

# Anti-hIFN- $\gamma$ -IgA

Neutralizing IgA monoclonal antibody to human interferon gamma

Catalog code: hifng-mab7-02

<https://www.invivogen.com/anti-hifng-iga>

For research use only

Version 22K18-AK

## PRODUCT INFORMATION

**Contents:** 200  $\mu$ g purified anti-hIFN- $\gamma$ -IgA monoclonal antibody (mAb), provided azide-free and lyophilized.

**Target:** Human interferon gamma (hIFN- $\gamma$ )

**Clone:** H7WM120

**Source:** Chinese hamster ovary (CHO) cells

**Isotype:** Human IgA2, kappa

**Purification:** Affinity chromatography with protein M

**Formulation:** 0.2  $\mu$ m filtered solution in Tris HCl buffer with glycine, saccharose, and stabilizing agents

**Tested applications:** Neutralization & blocking *in vitro*

### Antibody resuspension (0.1 mg/ml)

*Note:* Ensure you see the lyophilized pellet before resuspension.

Resuspend anti-hIFN- $\gamma$ -hIgA with sterile water:

Add 2 ml of sterile water per 200  $\mu$ g vial.

### Storage and stability

- Product is shipped at room temperature. Upon receipt, store lyophilized antibody at -20°C.
- Reconstituted antibody is stable for 1 month when stored at 4°C and for 1 year when stored at -20°C. Avoid repeated freeze-thaw cycles.

### Quality control

- The product has been validated for neutralization using cellular assays.
- The complete sequence of this antibody has been verified.
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.

## BACKGROUND

Interferon gamma (IFN- $\gamma$ ) is a Type II interferon, secreted by CD4+ T-helper 1 (Th1) cells and activated natural killer (NK) cells. It plays an important role in activating lymphocytes to enhance anti-microbial and anti-tumor effects<sup>1,2</sup>. In addition, IFN- $\gamma$  regulates the proliferation, differentiation, and response of lymphocyte subsets. Signaling takes place through a IFN Receptor complex consisting of two alpha chains (Type I receptor) and two beta chains (Type 2 receptor)<sup>3,4</sup>. Upon phosphorylation by JAK1, STAT1-homodimers translocate to the nucleus, where they bind interferon-gamma-activated sites (GAS) in the promoter of IFN- $\gamma$  inducible genes<sup>4</sup>.

1. Shtrichman R. & Samuel CE., 2001. The role of gamma interferon in antimicrobial immunity. *Curr Opin Microbiol.* 4(3):251-9. 2. Sato A. et al., 2006. Antitumor activity of IFN-lambda in murine tumor models. *J Immunol.* 176(12):7686-94. 3. Platanias LC., 2005. Mechanisms of type-I- and type-II-interferon-mediated signalling. *Nat Rev Immunol.* 5(5):375-86. 4. Schroder K. et al., 2004. Interferon-gamma: an overview of signals, mechanisms and functions. *J Leukoc Biol.* 75(2):163-89.

## TECHNICAL SUPPORT

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## DESCRIPTION

Anti-hIFN- $\gamma$ -IgA is a recombinant mAb specific for human interferon  $\gamma$  (hIFN- $\gamma$ ). It was generated by combining the constant domain of the human IgA2 molecule with the murine variable region of the clone H7WM120. Anti-hIFN- $\gamma$ -IgA has been selected for its ability to efficiently neutralize the biological activity of hIFN- $\gamma$ . It is produced in CHO cells and purified by affinity chromatography.

## APPLICATIONS

Anti-hIFN- $\gamma$ -IgA is a neutralizing antibody. It can be used to block hIFN- $\gamma$ -induced cellular activation *in vitro*, as described below.

## NEUTRALIZATION PROTOCOL

The exact concentration of antibody required to neutralize hIFN- $\gamma$  activity is dependent on the cytokine concentration, cell type and growth conditions. Below is a protocol using recombinant human IFN- $\gamma$  as well as HEK-Blue™ IFN- $\gamma$  cells. These cells are HEK293 cells stably expressing the human STAT1 and an IFN- $\gamma$ -inducible SEAP (secreted embryonic alkaline phosphatase) reporter gene. Changes in SEAP activity in the supernatant due to inhibition of IFN- $\gamma$  receptor binding can be assessed using QUANTI-Blue™ Solution, a SEAP detection reagent.

In a 96-well plate:

1. Prepare a serial dilution of the Anti-hIFN- $\gamma$ -IgA or a negative control (e.g. Human IgA2 Control) starting from 10 ng/ml to 1  $\mu$ g/ml (final conc.).
2. Add 0.3 ng/ml of recombinant hIFN- $\gamma$  to a final volume of 40  $\mu$ l.
3. Incubate for 30 minutes at 37°C, 5% CO<sub>2</sub>.
4. Prepare a suspension of HEK-Blue™ IFN- $\gamma$  cells (~3.0 x 10<sup>5</sup> cells/ml) in culture medium.
5. Add 160  $\mu$ l (5 x 10<sup>4</sup> cells/well) of the cell suspension to each well
6. Incubate the plate at 37°C, 5% CO<sub>2</sub> for 24 hours.
7. The next day: prepare QUANTI-Blue™ Solution and carry out the measurements following the instructions on the data sheet.

## RELATED PRODUCTS

Product	Cat. Code
HEK-Blue™ IFN- $\gamma$ Cells	hkb-ifng
Human IgA2 Control	maba2-ctrl
Recombinant human IFN- $\gamma$	rcyec-hifng
QUANTI-Blue™ Solution	rep-qb-1