and enhancing peptide antigen presentation (1). Due to differences in the degree of glycosylation, there are three forms of IFN- γ , with approximate molecular weights of 25, 20, and 15.5 kDa by SDS-PAGE (5). The anti-viral activity of IFN- γ is due to its induction of PKR and other regulatory proteins. Binding of IFN- γ to the IFNGR1/IFNGR2 complex promotes dimerization of the receptor complexes to form the (IFNGR1/IFNGR2)₂-IFN- γ dimer. Binding induces a conformational change in receptor intracellular domains and signaling involves Jak1, Jak2, and Stat1 (3). The critical role of IFN- γ in amplification of immune surveillance and function is supported by increased susceptibility to pathogen infection by IFN- γ or IFNGR knockout mice and in humans with inactivating mutations in *IFNGR1* or *IFNGR2*. IFN- γ also appears to have a role in atherosclerosis (4).

Background References

- Schroder, K. et al. (2004) *J Leukoc Biol* 75, 163-89.
- Martinez, F.O. et al. (2009) *Annu Rev Immunol* 27, 451-83.
- Kotenko, S.V. et al. (1995) *J Biol Chem* 270, 20915-21.
- McLaren, J.E. and Ramji, D.P. (2009) *Cytokine Growth Factor Rev* 20, 125-35.
- Kelker, H.C. et al. (1984) *J Biol Chem* 259, 4301-4.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Applications Key

FC-FP: Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

M: Mouse

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