

# IFN- $\alpha$ / $\beta$ R $\beta$ (D-6): sc-271105

## BACKGROUND

The type I interferons, IFN- $\alpha$  and IFN- $\beta$ , are a group of structurally and functionally related proteins that are induced by either viruses or double-stranded RNA and are defined by their ability to confer an antiviral state in cells. IFN- $\alpha$  and IFN- $\beta$  appear to compete with one another for binding to a common cell surface receptor, while immune IFN (IFN- $\gamma$ ) binds to a distinct receptor. This distinct receptor, IFN- $\alpha$ R, is only weakly responsive to type I interferons, in contrast to IFN- $\alpha$ / $\beta$ R, which binds to and responds effectively to IFN- $\beta$  and to several of the IFN- $\alpha$  subtypes. IFN- $\alpha$ / $\beta$ R is expressed as two alternatively spliced transcripts, designated IFN- $\alpha$ / $\beta$ R $\alpha$  (IFN- $\alpha$ / $\beta$ R1) and IFN- $\alpha$ / $\beta$ R $\beta$  (IFN- $\alpha$ / $\beta$ R2), both of which are involved in signal transduction and ligand binding.

## REFERENCES

1. Branca, A.A., et al. 1981. Evidence that type I and II interferons have different receptors. *Nature* 294: 768-770.
2. Orchansky, P., et al. 1984. Type I and type II interferon receptors. *J. Interferon Res.* 4: 275-282.
3. Novick, D., et al. 1987. The human interferon- $\gamma$  receptor, purification, characterization and preparation of antibodies. *J. Biol. Chem.* 262: 8483-8487.
4. Aguet, M., et al. 1988. Molecular cloning and expression of the human interferon- $\gamma$  receptor. *Cell* 55: 273-280.
5. 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.
6. 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.
7. Novick, D., et al. 1994. The human interferon  $\alpha$ / $\beta$  receptor: characterization and molecular cloning. *Cell* 77: 391-400.
8. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 602376. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
9. Cajean-Feroldi, C., et al. 2004. Identification of residues of the IFNAR1 chain of the type I human interferon receptor critical for ligand binding and biological activity. *Biochemistry* 43: 12498-12512.

## CHROMOSOMAL LOCATION

Genetic locus: IFNAR2 (human) mapping to 21q22.11.

## SOURCE

IFN- $\alpha$ / $\beta$ R $\beta$  (D-6) is a mouse monoclonal antibody raised against amino acids 27-236 mapping near the N-terminus of IFN- $\alpha$ / $\beta$ R $\beta$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

IFN- $\alpha$ / $\beta$ R $\beta$  (D-6) is recommended for detection of IFN- $\alpha$ / $\beta$ R $\beta$  of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IFN- $\alpha$ / $\beta$ R $\beta$  siRNA (h): sc-40091, IFN- $\alpha$ / $\beta$ R $\beta$  shRNA Plasmid (h): sc-40091-SH and IFN- $\alpha$ / $\beta$ R $\beta$  shRNA (h) Lentiviral Particles: sc-40091-V.

Molecular Weight of IFN- $\alpha$ / $\beta$ R $\beta$   $\alpha$  subunit: 110 kDa.

Molecular Weight of IFN- $\alpha$ / $\beta$ R $\beta$   $\beta$  subunit: 95-100 kDa.

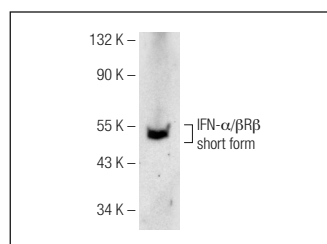
Molecular Weight of IFN- $\alpha$ / $\beta$ R $\beta$   $\beta$  subunit short form: 55 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or Hep G2 cell lysate: sc-2227.

## 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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



IFN- $\alpha$ / $\beta$ R $\beta$  (D-6): sc-271105. Western blot analysis of IFN- $\alpha$ / $\beta$ R $\beta$  expression in K-562 whole cell lysate.

## SELECT PRODUCT CITATIONS

1. Zuo, Y., et al. 2020. Regulation of the linear ubiquitination of Stat1 controls antiviral interferon signaling. *Nat. Commun.* 11: 1146.

## 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.