

Technical Data Sheet

Recombinant Human TNF

Product Information

Material Number:	554618
Size:	10 µg
Concentration:	200 µg/ml
Reactivity:	QC Testing: Human
Storage Buffer:	Frozen aqueous buffered solution containing BSA.

Description

Tumor Necrosis Factor (TNF, also known as TNF- α) is a potent lymphoid factor which exerts cytotoxic effects on a wide range of tumor cells and certain other target cells. Human TNF is a 17.5 kD protein containing 157 amino acid residues. Recombinant human TNF (Cat. No. 554618) is supplied as a frozen liquid comprised of 0.22 µm sterile-filtered aqueous buffered solution containing bovine serum albumin, with no preservatives. Recombinant human TNF is \geq 95% pure as determined by SDS-PAGE, and an absorbance assay based on the Beers-Lambert law. The endotoxin level is \leq 0.1 ng/µg of human TNF, as measured in a chromogenic LAL assay.

Preparation and Storage

Store product at -80°C prior to use or for long term storage of stock solutions.

Rapidly thaw and quick-spin product prior to use.

Avoid multiple freeze-thaws of product.

This preparation contains no preservatives, thus it should be handled under aseptic conditions.

Application Notes

Application

ELISA Standard	Routinely Tested
Bioassay	Tested During Development

Recommended Assay Procedure:

Upon initial thawing, recombinant human TNF (Cat. No. 554618) should be aliquoted into polypropylene microtubes and frozen at -80°C for future use. Alternatively, the product can be diluted in sterile neutral buffer containing not less than 0.5-10 mg/mL carrier protein, such as human or bovine albumin, aliquoted and stored at -80°C. For *in vitro* biological assay use, carrier-protein concentrations of \geq 1 mg/mL are recommended. For use as an ELISA standard, carrier-protein concentrations of 5-10 mg/mL are recommended. Failure to add carrier protein or store at indicated temperatures may result in a loss of activity. Carrier proteins should be pre-screened for possible effects in each investigator's experimental system. Carrier proteins may have an undesired influence on experimental results due to toxicity, high endotoxin levels or possible blocking activity.

ELISA Standard: Recombinant human TNF (Cat. No. 554618) can be useful as a quantitative standard for measuring human TNF protein levels using sandwich ELISA with the purified MAb1 antibody (Cat. No. 551220) as a capture antibody and biotinylated MAb11 antibody (Cat. No. 554511) as the detection antibody. To obtain linear standard curves, investigators may want to consider using doubling dilutions of recombinant human TNF standard from 2000-15 pg/mL to be included in each ELISA plate. For measuring human TNF in serum or plasma, investigators are highly encouraged to use BD OptEIA™ Human TNF ELISA Set (Cat. No. 555212) or BD OptEIA™ Human TNF ELISA Kit II (Cat. No. 550610).

Bioassay: Investigators are advised that the Bioassay application is not routinely tested for this material and are highly encouraged to both titrate this material and include appropriate controls in relevant experiments. An activity range of 0.05 - 2.0 x 10⁹ units/mg, encompassing an ED50= 5-200 pg/mL, has previously been reported using L929 as indicator cells in a cytotoxicity assay, with a unit defined as the amount of material needed to stimulate a half-maximal response at cytokine saturation.

Suggested Companion Products

Catalog Number	Name	Size	Clone
551220	Purified Mouse Anti-Human TNF	1.0 mg	MAb1
554511	Biotin Mouse Anti-Human TNF	0.5 mg	MAb11
555212	Human TNF ELISA Set	20 plates	(none)
550610	Human TNF ELISA Kit II	2 plates	(none)
558273	Human TNF Flex Set	1 vial	(none)
551446	Human TNF- α ELISPOT Set	100 tests	(none)

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Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
3. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Hogan MM, Vogel SN. Production of tumor necrosis factor by rIFN-gamma-primed C3H/HeJ (Lpsd) macrophages requires the presence of lipid A-associated proteins. *J Immunol.* 1988; 141(12):4196-4202. (Biology)

Jaattela, M.. Biologic activities and mechanisms of action of tumor necrosis factor- α /cachectin. *Lab Invest.* 1991; 64:724-742. (Biology)

Prussin C, Metcalfe DD. Detection of intracytoplasmic cytokine using flow cytometry and directly conjugated anti-cytokine antibodies. *J Immunol Methods.* 1995; 188(1):117-128. (Biology)

Wang AM, Creasey AA, Ladner MB, Lin LS, Strickler J, Van Arsdell JN, Yamamoto R, Mark DF. Molecular cloning of the complementary DNA for human tumor necrosis factor. *Science.* 1985; 228(4696):149-154. (Biology)

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