

**DESCRIPTION**

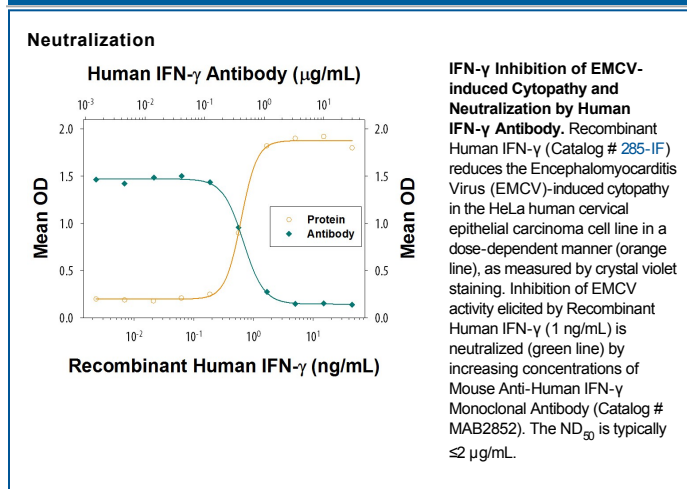
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human IFN- $\gamma$ in direct ELISAs and Western blots. In Western blots, no cross-reactivity with recombinant mouse IFN- $\gamma$ , recombinant rat IFN- $\gamma$ , recombinant porcine IFN- $\gamma$ , recombinant feline IFN- $\gamma$ , or recombinant cotton rat IFN- $\gamma$ is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>2A</sub> Clone # K3.53
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human IFN- $\gamma$
<b>Endotoxin Level</b>	<0.10 EU per 1 $\mu$ g of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS and NaCl with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 $\mu$ m 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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	1 $\mu$ g/mL	Recombinant Human IFN- $\gamma$ (Catalog # 285-IF)
<b>Human IFN-<math>\gamma</math> Sandwich Immunoassay</b>		<b>Reagent</b>
<b>ELISA Capture</b>	2-8 $\mu$ g/mL	Human IFN- $\gamma$ Antibody (Catalog # MAB2852)
<b>ELISA Detection Standard</b>	0.1-0.4 $\mu$ g/mL	Human IFN- $\gamma$ Biotinylated Antibody (Catalog # BAF285) Recombinant Human IFN- $\gamma$ (Catalog # 285-IF)
<b>Neutralization</b>	Measured by its ability to neutralize IFN- $\gamma$ inhibition of EMCV-induced cytopathy in the HeLa human cervical epithelial carcinoma cell line. Meager, A. (1987) in <i>Lymphokines and Interferons, a Practical Approach</i> . Clemens, M.J. <i>et al.</i> (eds): IRL Press. 129. The Neutralization Dose (ND <sub>50</sub> ) is typically $\leq$ 2 $\mu$ g/mL in the presence of 1 ng/mL Recombinant Human IFN- $\gamma$ .	

**DATA**



**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**BACKGROUND**

Interferon-gamma (IFN- $\gamma$ ), 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- $\gamma$  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- $\gamma$ , 59-64% with bovine, canine, equine, feline, and porcine IFN- $\gamma$ , and 37-43% with cotton rat, mouse, and rat IFN- $\gamma$ . IFN- $\gamma$  dimers bind to IFN- $\gamma$  RI (alpha subunits) which then interact with IFN- $\gamma$  RII (beta subunits) to form the functional receptor complex of two  $\alpha$  and two  $\beta$  subunits. Inclusion of IFN- $\gamma$  RII increases the binding affinity for ligand and the efficiency of signal transduction (4, 5). IFN- $\gamma$  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- $\gamma$  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- $\gamma$  contribute to the development of multiple aspects of atherosclerosis (7).

**References:**

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