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Datasheet for 210-401-321

TNF alpha Antibody

Overview

Description:	Anti-Mouse TNF-α (RABBIT) Antibody - 210-401-321
Item No.:	210-401-321
Size:	1 mg
Applications:	WB, IHC
Reactivity:	Mouse
Host Species:	Rabbit

Product Details

Background:	TNF alpha Antibody detects TNF-a protein. TNF-a is a cytokine that binds to TNFRSF1A/TNFR1 and TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is a potent pyrogen causing fever by direct action or by stimulation of interleukin-1 secretion and is implicated in the induction of cachexia, Under certain conditions it can stimulate cell proliferation and induce cell differentiation. Anti-TNF-alpha Antibody is ideal for investigators involved in Cell Signaling, Immunology and Signal Transduction research.
Synonyms:	rabbit anti-TNF alpha antibody, rabbit anti-TNFa antibody, rabbit anti-tumor necrosis factor alpha antibody, APC1 antibody, Cachectin antibody, DIF antibody, Differentiation inducing factor antibody, Macrophage cytotoxic factor antibody, MCF antibody, Necrosin antibody, TNF-alpha, Tumor necrosis factor ligand superfamily member 2, TNF-a, TNFA
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	Tnf
Reactivity:	Mouse
Immunogen Type:	Recombinant Protein
Immunogen:	This antibody was produced from whole rabbit serum prepared by repeated immunizations with recombinant mouse TNFα produced in E.coli.

Purity/Specificity:	TNF alpha Antibody has been heated to 56°C for 30 minutes. The antibody is directed against mature 17,000 MW mouse TNFα and is useful in determining its presence in various assays. The antibody does not recognize mouse TNFß (lymphotoxin).
Relevant Links:	• NCBI - P06804.2 • UniProtKB - P06804 • GeneID - 21926

Application Details

Tested Applications:	WB
Suggested Applications:	IHC (Based on references)
Application Note:	This antibody against Mouse TNFα has been tested for use in immunoblotting. This antibody is suitable for ELISA, immunohistochemistry, neutralizations, radioimmunoassay, and immunoprecipitation. It recognizes the 17,000 MW TNFα. Reactivity in other immunoassays is unknown. This antibody will recognize the cell-bound precursor of TNFα as a 26,000 protein in immunoblots, particularly in denatured samples. This antibody is also useful for neutralization of mouse activity in bioassays. It does not neutralize the biological activity of lymphotoxin. For neutralization, it is recommended to incubate the sample with a 1:200 dilution of the antibody for at least 4 hours before being tested. A control of similarly diluted normal rabbit IgG is recommended.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:1,000 - 1:5,000
IHC:	User Optimized
IP:	User Optimized
Neutralization:	User Optimized
WB:	1:500 - 1:2,000

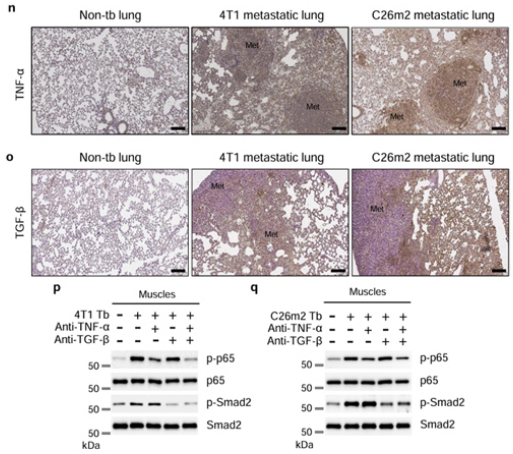
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1.0 mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

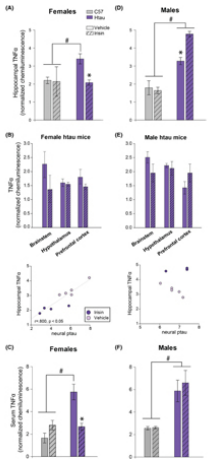
Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

Images

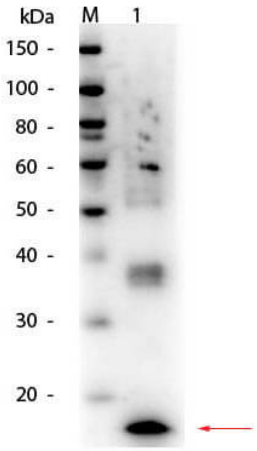


Immunohistochemistry
(n,o) Representative immunostaining images of TNF-α (n) and TGF-β (o) in lungs from either non-tumor-bearing mice or mice bearing 4T1 or C26m2 metastases at five weeks post tumor cell injection. Scale bars, 100 µm. (p,q) Immunoblot analysis of phosphorylated p65 and Smad2 in muscles after TNF-α or TGF-β neutralizing antibody treatment. Following the tumor-resection-and-relapse approach (see Fig. 1a and Supplementary Fig. 1c), mice bearing either 4T1 (p) or C26m2 (q) metastases were treated with either an isotype control antibody, or a neutralizing antibody against TNF-α, TGF-β, or both (200 µg antibody per mouse treated three times a week) starting one week after surgery, for a period of one week (see Fig. 3e,f). SF3. PMID: 29875463



Western Blot

TNFα as a surrogate marker of inflammation in brain and serum of mice. Mean TNFα chemiluminescence in brain and serum of htau (purple) and control C57BL/6 J (grey) mice as a function of treatment (striped bars = r-irisin treated mice; solid bars = vehicle-treated mice). (A) Treatment with r-irisin significantly reduced elevated levels of pro-inflammatory cytokine TNFα in hippocampus of female htau mice. TNFα in C57 control mice did not vary as a function of treatment. (B) Brainstem and prefrontal cortex ptau levels appeared to be reduced in irisin-treated female htau mice, but this was not statistically significant. Scatterplots depict strong correlation (indicated by Pearson's r value, $p < 0.05$) between hippocampal TNFα and ptau measurements for individual female htau mice. (C) Mean serum measurements of TNFα were significantly reduced in irisin-treated female htau mice. (D) Irisin-treated male htau mice showed significantly enhanced hippocampal inflammation compared to vehicle-treated htau mice. (E) TNFα also appeared to be elevated in irisin-treated male htau prefrontal cortex data but this was not statistically significant. Scatterplots illustrate the lack of correlation between hippocampal TNFα and ptau measurements for individual male htau mice (p = ns). (F) Mean serum measurements of TNFα did not differ as a function of irisin treatment in male htau mice, however they trended towards an irisin-induced increase. Results are calibrated by total protein loaded per sample. Error bars show s.e.m.; * indicates significant difference between treatment groups. # indicates significant strain difference between htau and C57 mice of same treatment group. $p < 0.05$ in all significant comparisons. n = 16 htau mice (4/sex/treatment group); 14 C57 mice (3-4/sex/treatment group). Fig 3. PMID: 33768561



Western Blot
Western Blot of Mouse TNFα Antibody. Lane 1: Mouse TNFα. Load: 50 ng per lane. Primary antibody: Mouse TNFα antibody at 1:1,000 overnight at 4°C. Secondary antibody: HRP rabbit secondary antibody (p/n 611-103-122) at 1:40,000 for 30 min at RT. Block: (p/n MB-070) for 30 min at RT. Predicted/Observed size: 17 kDa, 17 kDa for Mouse TNFα.

References

- Bretland KA et al. Irisin treatment lowers levels of phosphorylated tau in the hippocampus of pre-symptomatic female but not male htau mice. *Neuropathol Appl Neurobiol.* (2021)
- Wang et al. Metastatic cancers promote cachexia through ZIP14 upregulation in skeletal muscle. *Nature Medicine* (2018)

Disclaimer

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