Rhesus Macaque TNF-α Antibody

Monoclonal Rat IgG_{2B} Clone # 182303

Catalog Number: MAB1070

DESCRIPTION

Species Reactivity	Rhesus Macaque
Specificity	Detects rhesus macaque TNF-α in direct ELISAs and Western blots. In direct ELISAs, aproximately 100% cross-rectivity with recombinant human TNF-α is observed and 20% cross-reactivity with TNF-α from mouse, rat, or cotton rat is observed. Addionally, in direct ELISAs, no cross-reactivity with recombinant human (rh) APRIL, rhBAFF, recombinant mouse (rm) BAFF R, rhEDA-A2, rmEDA, rhFas Ligand, rmFas Ligand, rhGITR Ligand, rhLIGHT, rhLTα1β2, rhLTα2β1, rhOX40 Ligand, rmOX40 Ligand, recombinant porcine TNF-α, rhTRAIL, rmTRAIL, rhTRANCE, rhTWEAK, rmTWEAK, or rhVEGI is observed.
Source	Monoclonal Rat IgG_{2B} Clone # 182303
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant rhesus macaque TNF-α Val77-Leu233 Accession # P48094
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Rhesus Macaque TNF-α (Catalog # 1070-RM)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Tumor necrosis factor alpha (TNF-α), also known as cachectin and TNFSF2, is the prototypic ligand of the TNF superfamily. It is a pleiotropic molecule that plays a central role in inflammation, apoptosis, and immune system development. TNF-α is produced by a wide variety of immune and epithelial cell types (1, 2). Rhesus TNF-α consisits of a 35 amino acid (aa) cytoplasmic domain, a 21 aa transmembrane segment, and a 177 aa extracellular domain (ECD) (3). Within the ECD, rhesus TNF-α shares 97% aa sequence identity with human and 71%-92% with bovine, canine, cotton rat, equine, feline, mouse, porcine, and rat TNF-α. The 26 kDa type 2 transmembrane protein is assembled intracellularly to form a noncovalently linked homotrimer (4). Ligation of this complex induces reverse signaling that promotes lymphocyte costimulation but diminishes monocyte responsiveness (5). Cleavage of membrane bound TNF-α by TACE/ADAM17 releases a 55 kDa soluble trimeric form of TNF-α (6, 7). TNF-α trimers bind the ubiquitous TNF RI and the hematopoietic cell-restricted TNF RII, both of which are also expressed as homotrimers (1, 8). TNF-α regulates lymphoid tissue development through control of apoptosis (2). It also promotes inflammatory responses by inducing the activation of vascular endothelial cells and macrophages (2). TNF-α is a key cytokine in the development of several inflammatory disorders (9). It contributes to the development of type 2 diabetes through its effects on insulin resistance and fatty acid metabolism (10, 11).

References:

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