

#7321 Store at -20C

Human TNF- α Neutralizing (D1B4) Rabbit mAb



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

Reactivity: H	Sensitivity: Endogenous	Source/Isotype: Rabbit IgG	UniProt ID: #P01375	Entrez-Gene Id: 7124
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Product Usage Information

CST recommends incubation of the neutralizing antibody with intended target for 2 hours at 37°C before addition to the experiment at an optimal concentration determined by the user.

Reconstitution: Add 0.2 ml sterile dH₂O to a final concentration of 0.5 mg/ml. Solubilize for 30 minutes at room temperature with occasional gentle vortexing.

Formulation

Lyophilized from a 0.2 μ m filtered solution in HEPES with trehalose.

Storage

Store lyophilized material at -20°C. After reconstitution, recommended storage at 4°C for 1 month or -20°C for 6 months. Avoid repeated freeze/thawing.

Specificity / Sensitivity

Human TNF- α Neutralizing (D1B4) Rabbit mAb binds to human TNF- α and neutralizes its cytotoxic effects. This antibody does not cross-react with mouse TNF- α .

Source / Purification

Monoclonal antibody is produced by immunizing animals with a recombinant human TNF- α protein.

Product Description

Neutralizing antibodies can be used to inhibit normal biological function through their binding to biological molecules. These reagents can be used to determine the effects that a particular molecule has in biological systems. TNF- α has known functions of cell cytotoxicity, cell activation, and apoptosis in different cell types. Human TNF- α Neutralizing (D1B4) Rabbit mAb has been shown to neutralize the cytotoxic effects of TNF- α in L-929 mouse fibroblast cells. Utilizing 1 ng/ml of hTNF- α #8902 and 1 μ g/ml of actinomycin D, Human TNF- α Neutralizing (D1B4) Rabbit mAb rescued L-929 cells with an ND₅₀ in the range of 4-12 ng/ml.

Endotoxin

<0.1 EU/ μ g of antibody

Background

TNF- α , the prototypical member of the TNF protein superfamily, is a homotrimeric type-II membrane protein (1,2). Membrane-bound TNF- α is cleaved by the metalloprotease TACE/ADAM17 to generate a soluble homotrimer (2). Both membrane and soluble forms of TNF- α are biologically active. TNF- α is produced by a variety of immune cells including T cells, B cells, NK cells, and macrophages (1). Cellular response to TNF- α 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- κ B) promotes the survival of cells, while TNF- α -mediated activation of caspase-8 leads to programmed cell death (1,2). TNF- α plays a key regulatory role in inflammation and host defense against bacterial infection, notably *Mycobacterium tuberculosis* (3).

Background References

- Aggarwal, B.B. (2003) *Nat Rev Immunol* 3, 745-56.
- Hehlhans, T. and Pfeffer, K. (2005) *Immunology* 115, 1-20.
- Lin, P.L. et al. (2007) *J Invest Dermatol Symp Proc* 12, 22-5.

Species Reactivity

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

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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