SANTA CRUZ BIOTECHNOLOGY, INC.

IFN-α (F-7): sc-373757

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. Interferon-α and -β are cytokines that are widely known to induce potent antiviral activity. They 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 multisubunit receptor.

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.

CHROMOSOMAL LOCATION

Genetic locus: IFNA1/IFNA13 (human) mapping to 9p21.3.

SOURCE

IFN-α (F-7) is a mouse monoclonal antibody raised against full-length recombinant IFN-α1/13 of human origin.

PRODUCT

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

IFN-α (F-7) is available conjugated to agarose (sc-373757 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-373757 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373757 PE), fluorescein (sc-373757 FITC), Alexa Fluor® 488 (sc-373757 AF488), Alexa Fluor® 546 (sc-373757 AF546), Alexa Fluor® 594 (sc-373757 AF594) or Alexa Fluor® 647 (sc-373757 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373757 AF680) or Alexa Fluor® 790 (sc-373757 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

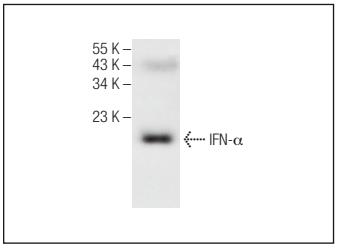
IFN-α (F-7) is recommended for detection of IFN-α1 and IFN-α13 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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); may cross-react with other IFN-α family members.

Molecular Weight of IFN-α: 19 kDa.

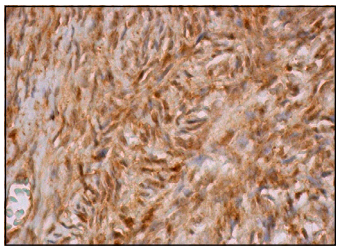
STORAGE

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

DATA



IFN-α (F-7): sc-373757. Western blot analysis of human recombinant IFN-α.



IFN-α (F-7): sc-373757. Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing cytoplasmic and nuclear staining of ovarian stroma cells.

SELECT PRODUCT CITATIONS

1. Wagner, F., et al. 2019. Neoadjuvant radiochemotherapy significantly alters the phenotype of plasmacytoid dendritic cells and 6-sulfo lacNAc+ monocytes in rectal cancer. Front. Immunol. 10: 602.
2. Wedenoja, S., et al. 2020. Fetal HLA-G mediated immune tolerance and interferon response in preeclampsia. EBioMedicine 59: 102872.
3. Choi, M.R., et al. 2020. Chloroquine treatment suppresses mucosal inflammation in a mouse model of eosinophilic chronic rhinosinusitis. Allergy Asthma Immunol. Res. 12: 994-1011.
4. Wu, H., et al. 2021. CP-25 alleviates antigen-induced experimental Sjögren's syndrome in mice by inhibiting JAK1-STAT1/2-CXCL13 signaling and interfering with B-cell migration. Lab. Invest. 101: 1084-1097.
5. Urabe, A., et al. 2021. Klotho deficiency intensifies hypoxia-induced expression of IFN-α/β through upregulation of RIG-I in kidneys. PLoS ONE 16: e0258856.
6. Ladjemi, M.Z., et al. 2021. Clinical and histopathological predictors of therapeutic response to bronchial thermoplasty in severe refractory asthma. J. Allergy Clin. Immunol. 148: 1227-1235.e6.
7. Zhao, Y., et al. 2023. Cancer cells enter an adaptive persistence to survive radiotherapy and repopulate tumor. Adv. Sci. 10: e2204177.
8. Nawata, A., et al. 2023. Differential expression of IFN-α, IL-12 and BAFF on renal immune cells and its relevance to disease activity and treatment responsiveness in patients with proliferative lupus nephritis. Lupus Sci. Med. 10: e000962.

RESEARCH USE

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