

## Product datasheet for **RC206983**

### TNF alpha (TNF) (NM\_000594) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	TNF alpha (TNF) (NM_000594) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	TNF alpha
Synonyms:	DIF; TNF-alpha; TNFA; TNFSF2; TNLG1F
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC206983 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGAGCACTGAAAGCATGATCCGGGACGTGGAGCTGGCCGAGGAGGCGCTCCCCAAGAAGACAGGGGGGC  
CCCAGGGCTCCAGGCGGTGCTTGTTCCTCAGCCTCTTCTCCTCCTGATCGTGCCAGGCGCCACCACGCT  
CTTCTGCCTGCTGCACTTTGGAGTGATCGGCCCCAGAGGGAAGAGTTCCCAGGGACCTCTCTAATC  
AGCCCTCTGGCCAGGCAGTCAGATCATCTTCTCGAACCCGAGTGACAAGCCTGTAGCCCATGTTGTAG  
CAAACCTCAAGCTGAGGGCAGCTCCAGTGGCTGAACCGCCGGCCAATGCCCTCTGGCCAATGGCGT  
GGAGCTGAGAGATAACCAGCTGGTGGTGCATCAGAGGGCCTGTACCTCATCTACTCCCAGTCTCTTTC  
AAGGGCCAAGGCTGCCCTCCACCCATGTGCTCCTCACCCACACCATCAGCCGCATCGCCGTCTCTTACC  
AGACCAAGGTCAACCTCCTCTCTGCCATCAAGAGCCCCTGCCAGAGGGAGACCCAGAGGGGGCTGAGGC  
CAAGCCCTGGTATGAGCCCATCTATCTGGGAGGGGTCTTCCAGCTGGAGAAGGGTGACCGACTCAGCGCT  
GAGATCAATCGGCCGACTATCTCGACTTTGCCGAGTCTGGGCAGGTCTACTTTGGGATCATTGCCCTG

**ACGCGT**ACGCGGGCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA



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**Protein Sequence:** >RC206983 protein sequence  
 Red=Cloning site Green=Tags(s)

MSTESMIRDVELAEEALPKKTGGPQGSRRCLFLSLFSFLIVAGATTLFCLLHFGVIGPQREEFPRDLSLI  
 SPLAQAVRSSSRTPSDKPVAVHVNPAEQQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIYSQVLF  
 KGQGC PSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPYIYLGGVFQLEKGDRLSA  
 EINRPDYLDFAESGQVYFGIIAL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6267\\_g05.zip](https://cdn.origene.com/chromatograms/mk6267_g05.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

**ACCN:** NM\_000594

**ORF Size:** 699 bp

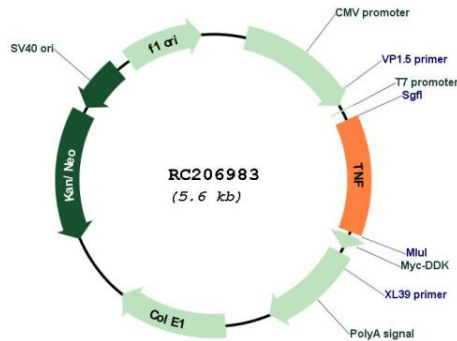
**OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

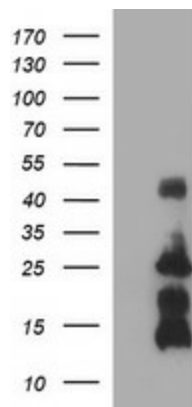
**Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.</li></ol>
<b>Note:</b>	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
<b>RefSeq:</b>	<a href="#">NM_000594.4</a>
<b>RefSeq Size:</b>	1686 bp
<b>RefSeq ORF:</b>	702 bp
<b>Locus ID:</b>	7124
<b>UniProt ID:</b>	<a href="#">P01375</a>
<b>Cytogenetics:</b>	6p21.33
<b>Protein Families:</b>	Druggable Genome, Secreted Protein, Transcription Factors, Transmembrane
<b>Protein Pathways:</b>	Adipocytokine signaling pathway, Allograft rejection, Alzheimer's disease, Amyotrophic lateral sclerosis (ALS), Apoptosis, Asthma, Cytokine-cytokine receptor interaction, Dilated cardiomyopathy, Fc epsilon RI signaling pathway, Graft-versus-host disease, Hematopoietic cell lineage, Hypertrophic cardiomyopathy (HCM), MAPK signaling pathway, Natural killer cell mediated cytotoxicity, NOD-like receptor signaling pathway, RIG-I-like receptor signaling pathway, Systemic lupus erythematosus, T cell receptor signaling pathway, TGF-beta signaling pathway, Toll-like receptor signaling pathway, Type I diabetes mellitus, Type II diabetes mellitus
<b>MW:</b>	25.6 kDa
<b>Gene Summary:</b>	This gene encodes a multifunctional proinflammatory cytokine that belongs to the tumor necrosis factor (TNF) superfamily. This cytokine is mainly secreted by macrophages. It can bind to, and thus functions through its receptors TNFRSF1A/TNFR1 and TNFRSF1B/TNFR. This cytokine is involved in the regulation of a wide spectrum of biological processes including cell proliferation, differentiation, apoptosis, lipid metabolism, and coagulation. This cytokine has been implicated in a variety of diseases, including autoimmune diseases, insulin resistance, psoriasis, rheumatoid arthritis ankylosing spondylitis, tuberculosis, autosomal dominant polycystic kidney disease, and cancer. Mutations in this gene affect susceptibility to cerebral malaria, septic shock, and Alzheimer disease. Knockout studies in mice also suggested the neuroprotective function of this cytokine. [provided by RefSeq, Aug 2020]

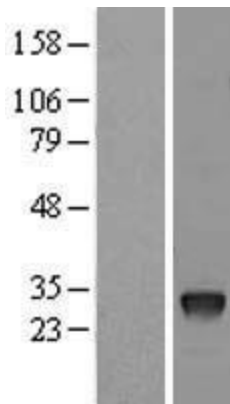
Product images:



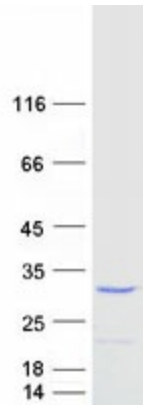
Circular map for RC206983



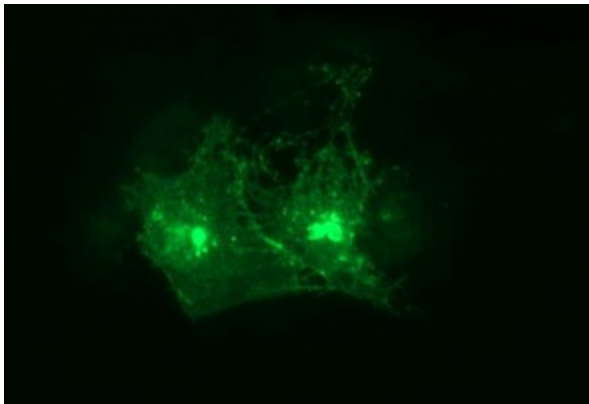
HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY TNF (Cat# RC206983, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-TNF (Cat# [TA506513]). Positive lysates [LY424626] (100ug) and [LC424626] (20ug) can be purchased separately from OriGene.



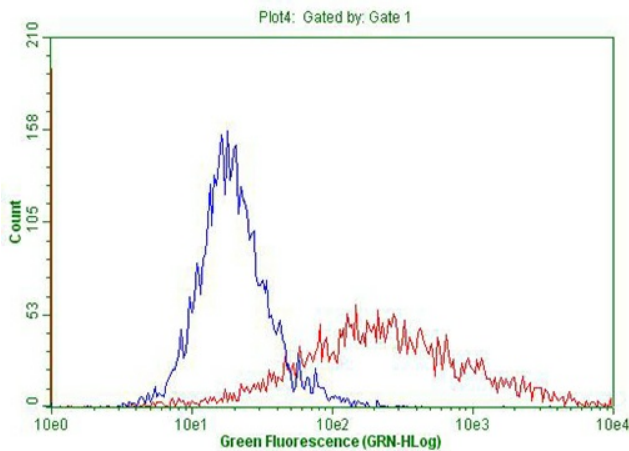
Western blot validation of overexpression lysate (Cat# [LY424626]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC206983 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified TNF protein (Cat# [TP306983]). The protein was produced from HEK293T cells transfected with TNF cDNA clone (Cat# RC206983) using MegaTran 2.0 (Cat# [TT210002]).



Anti-TNF mouse monoclonal antibody ([TA506513]) immunofluorescent staining of COS7 cells transiently transfected by pCMV6-ENTRY TNF (RC206983).



HEK293T cells transfected with either (RC206983) overexpress plasmid (Red) or empty vector control plasmid (blue) were immunostained by anti-TNF antibody ([TA506513]), and then analyzed by flow cytometry (1:100).