SANTA CRUZ BIOTECHNOLOGY, INC.

IFN-β (D-15): sc-17570

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The genes encoding type I interferons (IFNs), which include 14 IFN-α genes, 1 IFN-β gene, 1 IFN-ω (also known as IFN-α II1) gene, and a number of IFN-ω pseudogenes, are clustered on human chromosome 9. Interferons-α and -β are cytokines that are widely known to induce potent anti-viral activity. IFN-α and -β exert a variety of other biological effects, including anti-tumor and immunomodulatory activities and are increasingly used clinically to treat a range of malignancies, myelodysplasias and autoimmune diseases. IFN-ω is antigenically different from human IFN-α, IFN-β or IFN-γ, but is a component of natural mixtures of IFN species produced by virus-induced leukocytes or Burkitt's lymphoma cells. The Type I interferon receptor (IFN-αR) interacts with IFN-α, IFN-β and IFN-ω, and seems to be a multisubunit receptor.

REFERENCES

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2. Lim, J.K., et al. 1994. Intrinsic ligand binding properties of the human and bovine α-interferon receptors. FEBS Lett. 350: 281-286.
3. Hussain, M., et al. 1996. Identification of interferon-α 7, -α 14, and -α 21 variants in the genome of a large human population. J. Interferon Cytokine Res. 16: 853-859.
4. Mire-Sluis, A.R., et al. 1996. An anti-cytokine bioactivity assay for interferons-α-β and -ω. J. Immunol. Methods 195: 55-61.
5. Cutrone, E.C., et al. 1997. Contributions of cloned type I interferon receptor subunits to differential ligand binding. FEBS Letts. 404: 197-202.
6. Vannucchi, S., et al. 2005. TRAIL is a key target in S-phase slowing-dependent apoptosis induced by interferon-β in cervical carcinoma cells. Oncogene 24: 2536-2546.
7. Molnarfi, N., et al. 2005. The production of IL-1 receptor antagonist in IFN-β-stimulated human monocytes depends on the activation of phosphatidylinositol 3-kinase but not of STAT1. J. Immunol. 174: 2974-2980.
8. Siren, J., et al. 2005. IFN-α regulates TLR-dependent gene expression of IFN-α, IFN-β, IL-28, and IL-29. J. Immunol. 174: 1932-1937.

SOURCE

IFN-β (D-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of IFN-β of rat origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-17570 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

IFN-β (D-15) is recommended for detection of IFN-β of rat origin by Western Blotting (starting dilution 1:200, 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).

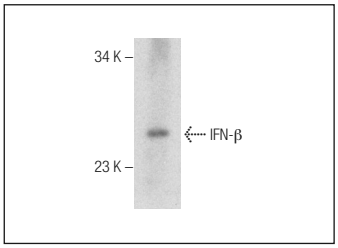
Molecular Weight of IFN-β: 20 kDa.

Positive Controls: Rat embryo tissue extract.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



IFN-β (D-15): sc-17570. Western blot analysis of IFN-β expression in rat embryo tissue extract.

RESEARCH USE

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

PROTOCOLS

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