SANTA CRUZ BIOTECHNOLOGY, INC.

IFN-α/βRα (E-12): sc-393089

BACKGROUND

The type I interferons (IFNs), α and β, 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 α and β IFNs appear to compete with one another for binding to a common cell surface receptor, while immune IFN (IFN-γ) binds to a distinct receptor. The latter protein, IFN-αR, is only weakly responsive to type I interferons in contrast to IFN-α/βR, which binds to and responds effectively to IFN-β and to several of the IFN-α subtypes. Moreover, IFN-α/βR 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-γ receptor complex consists of an α subunit (IFN-γRα) and a β subunit that is 332 amino acids in length (mouse) and 337 amino acids in length (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-γ 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-γ 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 γ receptor. Cell 76: 793-802.

CHROMOSOMAL LOCATION

Genetic locus: Ifnar1 (mouse) mapping to 16 C3.3.

SOURCE

IFN-α/βRα (E-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 551-589 at the C-terminus of IFN-α/βRα of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IFN-α/βRα (E-12) is available conjugated to agarose (sc-393089 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393089 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393089 PE), fluorescein (sc-393089 FITC), Alexa Fluor® 488 (sc-393089 AF488), Alexa Fluor® 546 (sc-393089 AF546), Alexa Fluor® 594 (sc-393089 AF594) or Alexa Fluor® 647 (sc-393089 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393089 AF680) or Alexa Fluor® 790 (sc-393089 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393089 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

IFN-α/βRα (E-12) is recommended for detection of IFN-α/βRα of mouse and rat 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), 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-α/βRα siRNA (m): sc-40090, IFN-α/βRα shRNA Plasmid (m): sc-40090-SH and IFN-α/βRα shRNA (m) Lentiviral Particles: sc-40090-V.

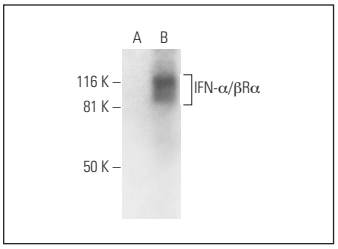
Molecular Weight of IFN-α/βRα α subunit: 110 kDa.

Molecular Weight of IFN-α/βRα β subunit: 95-100 kDa.

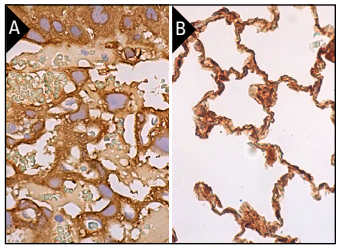
Molecular Weight of IFN-α/βRα β subunit short form: 55 kDa.

Positive Controls: IFN-α/βRα (m): 293T Lysate: sc-120957.

DATA



IFN-α/βRα (E-12): sc-393089. Western blot analysis of IFN-α/βRα expression in non-transfected: sc-117752 (**A**) and mouse IFN-α/βRα transfected: sc-120957 (**B**) 293T whole cell lysates.



IFN-α/βRα (E-12): sc-393089. Immunoperoxidase staining of formalin fixed, paraffin-embedded rat placenta tissue showing cytoplasmic staining of trophoblastic cells and decidual cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat lung tissue showing membrane and cytoplasmic staining of pneumocytes and macrophages (**B**).

SELECT PRODUCT CITATIONS

1. Yuan, J., et al. 2018. Sparstolonin B attenuates spinal cord injury-induced inflammation in rats by modulating TLR4-trafficking. Mol. Med. Rep. 17: 6016-6022.

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.