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IFN gamma Rabbit pAb

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Catalog # AP52068

Product Information

Application	WB
Primary Accession	P01579
Reactivity	Human
Predicted	Rat, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	19348
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human IFN gamma
Epitope Specificity	1-100/166
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Secreted.
DISEASE	In Caucasians, genetic variation in IFNG is associated with the risk of aplastic anemia (AA) [MIM:609135]. AA is a rare disease in which the reduction of the circulating blood cells results from damage to the stem cell pool in bone marrow. In most patients, the stem cell lesion is caused by an autoimmune attack. T-lymphocytes, activated by an endogenous or exogenous, and most often unknown antigenic stimulus, secrete cytokines, including IFN-gamma, which would in turn be able to suppress hematopoiesis.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Mammalian Interferon gamma is mainly produced by T lymphocytes and NK cells. 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. It has weak antiviral and antiproliferative activity, and poteniates the antiviral and anti tumor effects of IFN alpha / beta (type I interferon). It is upregulated by IL2, FGF basic, EGF and downregulated by vitamin D3 or DMN. Labile at pH 2.

Additional Information

Gene ID	3458
Other Names	Interferon gamma, IFN-gamma, Immune interferon, IFNG
Dilution	WB=1:500-2000,ICC/IF=1:50-200,Flow-Cyt=1:50-100
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When

reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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.

Background

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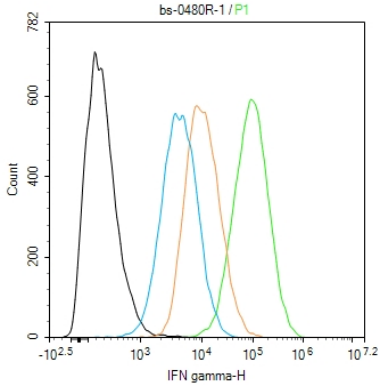
References

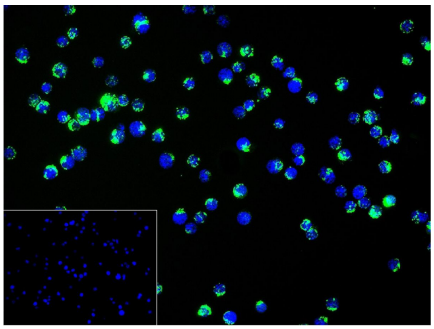
Gray P.W.,et al.Proc. Natl. Acad. Sci. U.S.A. 80:5842-5846(1983).
Carninci P.,et al.Science 309:1559-1563(2005).

Images

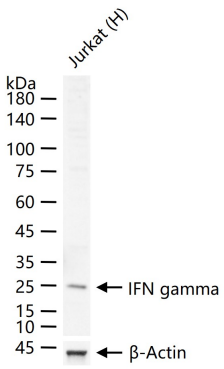
The Jurkat(Treated with PMA (25 ng/mL, 6 h) and ionomycin (1 μg/mL, 6 h), BFA (5 μg/ml, last 5 h)) (H) cells were fixed with 4% PFA (10 min at r.t.) and then permeabilized with 90% ice-cold methanol for 20 min at -20℃,the cells then were incubated in 5%BSA to block non-specific protein-protein interactions (30 min at



r.t.).Primary Antibody (green):Rabbit Anti-IFN gamma antibody (AP52068;1:100); Secondary Antibody (white blue): Goat anti-Rabbit IgG-BF488 (AP52068-BF488): 1 µg/test. Isotype Control (orange): Rabbit IgG (AP52068). Blank control (black): PBS. Acquisition of 20,000 events was performed.



4% Paraformaldehyde-fixed Jurkat(Treated with PMA (25 ng/mL, 6 h) and ionomycin (1 µg/mL, 6 h), BFA (5 µg/ml, last 5 h))(H) cell; Triton X-100 at r.t. for 20 min; Antibody incubation with (IFN gamma) polyclonal Antibody, unconjugated (AP52068) 1:100, 90 min at 37°C; followed by conjugated Goat Anti-Rabbit IgG antibody (green, AP52068-BF488) at 37°C for 90 min, DAPI (blue, C02-04002) was used to stain the cell nuclei. PBS instead of the primary antibody was used as the blank control.



25 ug total protein per lane of various lysates (see on figure) probed with IFN gamma polyclonal antibody, unconjugated (AP52068) at 1:500 dilution and 4°C overnight incubation. Followed by conjugated secondary antibody incubation at r.t. for 60 min.