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InnoCyto Inc.

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Anti-Mouse TNF-α antibody

Catalog Number:	203301, 203302
Size:	100 μg, 500 μg
Target Name:	TNF-α, TNF-alpha, Tumor necrosis factor-α, Macrophage cytotoxic factor (MCF)
Regulatory Status:	RUO

PRODUCT DETAILS

Clone:	MP6-XT22
Application:	Intracellular Flow Cytometry, ELISA, ICC, IHC-F, WB
Reactivity:	Mouse
Format:	Purified
Isotype:	Rat IgG1
Antibody Type:	Monoclonal
Formulation:	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide
Protein Concentration:	0.5 mg/mL
Storage&Handling:	The antibody solution should be stored between 2°C and 8°C
Recommended Usage:	For flow cytometric staining, it is recommended to use less than 0.2 µg of this reagent per 0.5-1.0 million cells in a 100 µL volume. Optimal reagent performance should be determined by titration for each specific application.
Isotype Controls:	303401
Antibody Family:	Mouse Antibodies

BACKGROUND INFORMATION

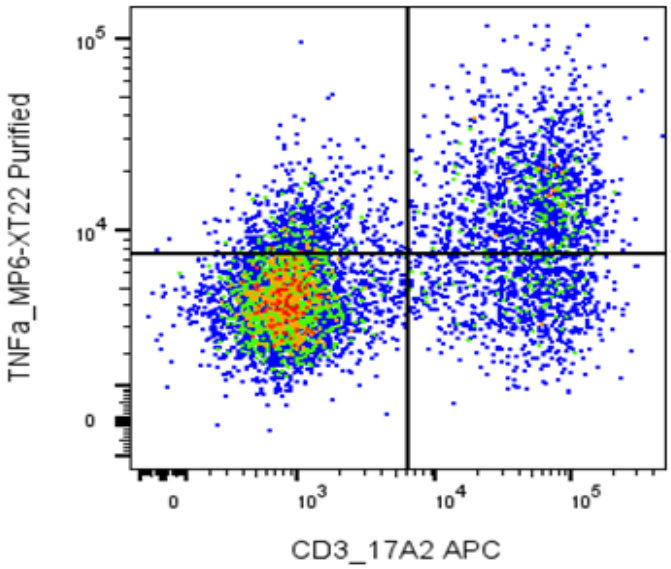
Mouse tumor necrosis factor-alpha (TNF-α) is a pro-inflammatory cytokine produced primarily by activated macrophages, T cells, and other immune cells. It plays a central role in innate and adaptive immunity by regulating inflammation, cell survival, apoptosis, and immune cell activation. TNF-α is rapidly induced in response to infection or tissue injury and helps coordinate host defense by promoting cytokine production, leukocyte recruitment, and pathogen clearance.

Structurally, TNF-α is initially synthesized as a type II transmembrane protein that can be cleaved by metalloproteases such as TACE (ADAM17) to release a soluble form. Both membrane-bound and soluble TNF-α function as homotrimers, which are the biologically active forms. TNF-α exerts its effects by binding to two receptors, TNFR1 (p55) and TNFR2 (p75), which differ in expression patterns and downstream signaling pathways.

The primary ligands for TNF receptors are TNF-α itself and the related cytokine lymphotoxin-α. Engagement of TNFR1 often leads to activation of NF-κB and MAPK pathways or induction of apoptosis, while TNFR2 is more associated with immune regulation and cell survival.

In disease, dysregulated TNF-α production contributes to chronic inflammatory and autoimmune conditions in mouse models, including arthritis, colitis, and sepsis. Therapeutically, TNF-α is a major target in inflammatory disease, and anti-TNF biologics have been widely developed. In mice, TNF modulation is also used experimentally to study inflammation, cancer immunity, and immune-mediated pathology.

PRODUCT DATA



PMA + Ionomycin-stimulated mouse splenocytes were stained with APC anti-Mouse CD3 clone 17A2, fixed, permeabilized, and then stained with Purified anti-Mouse TNF-a clone MP6-XT22 followed by PE anti-Rat Ig G.

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