

#### DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Mouse                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects mouse Lymphotoxin- $\alpha$ /TNF- $\beta$ in direct ELISAs and Western blots. In direct ELISAs, 100% cross-reactivity with recombinant human Lymphotoxin- $\alpha$ /TNF- $\beta$ is observed.                                                                       |
| <b>Source</b>             | Polyclonal Goat IgG                                                                                                                                                                                                                                                         |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                   |
| <b>Immunogen</b>          | <i>E. coli</i> -derived recombinant mouse Lymphotoxin- $\alpha$ /TNF- $\beta$                                                                                                                                                                                               |
| <b>Conjugate</b>          | Alexa Fluor 700<br>Excitation Wavelength: 675-700 nm<br>Emission Wavelength: 723 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-beta (TNF- $\beta$ ), also known as lymphotoxin-alpha (LT- $\alpha$ ), is a secreted homotrimeric glycoprotein belonging to the TNF superfamily and is designated TNFSF1B. It is produced by NK, T, and B cells. TNF- $\beta$  was originally identified as protein that kills tumor cells in cell culture supernatants of a lymphoblastoid cell line. The TNF- $\beta$  subunit also associates with the type II transmembrane TNF superfamily protein lymphotoxin beta (LT $\beta$ ) to generate two types of heterotrimers designated as LT $\alpha$ 1 $\beta$ 2 (a single TNF- $\beta$  chain non-covalently associated with two chains of LT $\beta$ ), and LT $\alpha$ 2 $\beta$ 1 (1, 2). TNF- $\alpha$ , TNF- $\beta$ , and LT $\beta$  form a subfamily of the TNF related ligands. Their genes are genetically linked within a compact cluster inside the major histocompatibility complex locus (2, 3). The soluble TNF- $\beta$  binds and signals through TNF R1 and TNF R2. In contrast, the membrane-bound LT $\alpha$ 1 $\beta$ 2 interacts specifically with the LT $\beta$  receptor (LT $\beta$ R), which does not bind TNF- $\beta$  or TNF- $\alpha$ . Both TNFR1 and TNFR2 bind LT $\alpha$ 2 $\beta$ 1, which is recognized weakly by LT $\beta$  R (4, 5). TNF R1 and 2 express very broadly, while expression of LT $\beta$  R is restricted to stromal cells of lymphoid tissues. Herpesvirus entry mediator binds TNF- $\beta$  in vitro (6). The physiological importance of such interaction, if it occurs *in vivo*, is unclear. Distinct functions attributed to TNF- $\beta$  from transgenic knock-out mice include, loss of lymph node development, change in splenic architecture, impaired germinal center formation, and susceptibility to pulmonary tuberculosis (7, 8). TNF- $\beta$  also has overlapping physiological functions with LT $\beta$  and TNF- $\alpha$  in lymphoid organogenesis (7). Mouse and human TNF- $\beta$  share approximately 74% homology in their amino acid sequence.

#### PRODUCT SPECIFIC NOTICES

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