

TNF-R1 (D3I7K) Rabbit mAb

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Applications: W	Reactivity: M R	Sensitivity: Endogenous	MW (kDa): 55	Source/Isotype: Rabbit IgG	UniProt ID: #P25118	Entrez-Gene Id: 21937
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Product Usage Information**Application**

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

TNF-R1 (D3I7K) Rabbit mAb recognizes endogenous levels of total mouse TNF-R1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of mouse TNF-R1 protein.

Background

TNF-α is an important cytokine produced by numerous cell types, including neutrophils, activated lymphocytes, macrophages, and NK cells. It plays a critical role in inflammatory responses and apoptosis (1). TNF-α exists as a membrane-anchored and soluble form, both of which show biological activity. Response to TNF-α is mediated through two receptors, TNF-R1, which is widely expressed, and TNF-R2, which is expressed mainly in immune and endothelial cells (2). Antagonists to TNF-α have been validated as therapeutic targets for rheumatoid arthritis and other immune disorders (3).

The two receptors for TNF-α, TNF-R1 (55 kDa) and TNF-R2 (75 kDa) can mediate distinct cellular responses (4,5). In most cases cytotoxicity elicited by TNF has been reported to act through TNF-R1 (6,7). Cytotoxicity is mediated by a "death domain" with the intracellular region of the receptor that binds to the death domain adaptor protein TRADD and triggers the activation of caspases (8). Soluble forms of both receptors have also been characterized which can bind TNF-α and may play an important role in immune disorders (9,10).

Background References

1. Aggarwal, B.B. (2003) *Nat Rev Immunol* 3, 745-56.
2. Locksley, R.M. et al. (2001) *Cell* 104, 487-501.
3. Taylor, P.C. et al. (2004) *Curr Opin Biotechnol* 15, 557-63.
4. Tartaglia, L.A. et al. (1991) *Proc Natl Acad Sci U S A* 88, 9292-6.
5. Peschon, J.J. et al. (1998) *J Immunol* 160, 943-52.
6. Tartaglia, L.A. et al. (1993) *Cell* 73, 213-6.
7. Rothe, J. et al. (1993) *Nature* 364, 798-802.
8. Chen, G. and Goeddel, D.V. (2002) *Science* 296, 1634-5.
9. Humbert, M. et al. (1994) *Am J Respir Crit Care Med* 149, 1681-5.
10. Schröder, J. et al. (1995) *Infection* 23, 143-8.

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® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

M: Mouse **R:** Rat

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