

# IFN- $\alpha$ / $\beta$ R $\beta$ (F-7): sc-137209

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

IFN- $\alpha$ / $\beta$ R $\beta$  (F-7) is a mouse monoclonal 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<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IFN- $\alpha$ / $\beta$ R $\beta$  (F-7) is available conjugated to agarose (sc-137209 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-137209 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137209 PE), fluorescein (sc-137209 FITC), Alexa Fluor<sup>®</sup> 488 (sc-137209 AF488), Alexa Fluor<sup>®</sup> 546 (sc-137209 AF546), Alexa Fluor<sup>®</sup> 594 (sc-137209 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-137209 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-137209 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-137209 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

IFN- $\alpha$ / $\beta$ R $\beta$  (F-7) is recommended for detection of IFN- $\alpha$ / $\beta$ R $\beta$  of mouse 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), 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- $\alpha$ / $\beta$ 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- $\alpha$ / $\beta$ R $\beta$   $\alpha$  subunit: 110 kDa.

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

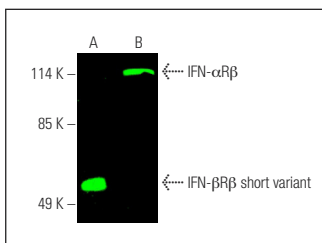
Molecular Weight of IFN- $\alpha$ / $\beta$ R $\beta$   $\beta$  subunit short form: 55 kDa.

Positive Controls: WR19L cell lysate: sc-3805 or WEHI-231 whole cell lysate: sc-2213.

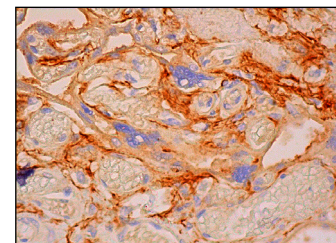
## RECOMMENDED SUPPORT REAGENTS

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. 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- $\alpha$ / $\beta$ R $\beta$  (F-7): sc-137209. Near-infrared western blot analysis of IFN- $\alpha$ / $\beta$ R $\beta$  expression in WR19L (A) and Hep G2 (B) whole cell lysates. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214. Detection reagent used: m-IgG $\kappa$  BP-CFL 680: sc-516180.



IFN- $\alpha$ / $\beta$ R $\beta$  (F-7): sc-137209. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing membrane and cytoplasmic staining of trophoblastic cells.

## SELECT PRODUCT CITATIONS

- Wang, P., et al. 2019. IL-36 promotes anti-viral immunity by boosting sensitivity to IFN- $\alpha$ / $\beta$  in IRF1 dependent and independent manners. *Nat. Commun.* 10: 4700.
- McCormack, R., et al. 2020. An essential role for Perforin-2 in type I IFN signaling. *J. Immunol.* pii: j1901013.

## 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](http://www.scbt.com) for detailed protocols and support products.