

# anti-human Interferon-gamma

monoclonal antibody G-23 to human Interferon gamma

Cat-No: **21272351**

100 µg in 100 µl

**Clone:** G-23

**Specificity:** The antibody G-23 reacts with IFN-gamma, a 20-25 kDa cytokine produced by activated Th1 cells and NK cells.

**Isotype subclass:** Mouse IgG1

**Immunogen:** Recombinant human IFN-gamma (aa 22-166 representing mature IFN-gamma)

**Physical state:** Liquid

**Buffer/Additives/Preservative:** PBS containing 15 mM sodium azide (pH 7.4).

**Expiration date:** The reagent is stable until the expiry date stated on the vial label.

**Storage conditions:** Store at 4°C. For long-term storage aliquot and store at -20°C. Avoid freeze/thaw cycles.

**Application:** The reagent is designed for Flow Cytometry analysis and Western Blotting.

## References:

\*Okamura H, Kashiwamura S, Tsutsui H, Yoshimoto T, Nakanishi K: Regulation of interferon-gamma production by IL-12 and IL-18. *Curr Opin Immunol.* 1998 Jun;10(3):259-64.

\*Costa-Pereira AP, Williams TM, Strobl B, Watling D, Briscoe J, Kerr IM: The antiviral response to gamma interferon. *J Virol.* 2002 Sep;76(18):9060-8.

\*Ellis TN, Beaman BL: Interferon-gamma activation of polymorphonuclear neutrophil function. *Immunology.* 2004 May;112(1):2-12.

\*Schroder K, Hertzog PJ, Ravasi T, Hume DA: Interferon-gamma: an overview of signals, mechanisms and functions. *J Leukoc Biol.* 2004 Feb;75(2):163-89.

**Background:** The Interferon gamma (IFN-gamma; 20-25 kDa) is an important regulator of the immune response, produced in activated Th1 cells and NK cells, particularly in response to IL-2, TNF-alpha and IL-12; its production is suppressed by IL-4, IL-10, and TGF-beta. The producing of IFN-gamma is activated by specific antigens or mitogens through the T cell antigen receptor. IFN-gamma polypeptide forms: 40-60 kDa forms are observable under non-denaturing conditions as dimers and trimers; 20 kDa and 25 kDa forms exist due to variable glycosylation. IFN-gamma belongs to the type II interferons, also called immune IFN.

IFN-gamma shows antiviral activity and has important immunoregulatory functions. It is a potent activator of macrophages and had antiproliferative effects on transformed cells. IFN-gamma plays an important role in regulating B cell differentiation by simultaneously stimulating class switch recombination to the IgG3 and IgG2a isotypes while repressing class switch recombination to the IgE and IgG1 isotypes. It also appears to promote antigen presentation by B cells through its effects on MHC. Binding of IFN-gamma to its receptor increases the expression of class I MHC on all somatic cells. It also enhances the expression of class II MHC on antigen-presenting cells. IFN-gamma is the major means by which T cells activate macrophages, increasing their ability to kill bacteria, parasites, and tumours. The activation of macrophages by IFN-gamma is essential for the elimination of bacteria that replicate within the phagosomes of macrophages (f.e. Mycobacteria and Listeria monocytogenes). IFN-gamma can potentiate the high antiviral and antitumor effects of the type I interferons (IFN-alpha, IFN-beta). IFN-gamma may also activate neutrophils and NK cells.

Gene Locus: 12q14

## Warning:

Sodium azide is harmful if swallowed (R22). Keep out of reach of children (S2). Keep away from food, drink and animal feeding stuff (S13). Wear suitable protective clothing (S36). If swallowed, seek medical advice immediately and show this container or label (S46). Contact with acids liberates very toxic gas (R32). Azide compounds should be flushed with large volumes of water during disposal to avoid deposits in lead or copper plumbing where explosive conditions can develop.

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