Revision 1

Store at +4C

#12274

IFN-γ (D3H2) XP® Rabbit mAb (PE Conjugate)

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
FC-FP	H	Endogenous	Rabbit IgG	#P01579	3458

Product Usage Information

Application	Dilution
Flow Cytometry (Fixed/Permeabilized)	1:50

Storage

Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibodies. Protect from light. Do not freeze.

Specificity/Sensitivity

IFN-γ (D3H2) XP® Rabbit mAb (PE Conjugate) recognizes endogenous levels of total IFN-γ protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with recombinant human IFN-γ protein.

Description

This Cell Signaling Technology antibody is conjugated to phycoerythrin (PE) and tested in-house for direct flow cytometry analysis in human cells. The antibody is expected to exhibit the same species cross-reactivity as the unconjugated IFN-γ (D3H2) XP® Rabbit mAb #8455.

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

1. Schroder, K. et al. (2004) *J Leukoc Biol* 75, 163-89.
2. Martinez, F.O. et al. (2009) *Annu Rev Immunol* 27, 451-83.
3. Kotenko, S.V. et al. (1995) *J Biol Chem* 270, 20915-21.
4. McLaren, J.E. and Ramji, D.P. (2009) *Cytokine Growth Factor Rev* 20, 125-35.
5. 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

H: Human

Trademarks and Patents

Limited Uses

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