

**TNF- $\alpha$  (D2D4) XP<sup>®</sup> Rabbit mAb**

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**For Research Use Only. Not for Use in Diagnostic Procedures.**

<b>Applications:</b> W, IP, IF-IC, FC-FP	<b>Reactivity:</b> M	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 17,25,28	<b>Source/Isotype:</b> Rabbit IgG	<b>UniProt ID:</b> #P06804	<b>Entrez-Gene Id:</b> 21926
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**Product Usage Information****Application**

Western Blotting  
Immunoprecipitation  
Immunofluorescence (Immunocytochemistry)  
Flow Cytometry (Fixed/Permeabilized)

**Dilution**

1:1000  
1:50  
1:100 - 1:400  
1:100 - 1:400

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100  $\mu$ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at  $-20^{\circ}\text{C}$ . Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #57485.

**Specificity/Sensitivity**

TNF- $\alpha$  (D2D4) XP<sup>®</sup> Rabbit mAb recognizes endogenous levels of total TNF- $\alpha$  protein.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a recombinant mouse TNF- $\alpha$  protein.

**Background**

TNF- $\alpha$ , the prototypical member of the TNF protein superfamily, is a homotrimeric type-II membrane protein (1,2). Membrane-bound TNF- $\alpha$  is cleaved by the metalloprotease TACE/ADAM17 to generate a soluble homotrimer (2). Both membrane and soluble forms of TNF- $\alpha$  are biologically active. TNF- $\alpha$  is produced by a variety of immune cells including T cells, B cells, NK cells, and macrophages (1). Cellular response to TNF- $\alpha$  is mediated through interaction with receptors TNF-R1 and TNF-R2 and results in activation of pathways that favor both cell survival and apoptosis depending on the cell type and biological context. Activation of kinase pathways (including JNK, Erk1/2, p38 MAPK, and NF- $\kappa$ B) promotes the survival of cells, while TNF- $\alpha$ -mediated activation of caspase-8 leads to programmed cell death (1,2). TNF- $\alpha$  plays a key regulatory role in inflammation and host defense against bacterial infection, notably *Mycobacterium tuberculosis* (3). Mouse and rat TNF- $\alpha$  are predicted to be glycosylated, while human TNF- $\alpha$  is not (4).

**Background References**

1. Aggarwal, B.B. (2003) *Nat Rev Immunol* 3, 745-56.
2. Hehlhans, T. and Pfeffer, K. (2005) *Immunology* 115, 1-20.
3. Lin, P.L. et al. (2007) *J Invest Dermatol Symp Proc* 12, 22-5.
4. Pennica, D. et al. (1985) *Proc Natl Acad Sci U S A* 82, 6060-4.

**Species Reactivity**

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Western Blot Buffer**

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween<sup>®</sup> 20 at 4 $^{\circ}$ C with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

**Cross-Reactivity Key**

**M:** Mouse

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