

## IFN- $\gamma$ (G47): sc-130500

### BACKGROUND

Interferon (IFN)- $\gamma$  is an antiviral and antiparasitic agent produced by CD4<sup>+</sup>/CD8<sup>+</sup> lymphocytes and natural killer cells that undergo activation by antigens, mitogens or alloantigens. IFN- $\gamma$  production modulates T cell growth and differentiation and inhibits the growth of B cells. Synthesis of IFN- $\gamma$  is inducible by IL-2, FGF and EGF. The active form of IFN- $\gamma$  is a homodimer with each subunit containing six helices. The dimeric structure of human IFN- $\gamma$  is stabilized by non-covalent interactions through the interface of the helices. IFN- $\gamma$  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. and Hardy, K.J. 1995. Role of interferon- $\gamma$  in immune cell regulation. *J. Leukoc. Biol.* 58: 373-381.
2. Dinarello, C.A., Novick, D., Puren, A.J., Fantuzzi, G., Shapiro, L., Muhl, H., Yoon, D.Y., Reznikov, L.L., Kim, S.H. and Rubinstein, M. 1998. Overview of interleukin-18: more than an interferon- $\gamma$  inducing factor. *J. Leukoc. Biol.* 63: 658-664.
3. Okamura, H., Kashiwamura, S., Tsutsui, H., Yoshimoto, T. and Nakanishi, K. 1998. Regulation of interferon- $\gamma$  production by IL-12 and IL-18. *Curr. Opin. Immunol.* 10: 259-264.
4. Costa-Pereira, A.P., Williams, T.M., Strobl, B., Watling, D., Briscoe, J. and Kerr, I.M. 2002. The antiviral response to  $\gamma$  interferon. *J. Virol.* 76: 9060-9068.
5. Zika, E., Greer, S.F., Zhu, X.S. and Ting, J.P. 2003. Histone deacetylase 1/mSin3A disrupts  $\gamma$  interferon-induced CIITA function and major histocompatibility complex class II enhanceosome formation. *Mol. Cell. Biol.* 23: 3091-3102.
6. Schroder, K., Hertzog, P.J., Ravasi, T. and Hume, D.A. 2004. Interferon- $\gamma$ : an overview of signals, mechanisms and functions. *J. Leukoc. Biol.* 75: 163-189.
7. Ellis, T.N. and Beaman, B.L. 2004. Interferon- $\gamma$  activation of polymorphonuclear neutrophil function. *Immunology* 112: 2-12.
8. Sizemore, N., Agarwal, A., Das, K., Lerner, N., Sulak, M., Rani, S., Ransohoff, R., Shultz, D. and Stark, G.R. 2004. Inhibitor of  $\kappa$ B kinase is required to activate a subset of interferon- $\gamma$ -stimulated genes. *Proc. Natl. Acad. Sci. USA* 101: 7994-7998.
9. Halfter, U.M., Derbyshire, Z.E. and Vaillancourt, R.R. 2005. Interferon- $\gamma$ -dependent tyrosine phosphorylation of MEK-4 via PYK2 is regulated by Annexin II and SHP2 in keratinocytes. *Biochem. J.* 388: 17-28.

### SOURCE

IFN- $\gamma$  (G47) is a mouse monoclonal antibody raised against recombinant IFN- $\gamma$  of porcine origin.

### PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>1</sub> in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

### APPLICATIONS

IFN- $\gamma$  (G47) is recommended for detection of IFN- $\gamma$  of porcine origin by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of IFN- $\gamma$ : 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.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.