

**Datasheet for 210-401-321****TNF alpha Antibody****Overview**

<b>Description:</b>	Anti-Mouse TNF- $\alpha$ (RABBIT) Antibody - 210-401-321
<b>Item No.:</b>	210-401-321
<b>Size:</b>	1 mg
<b>Applications:</b>	WB, IHC
<b>Reactivity:</b>	Mouse
<b>Host Species:</b>	Rabbit

**Product Details**

<b>Background:</b>	TNF alpha Antibody detects TNF-a protein. TNF-a is a cytokine that binds to TNFRSF1A/TNFR1 and TNFRSF1B/TNFR2. 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.
<b>Synonyms:</b>	rabbit anti-TNF alpha antibody, rabbit anti-TNF $\alpha$ 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
<b>Host Species:</b>	Rabbit
<b>Clonality:</b>	Polyclonal
<b>Format:</b>	IgG

**Target Details**

<b>Gene Name:</b>	Tnf
<b>Reactivity:</b>	Mouse
<b>Immunogen Type:</b>	Recombinant Protein
<b>Immunogen:</b>	This antibody was produced from whole rabbit serum prepared by repeated immunizations with recombinant mouse TNF $\alpha$ 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 TNF $\alpha$  and is useful in determining its presence in various assays. The antibody does not recognize mouse TNF $\beta$  (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 TNF $\alpha$  has been tested for use in immunoblotting. This antibody is suitable for ELISA, immunohistochemistry, neutralizations, radioimmunoassay, and immunoprecipitation. It recognizes the 17,000 MW TNF $\alpha$ . Reactivity in other immunoassays is unknown. This antibody will recognize the cell-bound precursor of TNF $\alpha$  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

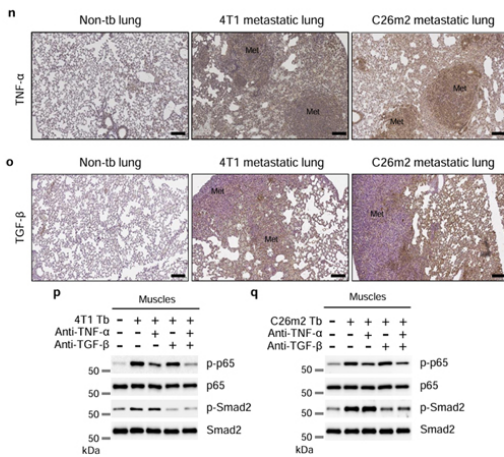
## Shipping & Handling

**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.

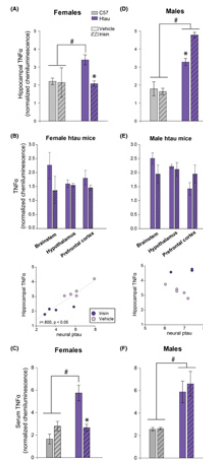
**Expiration:** Expiration date is one (1) year from date of receipt.

## Images



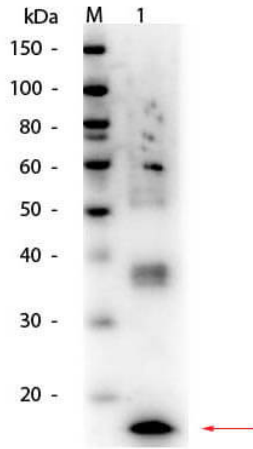
### Immunohistochemistry

(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

TNF $\alpha$  as a surrogate marker of inflammation in brain and serum of mice. Mean TNF $\alpha$  chemiluminescence in brain and serum of htai (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 TNF $\alpha$  in hippocampus of female htai mice. TNF $\alpha$  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 htai mice, but this was not statistically significant. Scatterplots depict strong correlation (indicated by Pearson's r value,  $p < 0.05$ ) between hippocampal TNF $\alpha$  and ptau measurements for individual female htai mice. (C) Mean serum measurements of TNF $\alpha$  were significantly reduced in irisin-treated female htai mice. (D) Irisin-treated male htai mice showed significantly enhanced hippocampal inflammation compared to vehicle-treated htai mice. (E) TNF $\alpha$  also appeared to be elevated in irisin-treated male htai prefrontal cortex data but this was not statistically significant. Scatterplots illustrate the lack of correlation between hippocampal TNF $\alpha$  and ptau measurements for individual male htai mice ( $p = ns$ ). (F) Mean serum measurements of TNF $\alpha$  did not differ as a function of irisin treatment in male htai 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 htai and C57 mice of same treatment group.  $p < 0.05$  in all significant comparisons.  $n = 16$  htai mice (4/sex/treatment group); 14 C57 mice (3-4/sex/treatment group). Fig 3. PMID: 33768561

**Western Blot**

Western Blot of Mouse TNF $\alpha$  Antibody. Lane 1: Mouse TNF $\alpha$ . Load: 50 ng per lane. Primary antibody: Mouse TNF $\alpha$  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 TNF $\alpha$ .

**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**

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.