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IFN-beta Antibody

Catalog # ASC10546

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	P01574
Other Accession	AAC41702, 184623
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	22294
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	IFN-b antibody can be used for detection of IFN-b by Western blot at 5 g/mL. Antibody can also be used for immunohistochemistry starting at 5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	3456
Other Names	Interferon beta, IFN-beta, Fibroblast interferon, IFNB1, IFB, IFNB
Target/Specificity	IFNB1;
Reconstitution & Storage	IFN-beta antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	IFN-beta Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	IFNB1 (HGNC:5434)
Synonyms	IFB, IFNB
Function	Type I interferon cytokine that plays a key role in the innate immune response to infection, developing tumors and other inflammatory stimuli (PubMed:10049744, PubMed:10556041, PubMed:6157094, PubMed:6171735, PubMed:7665574, PubMed:8027027, PubMed:8969169). Signals via binding to high-affinity (IFNAR2) and low-affinity (IFNAR1) heterodimeric receptor, activating the canonical Jak-STAT signaling pathway resulting in transcriptional activation or repression of interferon-regulated genes that encode the effectors of the interferon response, such as antiviral proteins, regulators of

cell proliferation and differentiation, and immunoregulatory proteins (PubMed:10049744, PubMed:10556041, PubMed:7665574, PubMed:8027027, PubMed:8969169). Signals mostly via binding to a IFNAR1-IFNAR2 heterodimeric receptor, but can also function with IFNAR1 alone and independently of Jak-STAT pathways (By similarity). Elicits a wide variety of responses, including antiviral and antibacterial activities, and can regulate the development of B-cells, myelopoiesis and lipopolysaccharide (LPS)- inducible production of tumor necrosis factor (By similarity). Plays a role in neuronal homeostasis by regulating dopamine turnover and protecting dopaminergic neurons: acts by promoting neuronal autophagy and alpha-synuclein clearance, thereby preventing dopaminergic neuron loss (By similarity). IFNB1 is more potent than interferon-alpha (IFN- alpha) in inducing the apoptotic and antiproliferative pathways required for control of tumor cell growth (By similarity).

Cellular Location Secreted.

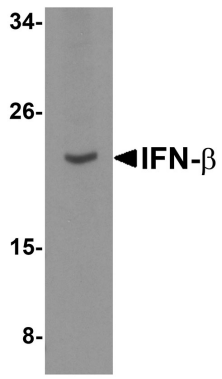
Background

IFN-beta Antibody: Type I Interferons (IFN-alpha/beta) are produced primarily in response to viral infection by "Natural IFN-producing cells" (IPCs) as part of the host immune response and can also inhibit the development of tumors. IFN-beta binding by its receptor results in the activation of the tyrosine kinases Jak1 and Tyk2 and phosphorylation of members of the STAT family of transcription factors, leading to the transcription and expression of the immune response genes. More recently, several members of the toll-like receptor (TLR) family were found to stimulate the production IFN-beta. IFN-beta is currently used clinically for treatment of tumors, infections and multiple sclerosis.

References

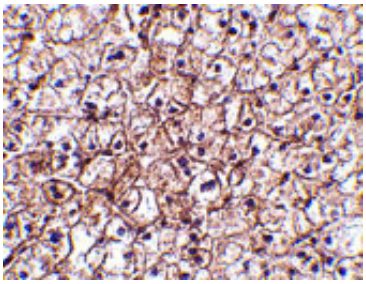
Gresser I. Wherefore interferon? J. Leuk. Biol.1997; 61:567-74.
Colonna M. TLR pathways and IFN-regulatory factors: to each its own. Eur. J. Immunol.2007; 37:306-9.
Kock M, Mostert J, De Keyser J, et al. Interferon-beta treatment and the natural history of relapsing-remitting multiple sclerosis. Ann. Neurol.2007; epub.

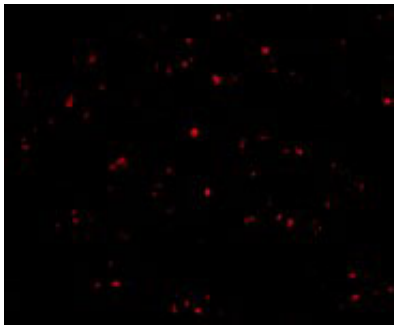
Images



Western blot analysis of IFN-b in A-20 cell lysate with IFN-b antibody at 5 µg/mL.

Immunohistochemistry of IFN-b in human liver tissue with IFN-b antibody at 5 µg/mL.





Immunofluorescence of IFN-beta in Human Liver cells with IFN-beta antibody at 20 µg/mL.