SANTA CRUZ BIOTECHNOLOGY, INC.

IFN-γ (A-9): sc-390800

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 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.

CHROMOSOMAL LOCATION

Genetic locus: IFNG (human) mapping to 12q15.

SOURCE

IFN-γ (A-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 148-166 at the C-terminus of IFN-γ of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390800 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

IFN-γ (A-9) is recommended for detection of precursor and mature IFN-γ of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 (h): sc-39606, IFN-γ shRNA Plasmid (h): sc-39606-SH and IFN-γ shRNA (h) Lentiviral Particles: sc-39606-V.

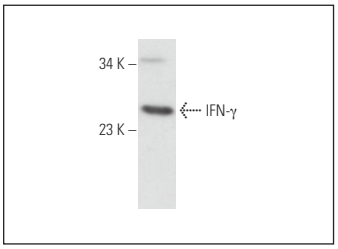
Molecular Weight of IFN-γ: 20-25 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225.

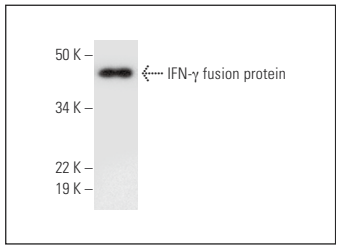
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



IFN-γ (A-9): sc-390800. Western blot analysis of IFN-γ expression in CCRF-CEM whole cell lysate.



IFN-γ (A-9): sc-390800. Western blot analysis of human recombinant IFN-γ fusion protein.

SELECT PRODUCT CITATIONS

1. Agnihotri, V., et al. 2020. Serum sHLA-G: significant diagnostic biomarker with respect to therapy and immunosuppressive mediators in head and neck squamous cell carcinoma. Sci. Rep. 10: 3806.
2. Scuderi, S.A., et al. 2021. TBK1 inhibitor exerts anti-proliferative effect on glioblastoma multiforme cells. Oncol. Res. 28: 779-790.
3. Beyett, T.S., et al. 2022. Molecular basis for cooperative binding and synergy of ATP-site and allosteric EGFR inhibitors. Nat. Commun. 13: 2530.
4. Yasamut, U., et al. 2022. Determination of a distinguished interferon γ epitope recognized by monoclonal antibody relating to autoantibody associated immunodeficiency. Sci. Rep. 12: 7608.

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.

CONJUGATES

See **IFN-γ (E-10): sc-373727** for IFN-γ antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.