

PE/Fire™ 744 anti-human TNF-α Antibody

Catalog# / Size	502967 / 25 tests 502968 / 100 tests
Clone	MAB11
Regulatory Status	RUO
Other Names	Tumor necrosis factor-α, Cachectin, Necrosin, Macrophage cytotoxic factor (MCF), Differentiation inducing factor (DIF), TNFSF2
Isotype	Mouse IgG1, κ
Description	TNF-α is secreted by macrophages, monocytes, neutrophils, T cells, and NK cells. Many transformed cell lines also secrete TNF-α. Monomeric human TNF-α is a 157 amino acid protein (non-glycosylated) with a reported molecular weight of 17 kD. TNF-α forms multimeric complexes; stable trimers are most common in solution. A 26 kD membrane form of TNF-α has also been described. TNF-α binding to surface receptors elicits a wide array of biological activities including: cytolysis and cytostasis of many tumor cell lines <i>in vitro</i> , hemorrhagic necrosis of tumors <i>in vivo</i> , increased fibroblast proliferation, and enhanced chemotaxis and phagocytosis in neutrophils.

Product Details

Verified Reactivity	Human
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	<i>E. coli</i> -expressed, recombinant human TNF-α
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA)
Preparation	The antibody was purified by affinity chromatography and conjugated with PE/Fire™ 744 under optimal conditions.
Concentration	Lot-specific (to obtain lot-specific concentration and expiration, please enter the lot number in our Certificate of Analysis online tool).
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.
Application	ICFC - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by intracellular flow cytometry using our Cyto-Fast™ Fix/Perm Buffer Set. For flow cytometric staining, the suggested use of this reagent is 5 µL per 10⁶ cells in 100 µL volume. It is highly recommended that the reagent be titrated for optimal performance for each application. True-Stain Monocyte Blocker™ (Cat No. 426102) is recommended to minimize non-specific staining of PE/Fire™ 744 on monocytes and macrophages. * PE/Fire™ 744 has a maximum excitation of 565 nm and a maximum emission of 744 nm.
Excitation Laser	Blue Laser (488 nm) Green Laser (532 nm)/Yellow-Green Laser (561 nm)
Application Notes	ELISA or ELISPOT Detection: The biotinylated MAB11 antibody is useful as the detection antibody in a sandwich ELISA or ELISPOT, when used in conjunction with the purified MAB1 antibody (Cat. No. 502802/502804) as the capture antibody. Flow Cytometry^{3,5,6,10}: The fluorochrome-labeled MAB11 antibody is useful for intracellular and

membrane-bound immunofluorescent staining and flow cytometric analysis to identify TNF- α -producing cells within mixed cell populations.

Additional reported applications (for the relevant formats) include: neutralization^{1,2}, immunohistochemical staining of paraformaldehyde-fixed, saponin-treated frozen tissue sections⁴ and acetone-fixed frozen tissue sections⁸, immunocytochemistry⁷, and immunofluorescence⁹. The MAb11 antibody can neutralize the bioactivity of natural or recombinant TNF- α .

Note: For testing human TNF- α in serum or plasma, BioLegend's ELISA Max™ Sets (Cat. No. 430201 to 430206) are specially developed and recommended. The LEAF™ purified antibody (Endotoxin <0.1 EU/ μ g, Azide-Free, 0.2 μ m filtered) is recommended for neutralization of human TNF- α bioactivity (Cat. No. 502922).

The Purified MAb1 antibody is useful in neutralization² and as the capture antibody in a sandwich ELISA or ELISPOT assay, when used in conjunction with the biotinylated MAb11 antibody (Cat. No. 502904/502914) as the detecting antibody.

Clone MAb11 cross-reacts to Cat¹¹

Application References

(PubMed link indicates BioLegend citation)

1. Rathjen D, *et al.* 1991. *Mol. Immunol.* 28:79. (Neut)
2. Ablamunits V, *et al.* 2010. *Eur. J. Immunol.* 40:2891. (Neut)
3. Enrquez J, *et al.* 2002. *Adv. Perit. Dial.* 18:177. (ICFC)
4. Andersson U, *et al.* 1999. *Detection and quantification of gene expression*. New York:Springer-Verlag. (IHC)
5. Chen H, *et al.* 2005. *J. Immunol.* 175:591. (ICFC)
6. Iwamoto S, *et al.* 2007. *J. Immunol.* 179:1449. (ICFC) [PubMed](#)
7. Andersson U, *et al.* 2000. *J. Exp. Med.* 192:565. (ICC)
8. Moormann AM, *et al.* 1999. *J. Infect. Dis.* 180:1987. (IHC)
9. Zhao XJ, *et al.* 2003. *J. Immunol.* 170:2923. (IF)
10. Rieger R, *et al.* 2009. *Cancer Gene Ther.* 1:53-64. (FC)
11. Maskaereekul S, *et al.* 2009. *Vaccine.* 28:3754 (FC)

Antigen Details

Structure	TNF superfamily; dimer/trimer; 17 kD (Mammalian)
Bioactivity	Paracrine/endocrine mediator of inflammatory and immune functions; selectively cytotoxic for transformed cells; chemoattractant
Cell Sources	Activated monocytes, neutrophils, macrophages, T cells, B cells, NK cells, LAK cells
Cell Targets	Monocytes, neutrophils, macrophages, T cells, fibroblasts, endothelial cells, osteoclasts, adipocytes, astroglia, microglia
Receptors	TNFRSF1A (TNF-R1, CD120a, TNFR-p60 Type β , p55); TNFRSF1B (TNF-R2, CD120b, TNFR-p80 Type A, p75)
Cell Type	Neutrophils, Tregs
Biology Area	Cell Biology, Immunology, Innate Immunity, Neuroinflammation, Neuroscience
Molecular Family	Cytokines/Chemokines
Antigen References	1. Fitzgerald K, <i>et al.</i> Eds. 2001. <i>The Cytokine FactsBook</i>. Academic Press, San Diego. 2. Beutler B, <i>et al.</i> 1988. <i>Annu. Rev. Biochem.</i> 57:505. 3. Beutler B, <i>et al.</i> 1989. <i>Annu. Rev. Immunol.</i> 7:625. 4. Tracey K, <i>et al.</i> 1993. <i>Crit. Care Med.</i> 21:S415.
Regulation	Type II integral membrane protein processed by TACE for secretion; upregulated by interferons, IL-2, GM-CSF, substance P, bradykinin, PAF, immune complexes, cyclooxygenase; downregulated by IL-6, TGF- β , vitamin D3, prostaglandin E2, PAF antagonists
Gene ID	7124

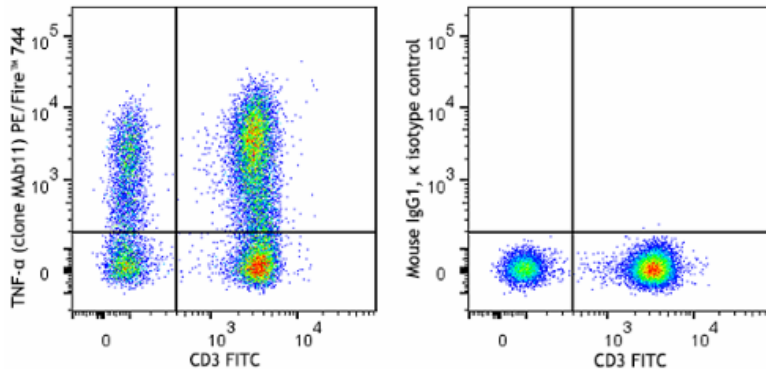
Related Protocols

- [Intracellular Flow Cytometry Staining Protocol](#)

Other Formats

PE anti-human TNF- α , Spark UV™ 387 anti-human TNF- α , TotalSeq™-B0945 anti-human TNF- α , APC/Fire™ 810 anti-human TNF- α , Brilliant Violet 750™ anti-human TNF- α , PE/Dazzle™ 594 anti-human TNF- α , Brilliant Violet 785™ anti-human TNF- α , PerCP anti-human TNF- α , Brilliant Violet 510™ anti-human TNF- α , APC anti-human TNF- α , Biotin anti-human TNF- α , FITC anti-human TNF- α , Purified anti-human TNF- α , PE/Cyanine7 anti-human TNF- α , Brilliant Violet 421™ anti-human TNF- α , Spark Blue™ 515 anti-human TNF- α , Alexa Fluor® 488 anti-human TNF- α , Alexa Fluor® 647 anti-human TNF- α , Alexa Fluor® 700 anti-human TNF- α , Pacific Blue™ anti-human TNF- α , PerCP/Cyanine5.5 anti-human TNF- α , Brilliant Violet 711™ anti-human TNF- α , APC/Cyanine7 anti-human TNF- α , StarBright UltraViolet 740 anti-human TNF- α , PE/Fire™ 744 anti-human TNF- α Antibody, Brilliant Violet 605™ anti-human TNF- α , Brilliant Violet 650™ anti-human TNF- α , Purified anti-human TNF- α (Maxpar® Ready), GMP PE anti-human TNF- α , TotalSeq™-C0945 anti-human TNF- α Antibody

Product Data



Human peripheral blood mononuclear cells were stimulated with Cell Activation Cocktail (with Brefeldin A) (Cat. No. 423303) for 6 hours. Cells were then fixed and permeabilized with Cyto-Fast™ Fix/Perm Buffer Set (Cat. No. 426803) and stained with anti-human CD3 (clone UCHT1) FITC and anti-human TNF- α (clone MAb11) PE/Fire™ 744 (left) or mouse IgG1, κ PE/Fire™ 744 isotype control. Data shown was gated on the lymphocyte population.

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