

# IFN- $\alpha$ / $\beta$ R $\beta$ (M-300): sc-30015

## BACKGROUND

The type I interferons (IFNs),  $\alpha$  and  $\beta$ , are a group of structurally and functionally related proteins that are induced by either viruses or double stranded RNA and defined by their ability to confer an antiviral state in cells. The  $\alpha$  and  $\beta$  IFNs appear to compete with one another for binding to a common cell surface receptor while immune IFN (IFN $\gamma$ ) binds to a distinct receptor. The latter protein, 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. Moreover, IFN- $\alpha$ / $\beta$ R is physically associated with the cytoplasmic tyrosine kinase JAK1 and thus, in addition to ligand binding, appears to be functionally involved in signal transduction. The IFN- $\gamma$  receptor complex consists of an  $\alpha$  subunit (IFN- $\gamma$ R $\alpha$ ) and a  $\beta$  subunit that is 332 amino acids in length (mouse) and 337 amino acids (human).

## 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. Novick, D., et al. 1994. The human interferon  $\alpha$ / $\beta$  receptor: characterization and molecular cloning. *Cell* 77: 391-400.
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.

## CHROMOSOMAL LOCATION

Genetic locus: Ifnar2 (mouse) mapping to 16 C3.3.

## SOURCE

IFN- $\alpha$ / $\beta$ R $\beta$  (M-300) is a rabbit polyclonal antibody raised against amino acids 22-236 mapping near the N-terminus of IFN- $\alpha$ / $\beta$ R $\beta$  of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

IFN- $\alpha$ / $\beta$ R $\beta$  (M-300) is recommended for detection of IFN- $\alpha$ / $\beta$ R $\beta$  of mouse and rat origin by Western Blotting (starting dilution 1:200, 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 (m): sc-40092, IFN- $\alpha$ / $\beta$ R $\beta$  shRNA Plasmid (m): sc-40092-SH and IFN- $\alpha$ / $\beta$ R $\beta$  shRNA (m) Lentiviral Particles: sc-40092-V.

Molecular Weight of soluble IFN- $\alpha$  subunit: 110 kDa.

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

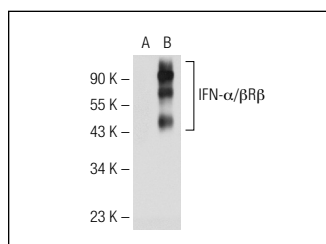
Molecular Weight of IFN- $\beta$  subunit short form: 55 kDa.

Positive Controls: IFN- $\alpha$ / $\beta$ R $\beta$  (m): 293T Lysate: sc-120956.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



IFN- $\alpha$ / $\beta$ R $\beta$  (M-300): sc-30015. Western blot analysis of IFN- $\alpha$ / $\beta$ R $\beta$  expression in non-transfected: sc-117752 (A) and mouse IFN- $\alpha$ / $\beta$ R $\beta$  transfected: sc-120956 (B) 293T whole cell lysates.

## RESEARCH USE

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

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Try IFN- $\alpha$ / $\beta$ R $\beta$  (F-7): sc-137209, our highly recommended monoclonal alternative to IFN- $\alpha$ / $\beta$ R $\beta$  (M-300).