Human IFN-γ Antibody

Polyclonal Goat IgG

Catalog Number: AB-285-NA

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IFN-γ in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 50% cross-reactivity with recombinant rhesus monkey IFN-γ is observed, and less than 5% cross-reactivity with recombinant mouse IFN-γ, recombinant canine IFN-γ, recombinant porcine IFN-γ, recombinant bovine IFN-γ, recombinant rat IFN-γ, recombinant feline IFN-γ, and recombinant equine IFN-γ is observed.
Source	Polyclonal Goat IgG
Purification	Protein A or G purified
Immunogen	*E. coli*-derived recombinant human IFN-γ Met1-Gln144 Accession # Q14609
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.

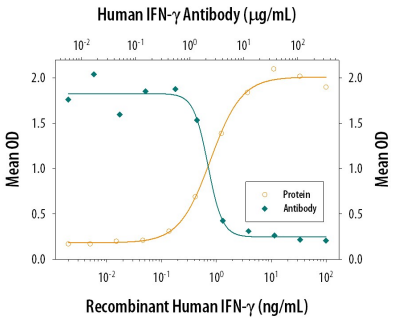
APPLICATIONS

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 Human IFN-γ (Catalog # 285-IF)
Neutralization	Measured by its ability to neutralize IFN−γ inhibition of EMCV-induced cytopathy in the HeLa human cervical epithelial carcinoma cell line [Meager, A. (1987) in Lymphokines and Interferons, a Practical Approach. Clemens, M.J. *et al*. (eds): IRL Press. 129]. The Neutralization Dose (ND_{50}) is typically 1-5 µg/mL in the presence of 5 ng/mL Recombinant Human IFN−γ.	

DATA

Neutralization



IFN-γ Inhibition of EMCV-induced Cytopathy and Neutralization by Human IFN-γ Antibody. Recombinant Human IFN-γ (Catalog # 285-IF) reduces the Encephalomyocarditis Virus (EMCV)-induced cytopathy in the HeLa human cervical epithelial carcinoma cell line in a dose-dependent manner (orange line), as measured by crystal violet staining. Inhibition of EMCV activity elicited by Recombinant Human IFN-γ (5 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human IFN-γ Polyclonal Antibody (Catalog # AB-285-NA). The ND_{50} is typically 1-5 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 1 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
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 human IFN-γ exists as a non-covalently linked homodimer of 20-25 kDa variably glycosylated subunits (3). It shares 90% amino acid (aa) sequence identity with rhesus IFN-γ, 59-64% with bovine, canine, equine, feline, and porcine IFN-γ, and 37-43% with cotton rat, mouse, and rat 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 anti-viral, anti-proliferative, 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.
3. Gray, P.W. and D.V. Goeddel (1982) Nature **298**:859.
4. Marsters, S.A. *et al.* (1995) Proc. Natl. Acad. Sci. USA **92**:5401.
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