



## IFN- $\alpha$ 2 (9D3): sc-57222

### BACKGROUND

The genes encoding type I interferons (IFNs), which include 14 IFN- $\alpha$  genes, one IFN- $\beta$  gene, one IFN- $\omega$  (also known as IFN- $\alpha$  II1) gene and a number of IFN- $\omega$  pseudogenes, are clustered on human chromosome 9. IFN- $\alpha$  and IFN- $\beta$  are cytokines that are widely known to induce potent anti-viral activity. IFN- $\alpha$  and - $\beta$  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- $\omega$  is antigenically different from human IFN- $\alpha$ , IFN- $\beta$  or IFN- $\gamma$ , 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- $\alpha$ R) interacts with IFN- $\alpha$ , IFN- $\beta$  and IFN- $\omega$ , and seems to be a multisubunit receptor.

### REFERENCES

1. Exley, T., et al. 1984. A comparison of the neutralizing properties of monoclonal and polyclonal antibodies to human interferon- $\alpha$ . J. Gen. Virol. 65: 2277-2280.
2. Adolf, G.R. 1987. Antigenic structure of human interferon- $\omega$ 1 (interferon- $\alpha$  II1): comparison with other human interferons. J. Gen. Virol. 68: 1669-1676.
3. Lim, J.K., et al. 1994. Intrinsic ligand binding properties of the human and bovine  $\alpha$ -interferon receptors. FEBS Lett. 350: 281-286.
4. Hussain, M., et al. 1996. Identification of interferon- $\alpha$  7, - $\alpha$  14, and - $\alpha$  21 variants in the genome of a large human population. J. Interferon Cytokine Res. 16: 853-859.
5. Mire-Sluis, A.R., et al. 1996. An anti-cytokine bioactivity assay for interferons- $\alpha$  - $\beta$  and - $\omega$ . J. Immunol. Methods 195: 55-61.
6. Cutrone, E.C., et al. 1997. Contributions of cloned type I interferon receptor subunits to differential ligand binding. FEBS Lett. 404: 197-202.
7. Rozera, C., et al. 1999. Interferon (IFN)- $\beta$  gene transfer into TS/A adenocarcinoma cells and comparison with IFN- $\alpha$ : differential effects on tumorigenicity and host response. Am. J. Pathol. 154: 1211-1222.
8. Barthe, C., et al. 2001. Expression of interferon- $\alpha$  (IFN- $\alpha$ ) receptor 2c at diagnosis is associated with cytogenetic response in IFN- $\alpha$ -treated chronic myeloid leukemia. Blood 97: 3568-3573.
9. Eriksen, K.W., et al. 2004. Bi-phasic effect of interferon (IFN)- $\alpha$ : IFN- $\alpha$  up- and downregulates interleukin-4 signaling in human T cells. J. Biol. Chem. 279: 169-176.

### CHROMOSOMAL LOCATION

Genetic locus: IFNA2 (human) mapping to 9p21.3.

### SOURCE

IFN- $\alpha$ 2 (9D3) is a mouse monoclonal antibody raised against full length IFN- $\alpha$ 2b of human origin.

### RESEARCH USE

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

### PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### APPLICATIONS

IFN- $\alpha$ 2 (9D3) is recommended for detection of recombinant IFN- $\alpha$ 2a and IFN- $\alpha$ 2b of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with IFN- $\alpha$ 5 or IFN- $\gamma$ .

Suitable for use as control antibody for IFN- $\alpha$ 2 siRNA (h): sc-63324, IFN- $\alpha$ 2 shRNA Plasmid (h): sc-63324-SH and IFN- $\alpha$ 2 shRNA (h) Lentiviral Particles: sc-63324-V.

Molecular Weight of IFN- $\alpha$ 2: 19 kDa.

### STORAGE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.