Miltenyi Biotec

Mouse TNF-α
research grade

Contents

1. Description
   - 1.1 Background information
   - 1.2 Applications
2. References

1. Description

Products

Mouse TNF-α, research grade.

Recombinant mouse tumor necrosis factor α.

Content in µg	Order no.
10	130-101-688
25	130-101-687

Biological activity

The ED_{50} is ≤0.025 ng/mL corresponding to an activity of ≥4×10^7 U/mg.

▲ **Note:** The ED_{50} is determined by inhibition assay in the presence of actinomycin D using L-929 cells, according to Baarsch *et al* [1]. The assay was calibrated with the reference standard for mouse TNFα (NIBSC code 88/532)

Primary structure

Three identical non-glycosylated polypeptide chains without N-terminal methionine (156 amino acid residues).

Molecular mass

17.3 kDa (monomer).

Source

Produced in *E. coli*.

Product format

Lyophilized from a filtered (0.2 µm) buffer solution.

Stabilizer

Mannitol and trehalose.

Purity

>97% as determined by SDS-PAGE analysis.

Endotoxin level

Low endotoxin (<1.0 EU/µg cytokine) as determined by Limulus Amebocyte Lysate (LAL) assay.

Storage

Lyophilized Mouse TNF-α, research grade should be stored at –20 °C. The expiration date is indicated on the vial label. Upon reconstitution aliquots should be stored at –20 °C or below. Avoid repeated freeze-thaw cycles.

Reconstitution

It is recommended to reconstitute lyophilized Mouse TNF-α, research grade with deionized sterile-filtered water to a final concentration of 0.1–1.0 mg/mL in a minimal volume of 100 µL. Further dilutions should be prepared with 0.1% bovine serum albumin (BSA) or human serum albumin (HSA) in phosphate-buffered saline.

1.1 Background information

Tumor necrosis factor α (TNF-α) is a proinflammatory cytokine mainly produced by activated monocytes and macrophages in response to infection, injury, and tumor burden. TNF-α production has also been reported for a variety of other cell types involved in inflammatory responses, including T cells, NK cells, and neutrophils as well as a number of non-immune cells, such as keratinocytes and astrocytes. TNF-α has a broad spectrum of biological activities. In addition to its central role in inflammation, TNF-α is noted for its cytotoxic and tumoricidal abilities either by necrosis or induction of apoptosis. Further functions include antiviral activity, growth modulation, and induction of cellular differentiation. Despite its various beneficial actions, TNF-α also plays a detrimental role in, for example, septic shock syndrome, tissue injury, inflammation, cachexia, and diabetes.

1.2 Applications

Mouse TNF-α can be used for a variety of applications, including:

- Activation of antigen presenting cells.
- Cytotoxicity and cell proliferation assays.
- Assessment of apoptosis and viral protection.
- Investigation of TNF-α–induced signaling pathways.

Optimal concentration for a specific application should be determined by a dose-response experiment.

2. References

1. Baarsch, M. J. *et al.* (1991) Detection of tumor necrosis factor alpha from porcine alveolar macrophages using an L929 fibroblast bioassay. J. Immunol. Methods 140: 15–22.

Refer to www.miltenyibiotec.com for all data sheets and protocols. Miltenyi Biotec provides technical support worldwide. Visit www.miltenyibiotec.com for local Miltenyi Biotec Technical Support contact information.

Legal notices

Limited product warranty

Miltenyi Biotec B.V. & Co. KG and/or its affiliate(s) warrant this product to be free from material defects in workmanship and materials and to conform substantially with Miltenyi Biotec's published specifications for the product at the time of order, under normal use and conditions in accordance with its applicable documentation, for a period beginning on the date of delivery of the product by Miltenyi Biotec or its authorized distributor and ending on the expiration date of the product's applicable shelf life stated on the product label, packaging or documentation (as applicable) or, in the absence thereof, ONE (1) YEAR from date of delivery ("Product Warranty"). Miltenyi Biotec's Product Warranty is provided subject to the warranty terms as set forth in Miltenyi Biotec's General Terms and Conditions for the Sale of Products and Services available on Miltenyi Biotec's website at www.miltenyibiotec.com, as in effect at the time of order ("Product Warranty"). Additional terms may apply. BY USE OF THIS PRODUCT, THE CUSTOMER AGREES TO BE BOUND BY THESE TERMS.

140-002-492.05

Miltenyi Biotec B.V. & Co. KG
Friedrich-Ebert-Straße 68, 51429 Bergisch Gladbach, Germany
Phone +49 2204 8306-0, Fax +49 2204 85197
macsde@miltenyi.com
www.miltenyibiotec.com

THE CUSTOMER IS SOLELY RESPONSIBLE FOR DETERMINING IF A PRODUCT IS SUITABLE FOR CUSTOMER'S PARTICULAR PURPOSE AND APPLICATION METHODS.

Technical information

The technical information, data, protocols, and other statements provided by Miltenyi Biotec in this document are based on information, tests, or experience which Miltenyi Biotec believes to be reliable, but the accuracy or completeness of such information is not guaranteed. Such technical information and data are intended for persons with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. Miltenyi Biotec shall not be liable for any technical or editorial errors or omissions contained herein.

All information and specifications are subject to change without prior notice. Please contact Miltenyi Biotec Technical Support or visit www.miltenyibiotec.com for the most up-to-date information on Miltenyi Biotec products.

Licenses

This product and/or its use may be covered by one or more pending or issued patents and/or may have certain limitations. Certain uses may be excluded by separate terms and conditions. Please contact your local Miltenyi Biotec representative or visit Miltenyi Biotec's website at www.miltenyibiotec.com for more information.

The purchase of this product conveys to the customer the non-transferable right to use the purchased amount of the product in research conducted by the customer (whether the customer is an academic or for-profit entity). This product may not be further sold. Additional terms and conditions (including the terms of a Limited Use Label License) may apply.

CUSTOMER'S USE OF THIS PRODUCT MAY REQUIRE ADDITIONAL LICENSES DEPENDING ON THE SPECIFIC APPLICATION. THE CUSTOMER IS SOLELY RESPONSIBLE FOR DETERMINING FOR ITSELF WHETHER IT HAS ALL APPROPRIATE LICENSES IN PLACE. Miltenyi Biotec provides no warranty that customer's use of this product does not and will not infringe intellectual property rights owned by a third party. BY USE OF THIS PRODUCT, THE CUSTOMER AGREES TO BE BOUND BY THESE TERMS.

Trademarks

The Miltenyi Biotec logo is a registered trademark or trademark of Miltenyi Biotec and/or its affiliates in various countries worldwide.

Copyright © 2021 Miltenyi Biotec and/or its affiliates. All rights reserved.

140-002-492.05

Unless otherwise specifically indicated, Miltenyi Biotec products and services are for research use only and not for diagnostic or therapeutic use.