

Anti-hIFN- β -IgG

Neutralizing monoclonal antibody against human interferon beta

Catalog code: mabg2-hifnb-3

<https://www.invivogen.com/anti-hifnb-igg>

For research use only, not for diagnostic or therapeutic use

Version 22G20-MM

PRODUCT INFORMATION

Contents: 3 x 100 μ g purified anti-hIFN- β -IgG antibody, provided azide-free and lyophilized

Target: natural and recombinant human interferon-beta (IFN- β)

Clone: 10B10

Isotype: Mouse IgG2a

Light chain type: Kappa

Immunogen: Human IFN- β protein expressed in Swiss mice following DNA immunization

Formulation: 0.2 μ m filtered solution in sodium phosphate buffer with glycine, saccharose and stabilizing agents

Antibody resuspension (0.1 mg/ml)

Add 1 ml of sterile water per 100 μ 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 antibody has been validated for neutralization using cellular assays.
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.

BACKGROUND

Interferon-beta (IFN- β) is a type I interferon that has both anti-viral and immunomodulatory activities¹. IFN- β is a secreted polypeptide that is produced mainly by fibroblasts. In contrast to IFN- α , IFN- β is encoded by a single gene resulting in a single IFN- β isotype². IFN- β binds to a ubiquitously expressed heterodimeric receptor composed of two chains (IFNAR1 and IFNAR2) resulting in the recruitment of JAK1 and TyK2. These kinases phosphorylate STAT1 and STAT2 leading to the formation of the IFN-stimulated gene factor 3 (ISGF3) complex, which binds to IFN-stimulated response elements (ISRE), thereby directly activating the transcription of IFN-stimulated genes (ISGs)³.

1. Trinchieri G., 2010. Type I interferon: friend or foe? JEM 207(10):2053-2063. 2. Ivashkiv LB. & Donlin LT., 2014. Regulation of type I interferon responses. Nat Rev Immunol. 14(1):36-49. 3. Theofilopoulos A. et al., 2005. Type I interferons (alpha/beta) in immunity and autoimmunity. Annu Rev Immunol. 23:307-36.

DESCRIPTION

Anti-hIFN- β -IgG is a monoclonal antibody against human interferon β (hIFN- β). This antibody has been selected for its ability to efficiently neutralize the biological activity of hIFN- β . Anti-hIFN- β -IgG is produced in hybridomas and purified by affinity chromatography.

APPLICATIONS

Anti-hIFN- β -IgG is a neutralizing antibody, it blocks hIFN- β -induced cellular activation. Other applications have not been tested.

Neutralization

The exact concentration of antibody required to neutralize human IFN- β activity is dependent on the cytokine concentration, cell type and growth conditions. InvivoGen has determined the neutralization dose for this antibody using recombinant human IFN- β and HEK-Blue™ IFN- α/β cells. These cells are HEK293 cells stably expressing the human STAT2 and IRF9 genes, and an IFN- α/β -inducible SEAP (secreted embryonic alkaline phosphatase) reporter gene.

Procedure for neutralization using HEK-Blue™ IFN- α/β cells

1. Prepare a cell suspension at ~300,000 cells/ml.
2. Add 20 μ l of Anti-hIFN- β -IgG or control antibody (50 ng-1 μ g/ml final concentration) per well of a 96-well plate.
Note: We recommend using Mouse IgG2a Control (which targets E. coli β -galactosidase) as a negative control.
3. Add 20 μ l of recombinant human IFN- β (1-10 IU/ml final concentration).
4. Incubate 30 minutes at 37°C.
5. Add 160 μ l of cell suspension (~50,000 cells) per well.
6. Incubate overnight at 37°C.
7. Add 20 μ l of supernatant to 180 μ l QUANTI-Blue™ Solution in a 96-well plate.
8. Incubate 1-3 hours at 37°C.
9. Assess SEAP levels with the naked eye or spectrophotometrically by reading the optical density (OD) at 655 nm.

RELATED PRODUCTS

Product	Description	Cat. Code
HEK-Blue™ IFN- α/β Cells	IFN- α/β reporter cells	hkb-ifnab
Mouse IgG2a Control	Isotype control	mabg2a-ctrlIm
QUANTI-Blue™ Solution	SEAP detection medium	rep-qb-1

TECHNICAL SUPPORT

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