Rat IFN-γ Antibody

Monoclonal Mouse IgG_1 Clone # 88915

Catalog Number: MAB585

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat IFN-γ in Western blots. In Western blots, this antibody shows less than 1% cross-reactivity with recombinant mouse (rm) IFN-γ and no cross-reactivity with rhIFN-γ.
Source	Monoclonal Mouse IgG_1 Clone # 88915
Purification	Protein A or G purified from ascites
Immunogen	*E. coli*-derived recombinant rat IFN-γ Gln23-Cys156 Accession # P01581
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

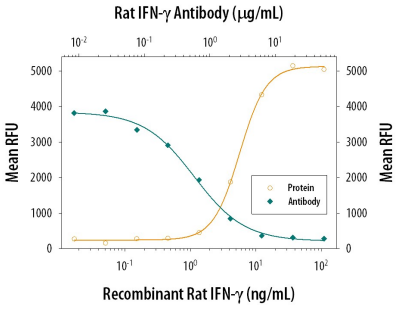
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Rat IFN-γ (Catalog # 585-IF)
Neutralization	Measured by its ability to neutralize IFN−γ inhibition of EMCV-induced cytopathy in the L−929 mouse fibroblast cell line. Vogel, S. and M. Hogan (1995) in Current Protocols in Immunology. Ciocio, R. (ed); John Wiley & Sons, Inc. p. 6. 9. 1. The Neutralization Dose (ND_{50}) is typically 0.5-1.5 µg/mL in the presence of 2.5 ng/mL Recombinant Rat IFN−γ.	

DATA

Neutralization



IFN-γ Inhibition of EMCV-induced Cytopathy and Neutralization by Rat IFN-γ Antibody. Recombinant Rat IFN-γ (Catalog # 585-IF) reduces the Encephalomyocarditis Virus (EMCV)-induced cytopathy in the L-929 mouse fibroblast cell line in a dose-dependent manner (orange line). Inhibition of EMCV activity elicited by Recombinant Rat IFN-γ (2.5 ng/mL) is neutralized (green line) by increasing concentrations of Rat IFN-γ Monoclonal Antibody (Catalog # MAB585). The ND_{50} is typically 0.5-1.5 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

Interferon-gamma (IFN-γ), also known as type II or immune interferon, exerts a wide range of immunoregulatory activities and is considered to be the prototype proinflammatory cytokine (1, 2). Mature rat IFN-γ exists as a noncovalently linked homodimer of 20-25 kDa variably glycosylated subunits (3). It shares 86% amino acid sequence identity with mouse IFN-γ and 37-45% with bovine, canine, cotton rat, equine, feline, human, porcine, and rhesus IFN-γ. IFN-γ dimers bind to IFN-γ RI (alpha subunits) which then interact with IFN-γ RII (beta subunits) to form the functional receptor complex of two α and two β subunits. Inclusion of IFN-γ RII increases the binding affinity for ligand and the efficiency of signal transduction (4, 5). IFN-γ is produced by a variety of immune cells under inflammatory conditions, notably by T cells and NK cells (6). It plays a key role in host defense by promoting the development and activation of Th1 cells, chemoattraction and activation of monocytes and macrophages, upregulation of antigen presentation molecules, and immunoglobulin class switching in B cells. It also exhibits antiviral, antiproliferative, and apoptotic effects (6, 7). In addition, IFN-γ functions as an anti-inflammatory mediator by promoting the development of regulatory T cells and inhibiting Th17 cell differentiation (8, 9). The pleiotropic effects of IFN-γ contribute to the development of multiple aspects of atherosclerosis (7).

References:

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2. Pestka, S. *et al.* (2004) Immunol. Rev. **202**:8.
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4. Marsters, S.A. *et al.* (1995) Proc. Natl. Acad. Sci. USA **92**:5401.
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