

#### DESCRIPTION

|                           |                                                                                                                                                                                                                                                                                    |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Rhesus Macaque                                                                                                                                                                                                                                                                     |
| <b>Specificity</b>        | Detects rhesus macaque TNF- $\alpha$ in direct ELISAs and Western blots. In Western blots, approximately 20% cross-reactivity with recombinant mouse TNF- $\alpha$ , recombinant rat TNF- $\alpha$ , and recombinant cotton rat TNF- $\alpha$ is observed, and less than 1% cross- |
| <b>Source</b>             | Polyclonal Goat IgG                                                                                                                                                                                                                                                                |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                          |
| <b>Immunogen</b>          | <i>E. coli</i> -derived recombinant rhesus macaque TNF- $\alpha$<br>Val77-Leu233<br>Accession # P48094                                                                                                                                                                             |
| <b>Conjugate</b>          | Alexa Fluor 405<br>Excitation Wavelength: 405 nm<br>Emission Wavelength: 421 nm                                                                                                                                                                                                    |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.        |

#### 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.

**Western Blot** Optimal dilution of this antibody should be experimentally determined.

#### PREPARATION AND STORAGE

**Shipping** The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

#### BACKGROUND

Tumor necrosis factor alpha (TNF- $\alpha$ ), 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- $\alpha$  is produced by a wide variety of immune and epithelial cell types (1, 2). Rhesus TNF- $\alpha$  consists 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- $\alpha$  shares 97% aa sequence identity with human and 71%-92% with bovine, canine, cotton rat, equine, feline, mouse, porcine, and rat TNF- $\alpha$ . 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- $\alpha$  by TACE/ADAM17 releases a 55 kDa soluble trimeric form of TNF- $\alpha$  (6, 7). TNF- $\alpha$  trimers bind the ubiquitous TNF RI and the hematopoietic cell-restricted TNF RII, both of which are also expressed as homotrimers (1, 8). TNF- $\alpha$  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- $\alpha$  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).

#### PRODUCT SPECIFIC NOTICES

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