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IFN-γ (3F1E3) Mouse mAb

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP, E-P	H	Recombinant protein	17	Mouse IgG1	#P01579	3458

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50
Peptide ELISA (DELFIA)	1:100

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

IFN-γ (3F1E3) Mouse mAb detects recombinant human IFN-γ.

Source / Purification

Monoclonal antibody is produced by immunizing animals with Ni-NTA purified recombinant human IFN-γ expressed in *E. Coli*. Antibodies were prepared from ascites.

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).

IFN-γ, also known as type II interferon, is produced mainly in activated T lymphocytes and natural killer cells (4) and has broad effects on various cells of the immune system. Many signaling proteins including IL-2, FGF, and EGF induce the synthesis of IFN-γ.

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.
6. Young, H.A. and Hardy, K.J. (1995) *J Leukoc Biol* 58, 373-81.

Species Reactivity

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

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation **E-P:** Peptide ELISA (DELFIA)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster **X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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