SANTA CRUZ BIOTECHNOLOGY, INC.

IFN-γ (E-10): sc-373727

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.

CHROMOSOMAL LOCATION

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

SOURCE

IFN-γ (E-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 25-50 at the N-terminus of IFN-γ of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IFN-γ (E-10) is available conjugated to agarose (sc-373727 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373727 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373727 PE), fluorescein (sc-373727 FITC), Alexa Fluor® 488 (sc-373727 AF488), Alexa Fluor® 546 (sc-373727 AF546), Alexa Fluor® 594 (sc-373727 AF594) or Alexa Fluor® 647 (sc-373727 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373727 AF680) or Alexa Fluor® 790 (sc-373727 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-373727 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

IFN-γ (E-10) 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.

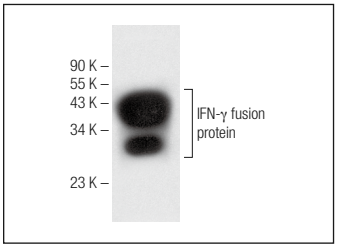
Molecular Weight of IFN-γ: 20-25 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, CCRF-CEM cell lysate: sc-2225 or AML-193 whole cell lysate: sc-364182.

STORAGE

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

DATA



IFN-γ (E-10): sc-373727. Western blot analysis of human recombinant IFN-γ fusion protein.

SELECT PRODUCT CITATIONS

1. Shen, C., et al. 2014. Using fluorescence correlation spectroscopy (FCS) for IFN-γ detection: a preliminary study. J. Immunol. Methods 407: 35-39.
2. Gao, Z., et al. 2017. SOCS3 treatment prevents the development of alopecia areata by inhibiting $CD8^+$ T cell-mediated autoimmune destruction. Oncotarget 8: 33432-33443.
3. Cho, B.J., et al. 2019. Rapamycin rescues endoplasmic reticulum stress-induced dry eye syndrome in mice. Invest. Ophthalmol. Vis. Sci. 60: 1254-1264.
4. Kerner, G., et al. 2020. Inherited human IFN-γ deficiency underlies mycobacterial disease. J. Clin. Invest. 130: 3158-3171.
5. Choi, J.W., et al. 2020. Proteome analysis of human natural killer cell derived extracellular vesicles for identification of anticancer effectors. Molecules 25: 5216.
6. Pan, H., et al. 2021. DYNC1H1 regulates NSCLC cell growth and metastasis by IFN-γ-JAK-Stat signaling and is associated with an aberrant immune response. Exp. Cell Res. 409: 112897.
7. Sánchez-Garibay, C., et al. 2022. *Mycobacterium tuberculosis* infection induces BCSFB disruption but no BBB disruption *in vivo:* implications in the pathophysiology of tuberculous meningitis. Int. J. Mol. Sci. 23: 6436.
8. Iqbal, H., et al. 2022. Pep27 mutant immunization inhibits caspase-14 expression to alleviate inflammatory bowel disease via treg upregulation. Microorganisms 10: 1871.
9. AlZahrani, S., et al. 2022. Anti-inflammatory effect of specialized pro-resolving lipid mediators on mesenchymal stem cells: an *in vitro* study. Cells 12: 122.
10. Lu, L., et al. 2023. MicroRNA Let-7i regulates innate TLR4 pathways in peripheral blood mononuclear cells of patients with ankylosing spondylitis. Int. J. Gen. Med. 16: 1393-1401.

RESEARCH USE

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