SANTA CRUZ BIOTECHNOLOGY, INC.

IFN-γ (XMG1.2): sc-52557

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 tranlsated 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-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.
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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.
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7. Ellis, T.N. and Beaman, B.L. 2004. Interferon-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 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 (XMG1.2) is a rat monoclonal antibody raised against recombinant IFN-γ of mouse origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IFN-γ (XMG1.2) is available conjugated fluorescein (sc-52557 FITC, 100 tests in 2 ml), for WB (RGB), IF, IHC(P) and FCM.

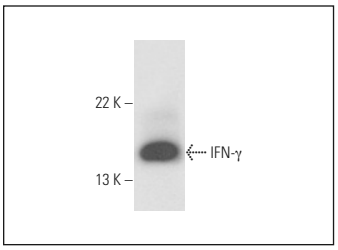
APPLICATIONS

IFN-γ (XMG1.2) is recommended for detection of IFN-γ of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and flow cytometry (1 µg per 1 x 10^6 cells).

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.

DATA



IFN-γ (XMG1.2): sc-52557. Western blot analysis of mouse recombinant IFN-γ.

SELECT PRODUCT CITATIONS

1. Copin, R., et al. 2007. MyD88-dependent activation of $B220^-CD11b^+LY\text{-}6C^+$ dendritic cells during *Brucella melitensis* infection. J. Immunol. 178: 5182-5191.
2. Aebischer, J., et al. 2011. IFN-γ triggers a LIGHT-dependent selective death of motoneurons contributing to the non-cell-autonomous effects of mutant SOD1. Cell Death Differ. 18: 754-768.
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5. Li, J., et al. 2017. VSIG4 inhibits proinflammatory macrophage activation by reprogramming mitochondrial pyruvate metabolism. Nat. Commun. 8: 1322.
6. Wu, S., et al. 2017. Anti-asthmatic effect of pitavastatin through aerosol inhalation is associated with $CD4^+$ $CD25^+$ $Foxp3^+$ T cells in an asthma mouse model. Sci. Rep. 7: 6084.

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.