Anti-IFNα [AIFN] Standard Size Ab00792-10.3

This antibody was created using our proprietary Fc Silent™ engineered Fc domain containing key point mutations that abrogate binding to Fc gamma receptors.

Isotype and Format: Human IgG1, Fc Silent™, Lambda
Clone Number: AIFN
Alternative Name(s) of Target: interferon alpha; AIFNα1bScFv01; AIFNα1bIgG01; interferon α; interferon-α; IFNα1b; IFN-α1b; IFN-α; interferon α1b; interferon-α1b; IFN-alpha; INF alpha; interferon-alpha
UniProt Accession Number of Target Protein: P01562
Published Application(s): neutralize
Published Species Reactivity: Human
Immunogen: The scFv AIFNα1bScFv01 was generated by screening a non-immune synthetic human antibody phage display library. The scFv sequence isolated was then be fused to a human IgG1 constant region to create a whole antibody.
Specificity: AIFNα1bScFv01 and the AIFNα1bIgG01 whole antibody bind to IFNα1b (KD ~0.75 nM determined by SPR); the epitope consists of the P26-N40 region in loop AB and E147-R150 region in helix E of IFNα1b - residues L30, D32, D35 and R150 are critical for binding. The antibody also binds to IFNR2, which shares partial epitopes with IFNα1b - binding affinity to IFNR2 is much weaker. The antibody does not bind to recombinant IFNα2b or IFNγ. IFNα is a cytokine and modulates the activtity of T cells, B cells and dendritic cells to regulate immunological functions, and are produced during the early stages of the immune respose. Overproduction of IFNα can result in the occurence of autoimmune diseases such as SLE (systemic lupus erythematosus), a multi-organ autoimmune disease that primarily affects the skin, joints, blood cells, heart, kidneys, and the nervous system.
Application Notes: AIFNα1bIgG01, the IgG1 version of the antibody, is able to cause downregulation of ISG15 and IFIT-1 expression ex vivo in PBMCs, induced by either recombinant IFNα1b or naiive IFNα from SLE patients' sera. The antibody also reduces the total serum IgG and IgM antibody levels in a pristane-primed lupus-like mouse model. This neutralization occurs by out-competing IFNR2 for IFNα1b, which prevents the formation of the IFNAR2-IFNα interaction and the IFNα-mediated signaling pathway.
Antibody First Published in: Ouyang et l. Structural insights into a human anti-IFN antibody exerting therapeutic potential for systemic lupus erythematosus J Mol Med (Berl). 2012 Jul;90(7):837-46 PMID:22307521
Note on publication: Describes the generation of anti-IFNα antibody by non-immune human phage display. The antibody was characterized both in vivo and in vitro, and the crystal structure of the antibody

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scFv with IFNα1b was solved.

Product Form

Size: 200 µg Purified antibody.
Purification: Protein A affinity purified
Supplied In: PBS with 0.02% Proclin 300.
Storage Recommendation: Store at 4ºC for up to 3 months. For longer storage, aliquot and store at -20ºC.
Concentration: 1 mg/ml.

Important note – This product is for research use only. It is not intended for use in therapeutic or diagnostic procedures for humans or animals.

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