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IFN-gamma Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1133a

Product Information

Application	WB, E
Primary Accession	P01579
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	1B1A4; E8H1
Isotype	IgG1
Calculated MW	19348
Description	IFN-gamma (interferon, gamma) is an antiviral and antiparasitic agent produced by CD4+/CD8+ lymphocytes and natural killer cells that undergo activation by antigens, mitogens or alloantigens. It is a pleiotropic cytokine involved in the regulation of nearly all phases of immune and inflammatory responses, including the activation, growth and differentiation of T cell, B cells, macrophages, NK cells and other cell types such as endothelial cells and fibroblasts. The active form of IFN-G is a homodimer with each subunit containing six helices. The dimeric structure of human IFN-G is stabilized by non-covalent interactions through the interface of the helices. IFN-G translated precursor is 166 amino acids, including the 23 amino acid secretory sequence. It is upregulated by IL2, FGF basic, EGF and downregulated by vitamin D3 or DMN. Multiple forms exist due to variable glycosylation and under non-denaturing conditions due to dimers and tetramers.
Immunogen	Recombinant human IFN-gamma (BioSource company, Cat.No. PHC4033)
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. Dean GA. LaVoy A. Burkhard MJ. Vet Immunol Immunopathol. 2004,Jul, 100(1-2):49-59. 2. Arens R. Schepers K. Nolte MA. et al. J Exp Med. 2004,Jun 7, 199(11):1595-605. 3. Podhorecka M. Dmoszynska A. Rolinski J. Eur J Haematol. 2004,Jul, 73(1):29-35.

Images

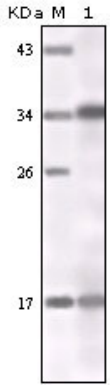
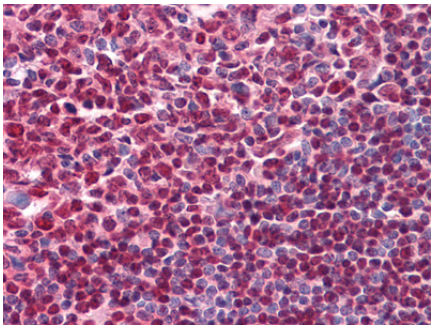


Figure 1: Western blot analysis using IFN-gamma mouse mAb against IFN-gamma recombinant protein.

Figure 1: Immunohistochemical analysis of paraffin-embedded human Tonsil tissues using CD20 mouse mAb.



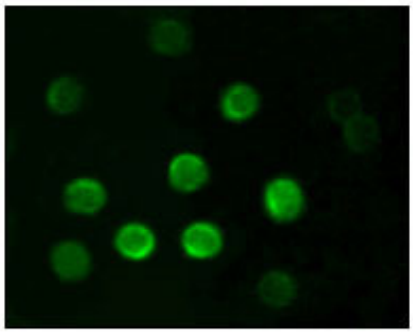


Figure 1: Immunofluorescence analysis of B lymphocytes using anti-CD20 antibody.