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#8455

## IFN- $\gamma$ (D3H2) XP<sup>®</sup> Rabbit mAb

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

<b>Applications:</b> W, IP, IF-IC, FC-FP	<b>Reactivity:</b> H	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 17, 19, 23	<b>Source/Isotype:</b> Rabbit IgG	<b>UniProt ID:</b> #P01579	<b>Entrez-Gene Id:</b> 3458
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### Product Usage Information

#### Application

Western Blotting  
Immunoprecipitation  
Immunofluorescence (Immunocytochemistry)  
Flow Cytometry (Fixed/Permeabilized)

#### Dilution

1:1000  
1:50  
1:100  
1:400

### Storage

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

For a carrier free (BSA and azide free) version of this product see product #56007.

### Specificity/Sensitivity

IFN- $\gamma$  (D3H2) XP<sup>®</sup> Rabbit mAb recognizes endogenous levels of total IFN- $\gamma$  protein.

### Source / Purification

Monoclonal antibody is produced by immunizing animals with recombinant human IFN- $\gamma$  protein.

### Background

IFN- $\gamma$  plays key roles in both the innate and adaptive immune response. IFN- $\gamma$  activates the cytotoxic activity of innate immune cells, such as macrophages and NK cells (1,2). IFN- $\gamma$  production by NK cells and antigen presenting cells (APCs) promotes cell-mediated adaptive immunity by inducing IFN- $\gamma$  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- $\gamma$ , with approximate molecular weights of 25, 20, and 15.5 kDa by SDS-PAGE (5). The anti-viral activity of IFN- $\gamma$  is due to its induction of PKR and other regulatory proteins. Binding of IFN- $\gamma$  to the IFNGR1/IFNGR2 complex promotes dimerization of the receptor complexes to form the (IFNGR1/IFNGR2)<sub>2</sub>-IFN- $\gamma$  dimer. Binding induces a conformational change in receptor intracellular domains and signaling involves Jak1, Jak2, and Stat1 (3). The critical role of IFN- $\gamma$  in amplification of immune surveillance and function is supported by increased susceptibility to pathogen infection by IFN- $\gamma$  or IFNGR knockout mice and in humans with inactivating mutations in *IFNGR1* or *IFNGR2*. IFN- $\gamma$  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).

### Western Blot Buffer

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

### Applications Key

**W:** Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

### Cross-Reactivity Key

**H:** Human

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