SANTA CRUZ BIOTECHNOLOGY, INC.

IFN-γRα (D-3): sc-28363

BACKGROUND

IFN-γ induces a variety of biological responses, such as antiviral, antiproliferative 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 sufficient 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.

REFERENCES

1. Orchansky, P., et al. 1984. Type I and type II interferon receptors. J. Interferon Res. 4: 275-282.
2. Novick, D., et al. 1987. The human interferon-γ receptor, purification, characterization and preparation of antibodies. J. Biol. Chem. 262: 8483-8487.
3. Aguet, M., et al. 1988. Molecular cloning and expression of the human interferon-γ receptor. Cell 55: 273-280.
4. Silvennoinen, O., et al. 1993. Interferon-induced nuclear signalling by JAK protein tyrosine kinases. Nature 366: 583-585.
5. Farrar, M.A., et al. 1993. The molecular cell biology of interferon-γ and its receptor. Annu. Rev. Immunol. 11: 571-611.
6. Soh, J., et al. 1994. Identification and sequence of an accessory factor required for activation of the human interferon-γ receptor. Cell 76: 793-802.
7. Hemmi, S., et al. 1994. A novel member of the interferon receptor family complements functionality of the murine interferon-γ receptor in human cells. Cell 76: 803-810.
8. Darnell, J.E., Jr., et al. 1994. JAK/Stat pathways and transcriptional activation in response to IFNs and other extracellular signaling proteins. Science 264: 1415-1421.

CHROMOSOMAL LOCATION

Genetic locus: IFNGR1 (human) mapping to 6q23.3.

SOURCE

IFN-γRα (D-3) is a mouse monoclonal antibody raised against amino acids 190-489 of IFN-γRα 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.

STORAGE

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

APPLICATIONS

IFN-γRα (D-3) is recommended for detection of IFN-γRα of human origin by Western Blotting (starting dilution 1:100, dilution range), 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), immunohistochemistry (including paraffin-embedded sections) (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-γRα siRNA (h): sc-29357, IFN-γRα shRNA Plasmid (h): sc-29357-SH and IFN-γRα shRNA (h) Lentiviral Particles: sc-29357-V.

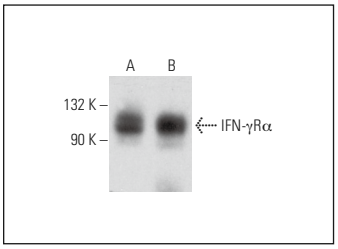
Molecular Weight of IFN-γRα: 80-95 kDa.

Positive Controls: Raji whole cell lysate: sc-364236, AML-193 whole cell lysate: sc-364182 or human tonsil tissue extract: sc-364263.

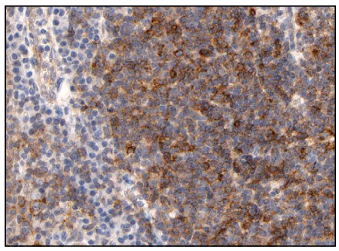
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



IFN-γRα (D-3): sc-28363. Western blot analysis of IFN-γRα expression in Raji (**A**) and AML-193 (**B**) whole cell lysates.



IFN-γRα (D-3): sc-28363. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing membrane staining of follicle, non follicle and epithelial cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

1. Londino, J.D., et al. 2017. Post-translational modification of the interferon-γ receptor alters its stability and signaling. Biochem. J. 474: 3543-3557.
2. Apriamashvili, G., et al. 2022. Ubiquitin ligase STUB1 destabilizes IFNγ-receptor complex to suppress tumor IFNγ signaling. Nat. Commun. 13: 1923.

RESEARCH USE

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