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# Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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## Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

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- Trockeneiszuschlag
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# PRODUCT INFORMATION

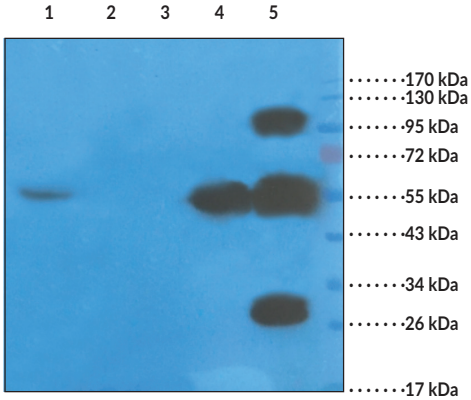
## TNF-α Chimeric Mouse-Human Monoclonal Antibody (Clone CDP 571)

*Item No. 37178*

### Overview and Properties

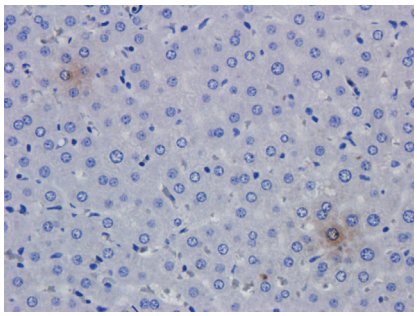
| | |
|---|---|
| **Contents:** | This vial contains 200 µg of protein A-affinity purified monoclonal antibody |
| **Synonyms:** | DIF, Differentiation-inducing Factor, TNFA, TNFSF2, Tumor Necrosis Factor-α |
| **Immunogen:** | Human TNF-α |
| **Cross Reactivity:** | (+) TNF-α |
| **Species Reactivity:** | (+) Human, rat |
| **Uniprot No.:** | P01375 |
| **Form:** | Liquid |
| **Storage:** | -20°C (as supplied) |
| **Stability:** | ≥1 year |
| **Storage Buffer:** | PBS with 0.02% ProClin™ 300 |
| **Clone:** | CDP 571 (Humicade) |
| **Host:** | Chimeric Monoclonal Antibody |
| **Isotype:** | IgG4κ |
| **Application:** | ELISA; the optimal working concentration/dilution should be determined empirically. |

### Images




**Lane 1:** Rat liver
**Lane 2:** Rat spinal cord
**Lane 3:** Mouse testis
**Lane 4:** Rat colon
**Lane 5:** Human thyroid tumor

WB using TNF-α Chimeric Mouse-Human Monoclonal Antibody (Clone CDP 571). Samples were resolved on a 10% SDS PAGE gel and blots probed with TNF-α Chimeric Mouse-Human Monoclonal Antibody (Clone CDP 571) at 1 µg/ml before being detected by a secondary antibody. The expected band size for TNF-α is 26 kDa, however dimers and other higher order complexes are well described in the literature too. TNF-α Chimeric Mouse-Human Monoclonal Antibody (Clone CDP 571) successfully detected human and rat TNF alpha.



Immunohistochemical (IHC) analysis of rat liver using TNF-α Chimeric Mouse-Human Monoclonal Antibody (Clone CDP 571). Formalin-fixed rat liver slices were stained with TNF-α Chimeric Mouse-Human Monoclonal Antibody (Clone CDP 571) at 5 µg/ml.



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# PRODUCT INFORMATION

## 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.[3,4] 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-Human Monoclonal Antibody (Clone CDP 571) was produced recombinantly from the original CDP 571 antibody sequence and can be used for ELISA and as a neutralizing antibody. The CDP 571 antibody was generated by fusing human IgG4 constant domains to the antigen-binding domain of a mouse anti-human TNF-α monoclonal antibody.[8]

## References


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4. Bradley, J.R. TNF-mediated inflammatory disease. *J. Pathol.* **214(2)**, 149-160 (2008).
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8. Stephens, S., Emtage, S., Vetterlein, O., *et al.* Comprehensive pharmacokinetics of a humanized antibody and analysis of residual anti-idiotypic responses. *Immunology* **85(4)**, 668-674 (1995).



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