

# IFN- $\gamma$ R $\alpha$ (D-3): sc-28363

## BACKGROUND

IFN- $\gamma$  induces a variety of biological responses, such as antiviral, antiproliferative and immunomodulatory activity in sensitive cells. Activation of the IFN- $\gamma$  receptor (IFN- $\gamma$ R) leads to autophosphorylation of the Janus kinases JAK1 and JAK2, and the nuclear translocation of the transcription factors Stat1 $\alpha$  p91 and Stat1 $\beta$  p84. The IFN- $\gamma$ R is composed of at least two chains, designated IFN- $\gamma$ R $\alpha$  and IFN- $\gamma$ R $\beta$ , respectively. Although expression of IFN- $\gamma$ R $\alpha$  is sufficient for ligand binding, it alone does not confer responsiveness to IFN- $\gamma$ . Concomitant expression of IFN- $\gamma$ R $\alpha$  and IFN- $\gamma$ R $\beta$  is required for transcriptional activation of IFN- $\gamma$ -inducible genes. The IFN- $\gamma$ R $\beta$  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- $\gamma$ R.

## 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- $\gamma$  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- $\gamma$  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- $\gamma$  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- $\gamma$  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- $\gamma$  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- $\gamma$ R $\alpha$  (D-3) is a mouse monoclonal antibody raised against amino acids 190-489 of IFN- $\gamma$ R $\alpha$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g 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- $\gamma$ R $\alpha$  (D-3) is recommended for detection of IFN- $\gamma$ R $\alpha$  of human origin by Western Blotting (starting dilution 1:100, dilution range ), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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- $\gamma$ R $\alpha$  siRNA (h): sc-29357, IFN- $\gamma$ R $\alpha$  shRNA Plasmid (h): sc-29357-SH and IFN- $\gamma$ R $\alpha$  shRNA (h) Lentiviral Particles: sc-29357-V.

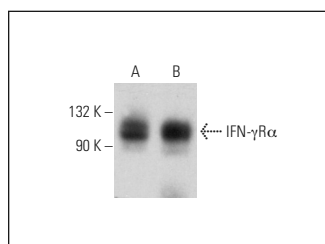
Molecular Weight of IFN- $\gamma$ R $\alpha$ : 80-95 kDa.

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

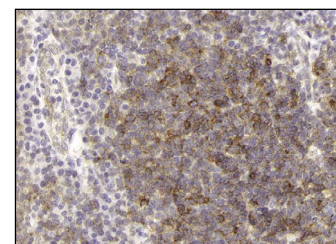
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



IFN- $\gamma$ R $\alpha$  (D-3): sc-28363. Western blot analysis of IFN- $\gamma$ R $\alpha$  expression in Raji (A) and AML-193 (B) whole cell lysates.



IFN- $\gamma$ R $\alpha$  (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- $\gamma$  receptor alters its stability and signaling. *Biochem. J.* 474: 3543-3557.

## RESEARCH USE

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