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PRODUCT INFORMATION

TNF-α Chimeric Mouse-Mouse Monoclonal Antibody (Clone D2E7)

Item No. 37181

Overview and Properties

Contents:	This vial contains 200 µg of protein A-affinity purified monoclonal antibody.
Synonyms:	DIF, Differentiation-inducing Factor, TNFA, TNFSF2, Tumor Necrosis Factor-α
Immunogen:	Human TNF-α
Cross Reactivity:	(+) TNF-α, soluble TNF-α; (-) TNF-β
Species Reactivity:	(+) Human
Uniprot No.:	P01375
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 0.02% ProClin™ 300
Clone:	D2E7 (Adalimumab)
Host:	Chimeric Monoclonal Antibody
Isotype:	Mouse IgG2κ
Applications:	ELISA, Immunofluorescence (IF), and Immunohistochemistry (IHC); the optimal working concentration/dilution should be determined empirically.

Description

TNF-α is a cytokine and member of the TNF/TNF receptor (TNFR) cytokine superfamily.[1] TNF-α is produced as a 233-amino acid transmembrane precursor protein from which mature, soluble TNF-α is formed by proteolysis.[2] Soluble TNF-α is a 157-amino acid polypeptide, cleaved from the precursor protein on the extracellular side of the membrane, that forms bell-shaped homotrimers with the C-termini at the base, each containing three receptor interaction sites.[3] It is primarily produced by activated macrophages but can also be produced by a variety of other cells, such as T cells, natural killer cells, and osteoblasts.[4,5] TNF-α binds to and activates its receptors, TNFR1 and TNFR2, which are associated with intracellular protein complexes that activate caspases to induce cell death, induce p38 MAPK signaling, and initiate NF-κB or AP-1-mediated transcription of immune and inflammatory mediators.[5] TNF-α promotes inflammation partly by inducing endothelial cells to express adhesion molecules, COX enzymes, and pro-coagulant factors.[4] Exogenous TNF-α induces death of cancer cells *in vitro*, as well as disrupts tumor vascularization and induces tumor necrosis *in vivo*, but it has tumor-promoting properties when produced in the cancer microenvironment.[1,6] In contrast, it plays a role in resistance to infection, with mice lacking *Tnf* having an increased susceptibility to certain microbial infections but lacking resistance to leishmania.[5] *Tnf* knockout mice are also resistant to certain types of cancer, including chemically induced skin carcinogenesis.[1] TNF-α increases lung metastases in a mouse model of fibrosarcoma, an effect that can be reduced by an anti-TNF-α antibody. Mice overexpressing *Tnf* develop an arthritis similar to rheumatoid arthritis in humans.[7] TNF-α is produced in the inflamed tissues of patients with inflammatory diseases such as rheumatoid arthritis, and neutralizing antibodies to TNF-α reduce the levels of TNF-α *in vitro* and in mouse models of the disease.[4] Cayman's TNF-α Chimeric Mouse-Mouse Monoclonal Antibody (Clone D2E7) was produced recombinantly from the original D2E7 antibody sequence and can be used for ELISA, immunofluorescence (IF), and immunohistochemistry (IHC) applications. The D2E7 antibody was generated by affinity maturation from the 2SD4 scFv, which, in turn, was selected on human TNF-α by guided phage-display technology using the mouse anti-hTNF-α antibody Mab32 as a template.[8,9]

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PRODUCT INFORMATION

References

1. Balkwill, F. TNF-α in promotion and progression of cancer. *Cancer Metastasis Rev.* **25(3)**, 409-416 (2006).
2. Kriegler, M., Perez, C., DeFray, K., *et al.* A novel form of TNF/cachectin is a cell surface cytotoxic transmembrane protein: Ramifications for the complex physiology of TNF. *Cell* **53(1)**, 45-53 (1988).
3. Tang, P., Hung, M., and Klostergaard, J. Human pro-tumor necrosis factor is a homotrimer. *Biochemistry* **35(25)**, 8216-8225 (1996).
4. Bradley, J.R. TNF-mediated inflammatory disease. *J. Pathol.* **214(2)**, 149-160 (2008).
5. Idriss, H.T. and Naismith, J.H. TNFα and the TNF receptor superfamily: Structure-function relationship(s). *Microsc. Res. Tech.* **50(3)**, 184-195 (2000).
6. Josephs, S.F., Ichim, T.E., Prince, S.M., *et al.* Unleashing endogenous TNF-alpha as a cancer immunotherapeutic. *J. Transl. Med.* **16(1)**, 242 (2018).
7. Li, P. and Schwarz, E.M. The TNF-α transgenic mouse model of inflammatory arthritis. *Springer Semin. Immunopathol.* **25(1)**, 19-33 (2003).
8. Jespers, L.S., Roberts, A., Mahler, S.M., *et al.* Guiding the selection of human antibodies from phage display repertoires to a single epitope of an antigen. *Biotechnology (N.Y.)* **12(9)**, 899-903 (1994).
9. Salfeld, J.G., Allen, D.J., Hoogenboom, H.R.J.M., *et al.* Human antibodies that bind human TNFα. *BASF Aktiengesellschaft*. **6,090,382** (2000).

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