

IFN- γ (F-1): sc-57207

BACKGROUND

Interferon (IFN)- γ is an antiviral and antiparasitic agent produced by CD4⁺/CD8⁺ lymphocytes and natural killer cells that undergo activation by antigens, mitogens or alloantigens. IFN- γ production modulates T cell growth and differentiation and inhibits the growth of B cells. Synthesis of IFN- γ is inducible by IL-2, FGF and EGF. The active form of IFN- γ is a homodimer with each subunit containing six helices. The dimeric structure of human IFN- γ is stabilized by non-covalent interactions through the interface of the helices. IFN- γ translated precursor is 166 amino acids, including the 23 amino acid secretory sequence. Multiple forms exist due to variable glycosylation and under non-denaturing conditions due to dimers and tetramers.

REFERENCES

1. Young, H.A., et al. 1995. Role of interferon- γ in immune cell regulation. *J. Leukoc. Biol.* 58: 373-381.
2. Dinarello, C.A., et al. 1998. Overview of interleukin-18: more than an interferon- γ inducing factor. *J. Leukoc. Biol.* 63: 658-664.
3. Okamura, H., et al. 1998. Regulation of interferon- γ production by IL-12 and IL-18. *Curr. Opin. Immunol.* 10: 259-264.
4. Costa-Pereira, A.P., et al. 2002. The antiviral response to γ -interferon. *J. Virol.* 76: 9060-9068.
5. Zika, E., et al. 2003. Histone deacetylase 1/mSin3A disrupts γ -interferon-induced CIITA function and major histocompatibility complex class II enhanceosome formation. *Mol. Cell. Biol.* 23: 3091-3102.
6. Schroder, K., et al. 2004. Interferon- γ : an overview of signals, mechanisms and functions. *J. Leukoc. Biol.* 75: 163-189.
7. Ellis, T.N., et al. 2004. Interferon- γ activation of polymorphonuclear neutrophil function. *Immunology* 112: 2-12.
8. Sizemore, N., et al. 2004. Inhibitor of κ B kinase is required to activate a subset of interferon- γ -stimulated genes. *Proc. Natl. Acad. Sci. USA* 101: 7994-7998.
9. Halfter, U.M., et al. 2005. Interferon- γ -dependent tyrosine phosphorylation of MEKK4 via Pyk2 is regulated by Annexin II and SHP2 in keratinocytes. *Biochem. J.* 388: 17-28.

CHROMOSOMAL LOCATION

Genetic locus: Ifng (mouse) mapping to 10 D2.

SOURCE

IFN- γ (F-1) is a rat monoclonal antibody raised against recombinant full length IFN- γ protein of mouse origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

IFN- γ (F-1) is recommended for detection of recombinant and native IFN- γ of mouse origin by immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IFN- γ siRNA (m): sc-39607, IFN- γ shRNA Plasmid (m): sc-39607-SH and IFN- γ shRNA (m) Lentiviral Particles: sc-39607-V.

Molecular Weight of IFN- γ : 20-25 kDa.

SELECT PRODUCT CITATIONS

1. McCartney-Francis, N., et al. 2014. Aberrant host defense against *Leishmania major* in the absence of SLPI. *J. Leukoc. Biol.* 96: 917-929.
2. Mohan, A., et al. 2020. Matrix metalloproteinase-12 is required for granuloma progression. *Front. Immunol.* 11: 553949.
3. Li, J., et al. 2020. T cells participate in bone remodeling during the rapid palatal expansion. *FASEB J.* 34: 15327-15337.
4. Hua, X., et al. 2022. CXCR3 antagonist AMG487 ameliorates experimental autoimmune prostatitis by diminishing Th1 cell differentiation and inhibiting macrophage M1 phenotypic activation. *Prostate* 82: 1223-1236.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.