SANTA CRUZ BIOTECHNOLOGY, INC.

IFN-γ (GZ-4): sc-65418

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 IFN-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 IFN-γ inducing factor. J. Leukoc. Biol. 63: 658-664.
3. Okamura, H., et al. 1998. Regulation of IFN-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 IFN-γ. J. Virol. 76: 9060-9068.
5. Zika, E., et al. 2003. Histone deacetylase 1/mSin3A disrupts IFN-γ-induced CIITA function and major histocompatibility complex class II enhanceosome formation. Mol. Cell. Biol. 23: 3091-3102.
6. Schroder, K., et al. 2004. IFN-γ: an overview of signals, mechanisms and functions. J. Leukoc. Biol. 75: 163-189.
7. Ellis, T.N., et al. 2004. IFN-γ activation of polymorphonuclear neutrophil function. Immunology 112: 2-12.
8. Sizemore, N., et al. 2004. Inhibitor of κB kinase is required to activate a subset of IFN-γ-stimulated genes. Proc. Natl. Acad. Sci. USA 101: 7994-7998.
9. Halfter, U.M., et al. 2005. IFN-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 (human) mapping to 12q15.

SOURCE

IFN-γ (GZ-4) is a mouse monoclonal antibody raised against IFN-γ of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 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 (GZ-4) is recommended for detection of IFN-γ of human origin by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IFN-γ siRNA (h): sc-39606, IFN-γ shRNA Plasmid (h): sc-39606-SH and IFN-γ shRNA (h) Lentiviral Particles: sc-39606-V.

Molecular Weight of IFN-γ: 20-25 kDa.

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.

CONJUGATES

See **IFN-γ (E-10): sc-373727** for IFN-γ antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.