10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

IFN-gamma Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1009a

Product Information

Application	WB, E
Primary Accession	P01579
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	3F1E3
Isotype	IgG1
Calculated MW	19348
Description	Interferon-γ (IFN-γ) is a pro-inflammatory cytokine that is central in host resistance to infection. It is mainly produced by natural killer cells and CD4+ and CD8+ T cells, its receptors are found on nearly all cells, where it activates diverse responses that enable potential host cells to prevent invasive infection by bacteria, parasites and viruses. Takayanagi et al. (2000) demonstrated that IFN-γ strongly suppresses osteoclastogenesis by interfering with the RANKL (602642)-RANK (603499) signaling pathway. Tsubota et al. (1999) reported that this upregulation in Sjogren syndrome patients may be controlled by interferon-gamma through the activation of transcription factor NFKB
Immunogen	Purified recombinant fragment of human IFN-γ expressed in E. Coli.
Formulation	Purified antibody in PBS containing 0.03% sodium azide.

Additional Information

Gene ID	3458
Other Names	Interferon gamma, IFN-gamma, Immune interferon, IFNG
Dilution	WB~~1/500 - 1/2000 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	IFN-gamma Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	IFNG

Function	Type II interferon produced by immune cells such as T-cells and NK cells that plays crucial roles in antimicrobial, antiviral, and antitumor responses by activating effector immune cells and enhancing antigen presentation (PubMed:16914093, PubMed:8666937). Primarily signals through the JAK-STAT pathway after interaction with its receptor IFNGR1 to affect gene regulation (PubMed:8349687). Upon IFNG binding, IFNGR1 intracellular domain opens out to allow association of downstream signaling components JAK2, JAK1 and STAT1, leading to STAT1 activation, nuclear translocation and transcription of IFNG-regulated genes. Many of the induced genes are transcription factors such as IRF1 that are able to further drive regulation of a next wave of transcription (PubMed:16914093). Plays a role in class I antigen presentation pathway by inducing a replacement of catalytic proteasome subunits with immunoproteasome subunits (PubMed:8666937). In turn, increases the quantity, quality, and repertoire of peptides for class I MHC loading (PubMed:8163024). Increases the efficiency of peptide generation also by inducing the expression of activator PA28 that associates with the proteasome and alters its proteolytic cleavage preference (PubMed:11112687). Up-regulates as well MHC II complexes on the cell surface by promoting expression of several key molecules such as cathepsins B/CTSB, H/CTSH, and L/CTSL (PubMed:7729559). Participates in the regulation of hematopoietic stem cells during development and under homeostatic conditions by affecting their development, quiescence, and differentiation (By similarity).
Cellular Location	Secreted.
Tissue Location	Released primarily from activated T lymphocytes.

References

1. Takayanagi, H. et al. Nature 2000. 408: 600-605. 2. Tsubota, K. et al. Invest. Ophthal. Vis. Sci. 40: 28-34, 1999.

Images

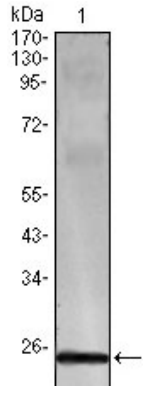

Figure 1: Western blot analysis using IFN gamma mouse mAb against truncated IFN-gamma recombinant protein.