

DESCRIPTION	
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Lymphotoxin- $\alpha$ /TNF- $\beta$ in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human (rh) TNF- $\alpha$ is observed. Neutralizes the biological activity of recombinant human TNF- $\beta$ . Will not neutralize the biological activity of recombinant human TNF- $\alpha$ or recombinant mouse TNF- $\alpha$ .
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 5802
<b>Purification</b>	Protein A or G purified from ascites
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human Lymphotoxin- $\alpha$ /TNF- $\beta$ Leu35-Leu205 Accession # P01374
<b>Endotoxin Level</b>	<0.10 EU per 1 $\mu$ g of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 $\mu$ m 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
<b>Immunocytochemistry</b>	8-25 $\mu$ g/mL	See Below
<b>Neutralization</b>	Measured by its ability to neutralize Lymphotoxin- $\alpha$ /TNF- $\beta$ -induced cytotoxicity in the L-929 mouse fibroblast cell line. Matthews, N. and M. L. Neale (1987) in Lymphokines and Interferons, A Practical Approach. Clemens, M. J. et al. (eds): IRL Press. 221. The Neutralization Dose (ND <sub>50</sub> ) is typically 0.1-0.2 $\mu$ g/mL in the presence of 0.25 ng/mL Recombinant Human Lymphotoxin- $\alpha$ /TNF- $\beta$ and 1 $\mu$ g/mL actinomycin D.	

**DATA**

**Neutralization**

**Cytotoxicity Induced by Lymphotoxin- $\alpha$ /TNF- $\beta$  and Neutralization by Human Lymphotoxin- $\alpha$ /TNF- $\beta$  Antibody.**  
Recombinant Human Lymphotoxin- $\alpha$ /TNF- $\beta$  (Catalog # 211-TB) induces cytotoxicity in the L-929 mouse fibroblast cell line in a dose-dependent manner (orange line), as measured by crystal violet staining. Cytotoxicity elicited by Recombinant Human Lymphotoxin- $\alpha$ /TNF- $\beta$  (0.25 ng/mL) is neutralized (green line) by increasing concentrations of Mouse Anti-Human Lymphotoxin- $\alpha$ /TNF- $\beta$  Monoclonal Antibody (Catalog # MAB211). The ND<sub>50</sub> is typically 0.1-0.2  $\mu$ g/mL in the presence of the metabolic inhibitor actinomycin D (1  $\mu$ g/mL).

**Immunocytochemistry**

**Lymphotoxin- $\alpha$ /TNF- $\beta$  in Human PBMCs.**  
Lymphotoxin- $\alpha$ /TNF- $\beta$  was detected in immersion fixed human peripheral blood mononuclear cells (PBMCs) stimulated with LPS and monensin using Mouse Anti-Human Lymphotoxin- $\alpha$ /TNF- $\beta$  Monoclonal Antibody (Catalog # MAB211) at 10  $\mu$ g/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counter-stained with DAPI (blue). View our protocol for Fluorescent ICC Staining of Non-adherent Cells.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Tumor necrosis factor beta (TNF- $\beta$ ), also known as lymphotoxin-alpha (LT- $\alpha$ ), and TNF- $\alpha$ , are two structurally and functionally related proteins that bind to the same cell surface receptors (TNF RI and TNF RII) and produce a vast range of similar, but not identical, effects. Among these effects is the ability to kill certain tumor cells directly, from which the names tumor necrosis factor and lymphotoxin both derive. Mature TNF- $\beta$ /LT- $\alpha$  and TNF- $\alpha$  share approximately 35% protein sequence homology and the biologically active secreted forms of both proteins are homotrimers. Whereas TNF- $\alpha$  can exist as a type II membrane protein, TNF- $\beta$ /LT- $\alpha$  possesses a typical signal peptide sequence and is a secreted protein. It has been shown that TNF- $\beta$ /LT- $\alpha$  is also present on the cell surface of activated T, B and LAK cells as a heteromeric complex with LT- $\beta$ , a type II membrane protein that is another member of the TNF ligand family. The genes for TNF- $\alpha$ , TNF- $\beta$ /LT- $\alpha$ , and LT- $\beta$  are closely linked within the major histocompatibility complex.

TNF- $\beta$ /LT- $\alpha$  is expressed in activated T- and B-lymphocytes. In addition to its cytotoxic action on tumor cells, TNF- $\beta$ /LT- $\alpha$  has been shown to be a mediator of inflammation and immune function. Evidence is also accumulating that TNF- $\beta$ /LT- $\alpha$  and TNF- $\alpha$  are mediators in the pathogenesis of certain autoimmune diseases. TNF- $\beta$ /LT- $\alpha$  has also been shown to have a role in lymphoid organ development. Human and mouse TNF- $\beta$ /LT- $\alpha$  share approximately 74% homology in their amino acid sequence and exhibit cross-species activity.