

Product Datasheet

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Anti-Mouse IFN α [Clone TIF-3C5] — Purified *in vivo* GOLD™ Functional Grade

Monoclonal Antibody

Product Information

Product No.:	I-1183
Clone:	TIF-3C5
RRID:	AB_2737533
Isotype:	Armenian Hamster IgG1
Storage:	Sterile 2-8°C

Product Description

Specificity:

Clone TIF-3C5 recognizes an epitope on mouse IFN α (subtypes IFN- α A, -1, -4, -5, -11, and -13) and does not bind murine IFN γ or IFN β .

Antigen Distribution:

IFN α is expressed by hematopoietic cells, predominantly plasmacytoid dendritic cells (pDCs), following stimulation.

Background:

IFN α antibody, TIF-3C5, recognizes interferon (IFN)- α , a pleiotropic cytokine belonging to the type I IFN family of cytokines. IFN α is induced following recognition of microbial products via pattern-recognition receptors (PRRs). Hematopoietic cells, particularly plasmacytoid dendritic cells (pDCs), are the predominant source of IFN α following stimulation^{1,2}. IFN α binds to the ubiquitously expressed common type I IFN receptor (IFNAR) that consists of the α -chain (IFNAR1) and the β -chain (IFNAR2), ultimately resulting in the transcription of various IFN-stimulated genes (ISGs) that contribute to antiviral immunity. ISGs directly promote antipathogenic activity by inhibiting viral entry, transcription, translation, and assembly in host cells. ISGs also synergize with other cytokines to activate innate effector cells, such as NK cells and dendritic cells (DCs), augment host adaptive immune responses, and enhance antigen presentation³. IFN α plays a role in the pathogenesis of autoimmune diseases, such as systemic lupus erythematosus (SLE)⁴. In addition, IFN α has multiple anti-tumor properties, including direct cytotoxicity of tumor cells and stimulating innate and adaptive immune cells, and IFN α is FDA-approved for the treatment of multiple cancers⁵.

Known Reactivity Species:

Mouse

Products are for research use only. Not for use in diagnostic or therapeutic procedures.

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Format:

in vivo GOLD™, Purified in vivo Functional Grade

Immunogen:

Recombinant murine IFN alpha 5

Formulation

This monoclonal antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added. Due to inherent biochemical properties of antibodies, certain products may be prone to precipitation over time. Precipitation may be removed by aseptic centrifugation and/or filtration.

Purity

≥95% monomer by analytical SEC, >95% by SDS Page

Endotoxin

< 1.0 EU/mg as determined by the LAL method

Storage and Stability

Functional grade preclinical antibodies may be stored sterile as received at 2-8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at ≤ -70°C.

Avoid Repeated Freeze Thaw Cycles.

Product Preparation

Functional grade preclinical antibodies are manufactured in an animal free facility using *in vitro* cell culture techniques and are purified by a multi-step process including the use of protein A or G to assure extremely low levels of endotoxins, leachable protein A or aggregates.

Other Applications Reported in Literature:

FA

B

N

WB

In Vitro Activity of TIF-3C5 - Inhibits IFN α -induced (IFN α -A, -1, -4, -5, -11 and 13) Stat1 phosphorylation in vitro, (TIF-1D6 does not block in vitro functional activity). **Blocks** IFN α (IFN α -A, -1, -4, -5, -11 and 13) induction of MHC-I expression (H2-Kb) using L929 or fibrosarcoma cell lines in a dose dependent manner. **Neutralizes** IFN α -induced antiviral activity in vitro following infection of L929 cells with VSV. Functional activity of both recombinant (IFN α -A, -1, -4, -5, -11 and 13) and natural IFN α can be blocked with no neutralization of IFN γ or IFN β .

In vivo Activity of TIF-3C5- TIF-3C5 circulates with a half-life of 4 days- blockade of IFN α by TIF-3C5 increases the lethality of mice infected with West Nile Virus(WNV), similar to susceptibility of Irf7 -/- mice.

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Country of Origin

USA



References

1. Liu YJ., et al. (1999) Science. 284(5421):1835-7
2. Colonna M., et al. Nat Med (1999) 5(8):919-23
3. Trinchieri G. (2010) J Exp Med. 207(10):2053-2063
4. Kirou KA., et al. (2019) Annu Rev Pathol. 14:369-393
5. Huang TH., et al. (2019) PLoS One. 14(8):e0219829

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