SANTA CRUZ BIOTECHNOLOGY, INC.

IFN-α (D-19): sc-17645

BACKGROUND

The genes encoding type I interferons (IFNs), which include 14 IFN-α genes, one IFN-β gene, one 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 antiviral activity. IFN-α and -β exert a variety of other biological effects, including antitumor 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 multi-subunit receptor.

REFERENCES

1. Adolf, G.R. 1987. Antigenic structure of human interferon-ω1 (interferon-α II1): comparison with other human interferons. J. Gen. Virol. 68: 1669-1676.
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 Lett. 404: 197-202.
6. Rozera, C., et al. 1999. Interferon (IFN)-β gene transfer into TS/A adenocarcinoma cells and comparison with IFN-α: differential effects on tumorigenicity and host response. Am. J. Pathol. 154: 1211-1222.
7. Barthe, C., et al. 2001. Expression of interferon-α (IFN-α) receptor 2c at diagnosis is associated with cytogenetic response in IFN-α-treated chronic myeloid leukemia. Blood 97: 3568-3573.

SOURCE

IFN-α (D-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of IFN-α of human 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-17645 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

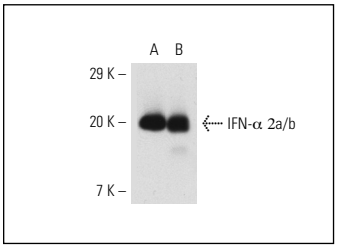
IFN-α (D-19) is recommended for detection of IFN-α isoforms of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of IFN-α: 19 kDa.

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-α (D-19): sc-17645. Western blot analysis of purified human IFN-α 2a (**A**) and IFN-α 2b (**B**).

SELECT PRODUCT CITATIONS

1. Pollok, S., et al. 2013. Interferon α-armed nanoparticles trigger rapid and sustained STAT1-dependent anti-viral cellular responses. Cell. Signal. 25: 989-998.

STORAGE

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