SANTA CRUZ BIOTECHNOLOGY, INC.

IFN-γRα (GIR-94): sc-12755

BACKGROUND

IFN-γ induces a variety of biological responses, such as antiviral, antiprolifer-ative and immunomodulatory activity in sensitive cells. Activation of the IFN-γ receptor (IFN-γR) leads to autophosphorylation of the Janus kinases JAK1 and JAK2, and the nuclear translocation of the transcription factors Stat1α p91 and Stat1β p84. The IFN-γR is composed of at least two chains, designated IFN-γRα and IFN-γRβ, respectively. Although expression of IFN-γRα is suffi-cient for ligand binding, it alone does not confer responsiveness to IFN-γ. Concomitant expression of IFN-γRα and IFN-γRβ is required for transcriptional activation of IFN-γ-inducible genes. The IFN-γRβ chain, also called AF-1, is 332 and 337 amino acids in length in mouse and human, respectively, and may represent the signal transducing component of the IFN-γR.

CHROMOSOMAL LOCATION

Genetic locus: IFNGR1 (human) mapping to 6q23.3; Ifngr1 (mouse) mapping to 10 A3.

SOURCE

IFN-γRα (GIR-94) is a mouse monoclonal antibody raised against purified IFN-γRα of human origin.

PRODUCT

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

IFN-γRα (GIR-94) is available conjugated to agarose (sc-12755 AC), 500 μg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-12755 HRP), 200 μg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-12755 PE), fluorescein (sc-12755 FITC), Alexa Fluor® 488 (sc-12755 AF488), Alexa Fluor® 546 (sc-12755 AF546), Alexa Fluor® 594 (sc-12755 AF594) or Alexa Fluor® 647 (sc-12755 AF647), 200 μg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-12755 AF680) or Alexa Fluor® 790 (sc-12755 AF790), 200 μg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

IFN-γRα (GIR-94) is recommended for detection of IFN-γRα of mouse, rat and human 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 μg per 1 x 10^6 cells).

Suitable for use as control antibody for IFN-γRα siRNA (h): sc-29357, IFN-γRα siRNA (m): sc-35636, IFN-γRα shRNA Plasmid (h): sc-29357-SH, IFN-γRα shRNA Plasmid (m): sc-35636-SH, IFN-γRα shRNA (h) Lentiviral Particles: sc-29357-V and IFN-γRα shRNA (m) Lentiviral Particles: sc-35636-V.

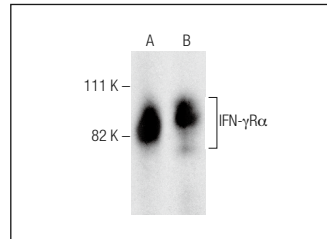Molecular Weight of IFN-γRα: 80-95 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, AML-193 whole cell lysate: sc-364182 or Raji whole cell lysate: sc-364236.
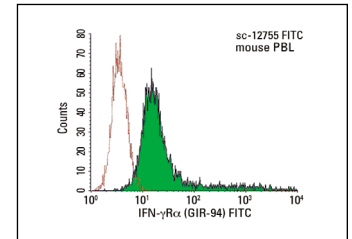
STORAGE

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

DATA

IFN-γRα (GIR-94): sc-12755. Western blot analysis of IFN-γRα expression in Raji (**A**) and AML-193 (**B**) whole cell lysates.

IFN-γRα (GIR-94) FITC: sc-12755 FITC. FCM analysis of mouse peripheral blood leukocytes. Black line histogram represents the isotype control, normal mouse IgG$_{2b}$-FITC: sc-2857.

SELECT PRODUCT CITATIONS

1. Yokota, S., et al. 2003. Measles virus suppresses interferon-α signaling pathway: suppression of Jak1 phosphorylation and association of viral accessory proteins, C and V, with interferon-α receptor complex. Virology 306: 135-146.

2. Okada, S., et al. 2007. The novel IFNGR1 mutation 774del4 produces a truncated form of interferon-γ receptor 1 and has a dominant-negative effect on interferon-γ signal transduction. J. Med. Genet. 44: 485-491.

3. Morey, P., et al. 2018. *Helicobacter pylori* depletes cholesterol in gastric glands to prevent interferon γ signaling and escape the inflammatory response. Gastroenterology 154: 1391-1404.e9.

4. Shakya, A.K., et al. 2019. Interferon γ inhibits varicella-zoster virus replica-tion in a cell line-dependent manner. J. Virol. 93: e00257-19.

5. Gong, K., et al. 2020. EGFR inhibition triggers an adaptive response by co-opting antiviral signaling pathways in lung cancer. Nat. Cancer 1: 394-409.

6. Ouyang, W., et al. 2021. Role of CD4+ T helper cells in the development of BAC-induced dry eye syndrome in mice. Invest. Ophthalmol. Vis. Sci. 62: 25.

7. Choudhury, P., et al. 2022. Chemical composite of indigenous whole grain scented joha rice varietal prevents type 2 diabetes in rats through amelio-rating Insulin sensitization by the IRS-1/AKT/PI3K signalling cascade. Food Funct. 13: 11879-11895.

8. Krug, J., et al. 2023. N-glycosylation regulates intrinsic IFN-γ resistance in colorectal cancer: implications for immunotherapy. Gastroenterology 164: 392-406.e5.

9. Meyer-Arndt, L., et al. 2023. Inflammatory cytokines associated with mul-tiple sclerosis directly induce alterations of neuronal cytoarchitecture in human neurons. J. Neuroimmune Pharmacol. 18: 145-159.

RESEARCH USE

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