## SANTA CRUZ BIOTECHNOLOGY, INC.

# IFN-α/βRβ (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 $\alpha$  (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

- 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.
- Novick, D., et al. 1987. The human interferon-γ receptor, purification, characterization and preparation of antibodies. J. Biol. Chem. 262: 8483-8487.

## **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  $\mu g$   $lgG_{2b}$  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 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- $\alpha/\beta R\beta$  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 K BP-HRP: sc-516102 or m-IgG K 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 K BP-FITC: sc-516140 or m-IgG K 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

- Zuo, Y., et al. 2020. Regulation of the linear ubiquitination of Stat1 controls antiviral interferon signaling. Nat. Commun. 11: 1146.
- Peng, Y., et al. 2020. USP39 serves as a deubiquitinase to stabilize Stat1 and sustains type I IFN-induced antiviral immunity. J. Immunol. 205: 3167-3178.
- Zuo, Y., et al. 2022. LATS1 is a central signal transmitter for achieving full type-I interferon activity. Sci. Adv. 8: eabj3887.
- Qiao, C., et al. 2023. Ceftazidime reduces cellular Skp2 to promote type-I interferon activity. Immunology 170: 527-539.

#### **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.

## PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.