Anti-hIFN-γ-IgA2

Neutralizing IgA2 monoclonal antibody to human interferon gamma

Catalog code: hifng-mab7-2

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

For research use only

Version 24F24-NJ

PRODUCT INFORMATION

Contents: 200 µg purified anti-hIFN-γ-IgA2 monoclonal antibody (mAb), provided azide-free and lyophilized.
Target: Human interferon gamma (hIFN-γ)
Clone: H7WM120
Source: Chinese hamster ovary (CHO) cells
Isotype: Human IgA2, kappa
Purification: Affinity chromatography with protein M
Formulation: 0.2 µm 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-γ-hIgA2 with sterile water:
Add 2 ml of sterile water per 200 µg 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-γ) 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[1,2]. In addition, IFN-γ 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)[3,4]. Upon phosphorylation by JAK1, STAT1-homodimers translocat to the nucleus, where they bind interferon-gamma-activated sites (GAS) in the promoter of IFN-γ inducible genes[4].

DESCRIPTION

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

APPLICATIONS

Anti-hIFN-γ-IgA2 is a neutralizing antibody. It can be used to block hIFN-γ-induced cellular activation *in vitro*, as described below.

NEUTRALIZATION PROTOCOL

The exact concentration of antibody required to neutralize hIFN-γ activity is dependent on the cytokine concentration, cell type and growth conditions. Below is a protocol using recombinant human IFN-γ as well as HEK-Blue™ IFN-γ cells. These cells are HEK293 cells stably expressing the human STAT1 and an IFN-γ-inducible SEAP (secreted embryonic alkaline phosphatase) reporter gene. Changes in SEAP activity in the supernatant due to inhibition of IFN-γ 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-γ-IgA2 (1 µg/ml - 10 ng/ml final concentration).
Note: We recommend using Anti-β-Gal-hIgA2 (which targets E. coli β-galactosidase) as a negative control antibody.
2. Add 1 ng/ml of recombinant hIFN-γ to a final volume of 40 µl.
3. Incubate for 30 minutes at 37°C, 5% CO_2.
4. Prepare a suspension of HEK-Blue™ IFN-γ cells (~3.0 x 10^5 cells/ml) in culture medium.
5. Add 160 µl (5 x 10^4 cells/well) of the cell suspension to each well
6. Incubate the plate at 37°C in a 5% CO_2 incubator for 18-24 h.
7. Monitor SEAP production using QUANTI-Blue™ Solution following the instructions on the data sheet.

RELATED PRODUCTS

Product	Cat. Code
HEK-Blue™ IFN-γ Cells	hkb-ifng
Anti-β-Gal-hIgA2	bgal-mab7
Recombinant human IFN-γ	rcyec-hifng
QUANTI-Blue™ Solution	rep-qb-1

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.

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