# TNF-Alpha/TNFA (TNFA) Rat Recombinant Protein

## PRODUCT OVERVIEW

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| **Product Name** | TNF-alpha/TNFA, Recombinant Protein |
| **Full Product Name** | Recombinant Rat TNF-alpha/TNFA Protein |
| **Product Gene Name** | TNFA recombinant protein |
| **Product Synonym Names** | Tnf; MGC124630; RATTNF; TNF-alpha; Tnfa |
| **Host** | E Coli |
| **Form/Format** | Lyophilized from sterile PBS, pH 7.4 |
| **Purity/Purification** | >93% as determined by SDS-PAGE. |
| **Preparation and Storage** | Samples are stable for up to twelve months from date of receipt at -70 degree C. Store it under sterile conditions at -20 degree C to -80 degree C.<br>It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles. |
| **Molecular Weight** | Molecular Mass: 17.4 kDa<br>Actual Protein Molecular Mass: 15 kDa |
| **Sequence Positions** | Leu 80-Leu 235 |
| **3D Structure** | ModBase 3D Structure for P16599 |
| **Species** | Rat |
| **ISO Certification** | Manufactured in an ISO 9001:2015 Certified Laboratory. |
| **Related Product Information for TNFA recombinant protein** | Tumor necrosis factor alpha (TNF-alpha), also known as TNF, TNFA or TNFSF2, is the prototypic cytokine of the TNF superfamily, and is a multifunctional molecule involved in the regulation of a wide spectrum of biological processes including cell proliferation, differentiation, apoptosis, lipid metabolism, and coagulation. Two receptors, TNF-R1 (TNF receptor type 1; CD120a; p55/60) and TNF-R2 (TNF receptor type 2; CD120b; p75/80), bind to TNF-alpha. TNF-alpha protein is produced mainly by macrophages, and large amounts of this cytokine are released in response to lipopolysaccharide, other bacterial products, and Interleukin-1 (IL-1). TNF-alpha is involved in fighting against the tumorigenesis, thus, is regarded as a molecular insight in cancer treatment. |
| **Other Notes** | Small volumes of TNFA recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply. |
| **Searchable Terms for TNFA purchase** | MBS2553668 is a recombinant protein targeting TNFA. Also known as Recombinant Rat TNF-alpha/TNFA Protein. Host: E Coli. |

## ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for TNFA. It may not necessarily be applicable to this product.

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| **NCBI GI #** | 6981662 |
| **NCBI GeneID** | 24835 |
| **NCBI Accession #** | NP_036807.1 |
| **UniProt Primary Accession #** | P16599 |
| **UniProt Secondary Accession #** | Q6EE11; Q9JI26; Q9JI27 |
| **UniProt Related Accession #** | P16599 |

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| **GenBank Nucleotide #** | NM_012675.3 |
| **NCBI Official Full Name** | tumor necrosis factor |
| **NCBI Official Synonym Full Names** | tumor necrosis factor |
| **NCBI Official Symbol** | Tnf |
| **NCBI Official Synonym Symbols** | Tnfa; RATTNF; TNF-alpha |
| **UniProt Protein Name** | Tumor necrosis factor |
| **UniProt Synonym Protein Names** | Cachectin; TNF-alpha; Tumor necrosis factor ligand superfamily member 2; TNF-a |
| **UniProt Gene Name** | Tnf |
| **UniProt Synonym Gene Names** | Tnfa; Tnfsf2; TNF-a; NTF; ICD1; ICD2 |
| **NCBI Protein Information** | tumor necrosis factor |
| **NCBI Summary for TNFA** | acts as a cytokine; binds TNF receptors; plays a role in regulation of cell proliferation, induction of apoptosis, and inflammatory response [RGD, Feb 2006] |
| **UniProt Comments for TNFA** | Cytokine that binds to TNFRSF1A/TNFR1 and TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is potent pyrogen causing fever by direct action or by stimulation of interleukin-1 secretion and is implicated in the induction of cachexia, Under certain conditions it can stimulate cell proliferation and induce cell differentiation (). Induces insulin resistance in adipocytes via inhibition of insulin-induced IRS1 tyrosine phosphorylation and insulin-induced glucose uptake. Induces GKAP42 protein degradation in adipocytes which is partially responsible for TNF-induced insulin resistance (). |
| **Research Articles on TNFA** | **1.** TNF-alpha is involved in cardiac PHLPP1 upregulation during reoxygenation, which is mediated by NF-kappaB transcriptional activity |
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