

Anti-Mouse CD120a (TNFR1) (Clone 55R-593) **Purified *in vivo* GOLD™ Functional Grade** **Monoclonal Antibody**

Product Information

Product No.: T245
Clone: 55R-593
RRID: AB_2737568
Isotype: Armenian Hamster IgG
Storage: Sterile 2-8°C

Product Description

Specificity:

Clone 55R-593 recognizes mouse CD120a.

Antigen Distribution:

CD120a is constitutively expressed in most tissues.

Background:

CD120 can refer to two members of the tumor necrosis factor receptor superfamily- CD120a (TNFR1) or CD120b (TNFR2). CD120a is a 55kD Type I transmembrane protein receptor that binds both TNF- α and TNF- β (LT- α). In association with TRADD and RIP, the receptor crosslinking induced by TNF- α or TNF- β trimers is vital for signal transduction, leading to apoptosis, NF- κ B activation, increased expression of proinflammatory genes, tumor necrosis, and cell differentiation depending on cell type and differentiation state. CD120b is a 75 kD type I transmembrane protein that binds both TNF- α and TNF- β . In conjunction with TRAF1 and TRAF2, the receptor crosslinking induced by TNF- α or TNF- β trimers is critical for signal transduction that may lead to apoptosis, NF- κ B activation, increased expression of proinflammatory genes, tumor necrosis, and cell differentiation depending on cell type and differentiation state. TNF- α is a 17.5 kD protein that mediates inflammation and immunity caused by the invasion of viruses, bacteria, and parasites by initiating a cascade of cytokines that increase vascular permeability, thus bringing macrophages and neutrophils to the site of infection. TNF- α secreted by the macrophage causes the blood to clot which provides containment of the infection. TNF- α binding to surface receptors brings about various biologic activities that include cytolysis and cytostasis of many tumor cell lines. In vitro, hemorrhagic necrosis of tumors. In vivo, increased fibroblast proliferation, and enhanced chemotaxis and phagocytosis in neutrophils. TNF- β (LT- α) is a 25 kD protein that has a significant impact on the maintenance of the immune system including the development of secondary lymphoid organs. TNF- β has dual functions. It may function to prevent growth of cancer cells or it may facilitate the development of tumors. TNF- β is involved in the regulation of cell survival, proliferation, differentiation, and apoptosis and, if unregulated, can result in a constantly active signaling pathway, resulting in uncontrolled cellular growth and creation of tumors. Additionally, TNF- β is involved in innate immune regulation and has been shown to prevent tumor growth and obliterate cancerous cell lines.

Known Reactivity Species:

Mouse

Format:

in vivo GOLD™, Purified in vivo Functional Grade

Immunogen:

E. coli-expressed extracellular domain of the mouse TNFR1 protein

Formulation

This monoclonal antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added. Due to inherent biochemical properties of antibodies, certain products may be prone to precipitation over time. Precipitation may be removed by aseptic centrifugation and/or filtration.

Products are for research use only. Not for use in diagnostic or therapeutic procedures.

Product Datasheet

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Purity

≥95% monomer by analytical SEC, >95% by SDS Page

Endotoxin

< 1.0 EU/mg as determined by the LAL method

Storage and Stability

Functional grade preclinical antibodies may be stored sterile as received at 2-8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at ≤ -70°C. **Avoid Repeated Freeze Thaw Cycles.**

Product Preparation

Functional grade preclinical antibodies are manufactured in an animal free facility using *in vitro* cell culture techniques and are purified by a multi-step process including the use of protein A or G to assure extremely low levels of endotoxins, leachable protein A or aggregates.

Country of Origin

USA

References

1. Dana, R. *et al.* (2000) *Arch Ophthalmol.* **118**: 1666
2. Donner, DB. *et al.* (2008) *J Immunol.* **181**: 1288
3. Pasparakis, M. *et al.* (2008) *Nat Immunol.* **9**: 1015

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