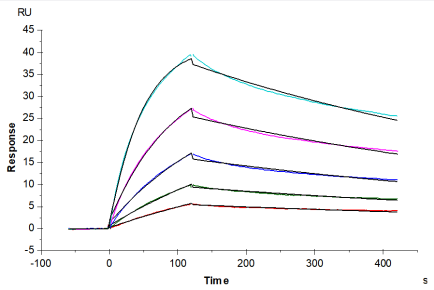
Bioactive CellTx™ HuPro®

# TNF (Human) Recombinant Protein

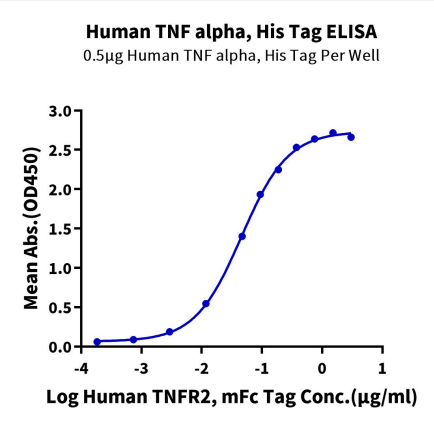
Catalog # P10145 Size 100 ug

## Applications



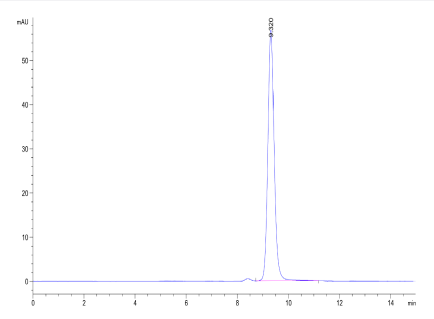

### Surface Plasmon Resonance

Human TNF alpha, His Tag captured on CM5 Chip via anti-his antibody can bind Human TNFR2, mFc Tag with an affinity constant of 1.62 nM as determined in SPR assay (Biacore T200).




### ELISA

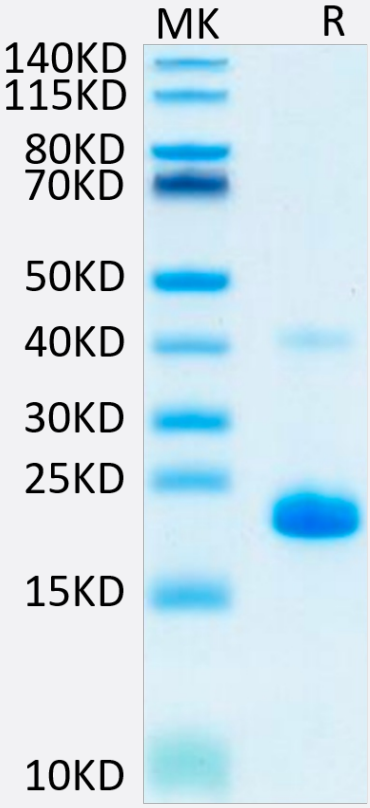
Immobilized Human TNF alpha, His Tag at 5 ug/ml (100 ul/Well) on the plate. Dose response curve for Human TNFR2, mFc Tag with the $EC_{50}$ of 45.8 ng/ml determined by ELISA (QC Test).



### SEC-HPLC

The purity of Human TNF alpha is greater than 95% as determined by SEC-HPLC.

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## Tris-Bis PAGE

Human TNF alpha on Tris-Bis PAGE under reduced condition. The purity is greater than 95%.

## Specification

| | |
|---|---|
| **Product Description** | Human TNF (P01375, Val77-Leu233) partial recombinant protein with His-Avi tag at C-terminus expressed in HEK293 cells. |
| **Sequence** | Val77-Leu233 |
| **Host** | Human |
| **Theoretical MW (kDa)** | 20.3 |
| **Form** | Lyophilized |
| **Preparation Method** | Mammalian cell (HEK293) expression system |
| **Purity** | > 95% as determined by Tris-Bis PAGE;> 95% as determined by HPLC |
| **Endotoxin Level** | < 1 EU per 1 ug of protein (determined by LAL method) |

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| | |
|---|---|
| **Quality Control Testing** | ELISA and SEC-HPLC<br>ELISA<br>Immobilized Human TNF alpha, His Tag at 5 ug/ml (100 ul/Well) on the plate. Dose response curve fo r Human TNFR2, mFc Tag with the $EC_{50}$ of 45.8 ng/ml determined by ELISA (QC Test).<br>SEC-HPLC<br>The purity of Human TNF alpha is greater than 95% as determined by SEC-HPLC.<br>Tris-Bis PAGE<br>Human TNF alpha on Tris-Bis PAGE under reduced condition. The purity is greater than 95%. |
| **Recommend Usage** | Biological Activity<br>ELISA<br>SEC-HPLC<br>SPR<br>Tris-Bis PAGE<br>The optimal working dilution should be determined by the end user. |
| **Storage Buffer** | Lyophilized from filtered solution in PBS, pH 7.4 (5% trehalose). |
| **Storage Instruction** | After reconstitution with deionized water to a final concentration more than 100 ug/ml, store at 4°C for 1 week. For long term storage, store at -80°C for 1 year.<br>Aliquot to avoid repeated freezing and thawing. |

## Applications

- Functional Study
- Enzyme-linked Immunoabsorbent Assay
- Surface Plasmon Resonance

  Human TNF alpha, His Tag captured on CM5 Chip via anti-his antibody can bind Human TNFR2, mFc Tag with an affinity constant of 1.62 nM as determined in SPR assay (Biacore T200).

## Gene Info — TNF

| | |
|---|---|
| **Entrez GeneID** | 7124 |
| **Protein Accession#** | P01375 |
| **Gene Name** | TNF |
| **Gene Alias** | DIF, TNF-alpha, TNFA, TNFSF2 |
| **Gene Description** | tumor necrosis factor (TNF superfamily, member 2) |
| **Omim ID** | 157300 191160 248310 600807 611162 |

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| | |
|---|---|
| **Gene Ontology** | Hyperlink |
| **Gene Summary** | This gene encodes a multifunctional proinflammatory cytokine that belongs to the tumor necrosis f actor (TNF) superfamily. This cytokine is mainly secreted by macrophages. It can bind to, and thus functions through its receptors TNFRSF1A/TNFR1 and TNFRSF1B/TNFBR. This cytokine is invol ved in the regulation of a wide spectrum of biological processes including cell proliferation, differe ntiation, apoptosis, lipid metabolism, and coagulation. This cytokine has been implicated in a vari ety of diseases, including autoimmune diseases, insulin resistance, and cancer. Knockout studies in mice also suggested the neuroprotective function of this cytokine. [provided by RefSeq |
| **Other Designations** | APC1 protein\|OTTHUMP00000029281\|OTTHUMP00000037669\|TNF superfamily, member 2\|TN F, macrophage-derived\|TNF, monocyte-derived\|cachectin\|tumor necrosis factor alpha |

## Pathway

- Adipocytokine signaling pathway
- Allograft rejection
- Amyotrophic lateral sclerosis (ALS)
- Apoptosis
- Asthma
- Cytokine-cytokine receptor interaction
- Fc epsilon RI signaling pathway
- Graft-versus-host disease
- Hematopoietic cell lineage
- Hypertrophic cardiomyopathy (HCM)
- MAPK signaling pathway
- Natural killer cell mediated cytotoxicity
- Systemic lupus erythematosus
- T cell receptor signaling pathway
- TGF-beta signaling pathway
- Toll-like receptor signaling pathway
- Type I diabetes mellitus

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- Type II diabetes mellitus

## Disease

- Abortion
- Abscess
- Absenteeism
- Acne Vulgaris
- Acquired Immunodeficiency Syndrome
- Acute Disease
- Acute Lung Injury
- Adenocarcinoma
- Adenoma
- Adenomatous Polyps
- Adrenal Gland Neoplasms
- Aggressive Periodontitis
- AIDS Dementia Complex
- AIDS-Related Opportunistic Infections
- Albuminuria
- Alcoholism
- alpha 1-Antitrypsin Deficiency
- Alpha-1-antitrypsin deficiency
- alpha-Thalassemia
- Alphavirus Infections
- Alveolar Bone Loss
- Alveolitis

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- Alzheimer disease
- Amphetamine-Related Disorders
- Amyloidosis
- Amyotrophic lateral sclerosis
- Anemia
- Aneurysm
- Angina
- Angina Pectoris
- Anorexia
- Anorexia Nervosa
- Anthracosis
- Antiphospholipid Syndrome
- Anus Diseases
- Aortic Aneurysm
- Aortic Diseases
- Aortic Rupture
- Appendicitis
- Appetite
- Arterial Occlusive Diseases
- Arteriosclerosis
- Arteriovenous Malformations
- Arthritis
- Aspergillosis
- Asphyxia Neonatorum
- Asthenozoospermia
- Asthma

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- Atherosclerosis
- Atrial Fibrillation
- Atrophy
- Attention
- Attention Deficit Disorder with Hyperactivity
- Autistic Disorder
- Autoimmune Diseases
- Autoimmune polyglandular syndrome
- Bacteremia
- Bacterial Infections
- Behcet Syndrome
- Berylliosis
- beta-Thalassemia
- Biliary Tract Neoplasms
- Bipolar Disorder
- Birth Weight
- Blood Coagulation Disorders
- Body Weight
- Bone Marrow Diseases
- Bone Resorption
- Boutonneuse Fever
- Brain Ischemia
- Breast cancer
- Breast Diseases
- Breast Neoplasms
- Bronchial Hyperreactivity

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- Bronchiectasis
- Bronchiolitis
- Bronchiolitis Obliterans
- Bronchitis
- Bronchopneumonia
- Bronchopulmonary Dysplasia
- Brucellosis
- Burkitt lymphoma
- Burns
- Byssinosis
- Cachexia
- Cadaver
- Calcinosis
- Carcinoma
- Cardiomyopathies
- Cardiomyopathy
- Cardiovascular Diseases
- Carotid Artery Diseases
- Carotid Stenosis
- Celiac Disease
- Cerebral Hemorrhage
- Cerebral Infarction
- Cerebral Palsy
- Cerebrovascular Accident
- Cerebrovascular Disorders
- Cervical Intraepithelial Neoplasia

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- Chagas Cardiomyopathy
- Chagas Disease
- Chlamydia Infections
- Chlamydophila Infections
- Cholangitis
- Choreatic Disorders
- Chorioamnionitis
- Chronic Disease
- Chronic Periodontitis
- Clonorchiasis
- Cognition
- Colitis
- Colon cancer
- Colonic Neoplasms
- Colonic Polyps
- Colorectal Neoplasms
- Common Cold
- Communicable Diseases
- Community-Acquired Infections
- Connective Tissue Diseases
- Constipation
- Constriction
- Coronary Aneurysm
- Coronary Artery Disease
- Coronary Disease
- Coronary Restenosis

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- Coronary Stenosis
- Coronary Vessel Anomalies
- Critical Illness
- Crohn Disease
- Cross Infection
- Cutaneous Fistula
- Cystic fibrosis
- Cytomegalovirus Retinitis
- Delayed Graft Function
- Dementia
- Dengue
- Dengue Hemorrhagic Fever
- Dental Plaque
- Depressive Disorder
- Dermatitis
- Dermatomyositis
- Diabetes
- Diabetes Complications
- Diabetes Mellitus
- Diabetic Angiopathies
- Diabetic Nephropathies
- Diabetic Neuropathies
- Diabetic Retinopathy
- Diarrhea
- Discrimination (Psychology)

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- Disease Models
- Disease Progression
- Disease Susceptibility
- Diseases in Twins
- Down Syndrome
- Drug Eruptions
- Drug Hypersensitivity
- Drug Toxicity
- Ductus Arteriosus
- Duodenal Diseases
- Duodenal Ulcer
- Dyslipidemias
- Eclampsia
- Eczema
- Edema
- Embryo Loss
- Encephalitis
- Encephalomyelitis
- Endometriosis
- Endotoxemia
- Enterocolitis
- Epidermal Necrolysis
- Epilepsy
- Epstein-Barr Virus Infections
- Erythema
- Erythema Nodosum

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- Esophageal Neoplasms
- Esophagitis
- Exanthema
- Exfoliation Syndrome
- Eye Diseases
- Fabry Disease
- Familial Mediterranean fever
- Fatigue
- Fatigue Syndrome
- Fatty Liver
- Femur Head Necrosis
- Fetal Diseases
- Fetal Growth Retardation
- Fetal Membranes
- Fever
- Fibrocystic Breast Disease
- Fibrosis
- Food Hypersensitivity
- Fractures
- Fungemia
- Gallbladder Neoplasms
- Gastritis
- Gastroenteritis
- Gastroesophageal Reflux
- Gastrointestinal Diseases
- Gastrointestinal Neoplasms

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- Genetic Diseases
- Genetic Predisposition to Disease
- Genomic Instability
- Gingival Hemorrhage
- Gingivitis
- Glaucoma
- Glomerulonephritis
- Glomerulosclerosis
- Glossitis
- Glucose Intolerance
- Glucose Metabolism Disorders
- Glucosephosphate Dehydrogenase Deficiency
- Gout
- Graft vs Host Disease
- Gram-Negative Bacterial Infections
- Granuloma
- Graves Disease
- Graves Ophthalmopathy
- Growth Disorders
- Guillain-Barre Syndrome
- Hantavirus Pulmonary Syndrome
- Hashimoto Disease
- Head and Neck Neoplasms
- Hearing Loss
- Heart Block
- Heart Defects

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- Heart Diseases
- Heart Valve Diseases
- Helicobacter Infections
- HELLP Syndrome
- Hematologic Diseases
- Hematologic Neoplasms
- Hemochromatosis
- Hemophilia A
- Hemorrhage
- Hemorrhagic Fever with Renal Syndrome
- Hepatitis
- Hepatitis B
- Hepatitis C
- Hereditary hemochromatosis
- HIV Infections
- HIV Seropositivity
- HIV-Associated Lipodystrophy Syndrome
- Hodgkin Disease
- HTLV-I Infections
- Hyperglycemia
- Hyperlipidemias
- Hypersensitivity
- Hypertension
- Hypertriglyceridemia
- Hypertrophy
- Hyperuricemia

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- Hypoxia-Ischemia
- Idiopathic Pulmonary Fibrosis
- IgA Deficiency
- Infant
- Infection
- Infectious Mononucleosis
- Infertility
- Inflammation
- Inflammatory Bowel Diseases
- Insulin Resistance
- Intervertebral Disk Displacement
- Intracranial Aneurysm
- Intracranial Arteriosclerosis
- Intracranial Arteriovenous Malformations
- Intracranial Hemorrhages
- Iridocyclitis
- Iron Overload
- Irritable Bowel Syndrome
- Kidney Diseases
- Kidney Failure
- Kidney Neoplasms
- Laryngeal Neoplasms
- Leiomyoma
- Leishmaniasis
- Leprosy
- Leptospirosis

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- Leukemia
- Leukemia-Lymphoma
- Lichen Planus
- Limb Deformities
- Lipodystrophy
- Liver Cirrhosis
- Liver Diseases
- Liver Failure
- Liver Neoplasms
- Low Tension Glaucoma
- Lung carcinoma
- Lung Diseases
- Lung Neoplasms
- Lupus Erythematosus
- Lupus Vasculitis
- Lymphadenitis
- Lymphatic Metastasis
- Lymphocytosis
- Lymphohistiocytosis
- Lymphoma
- Lymphoproliferative Disorders
- Malaria
- Malignant melanoma
- Measles
- Melanoma
- Memory

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- Memory Disorders
- Meningococcal Infections
- Mental Disorders
- Mental Processes
- Mental Recall
- Metabolic Syndrome X
- Metaplasia
- Migraine Disorders
- Migraine with Aura
- Migraine without Aura
- Mixed Connective Tissue Disease
- Mood Disorders
- Mouth Neoplasms
- Mucocutaneous Lymph Node Syndrome
- Multiple endocrine neoplasia
- Multiple Myeloma
- Multiple Organ Failure
- Multiple Sclerosis
- Multiple System Atrophy
- Multiple Trauma
- Mumps
- Muscular Atrophy
- Muscular Diseases
- Musculoskeletal Diseases
- Myasthenia Gravis
- Mycobacterium avium-intracellulare Infection

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- Mycobacterium Infections
- Myelodysplastic Syndromes
- Myocardial Infarction
- Myocardial Ischemia
- Myocarditis
- Myositis
- Narcolepsy
- NARP
- Nasal Polyps
- Nasopharyngeal Neoplasms
- Neoplasm Invasiveness
- Neoplasm Metastasis
- Neoplasm Recurrence
- Neoplasms
- Nephrosis
- Nephrotic Syndrome
- Neuroendocrine Tumors
- Neurofibromatosis
- Neuropsychological Tests
- Neutropenia
- Nuchal Cord
- Obesity
- Obsessive-Compulsive Disorder
- Obstetric Labor
- Occupational Diseases

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- Ocular Hypertension
- Oligospermia
- Ophthalmia
- Oral Submucous Fibrosis
- Oral Ulcer
- Osteoarthritis
- Osteolysis
- Osteomyelitis
- Osteoporosis
- Osteosarcoma
- Otitis Media
- Otorhinolaryngologic Neoplasms
- Ovarian cancer
- Ovarian Failure
- Ovarian Neoplasms
- Overweight
- Pain
- Pancreatic cancer
- Pancreatic Neoplasms
- Pancreatitis
- Papillomavirus Infections
- Paracoccidioidomycosis
- Paraparesis
- Paraproteinemias
- Parasitemia
- Parasitic Diseases

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- Paratyphoid Fever
- Parkinson disease
- Parvoviridae Infections
- Pelvic Pain
- Pemphigoid
- Pemphigus
- Peptic Ulcer
- Periapical Periodontitis
- Periodontal Attachment Loss
- Periodontal Diseases
- Periodontal Pocket
- Periodontitis
- Peripheral Vascular Diseases
- Pharyngeal Neoplasms
- Photosensitivity Disorders
- Picornaviridae Infections
- Pneumoconiosis
- Pneumonia
- Polycystic kidney disease
- Polycystic Ovary Syndrome
- Polyendocrinopathies
- Polymyalgia Rheumatica
- Polymyositis
- Postoperative Complications
- Postoperative Hemorrhage
- Pouchitis

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- Precancerous Conditions
- Prediabetic State
- Pre-Eclampsia
- Pregnancy Complications
- Premature Birth
- Prenatal Exposure Delayed Effects
- Prostate cancer
- Prostatic Hyperplasia
- Prostatic Neoplasms
- Prostatitis
- Prosthesis Failure
- Proteinuria
- Prurigo
- Pseudomonas Infections
- Psoriasis
- Psychiatric Status Rating Scales
- Psychometrics
- Psychomotor Performance
- Psychotic Disorders
- Pterygium
- Puberty
- Puerperal Disorders
- Pulmonary Disease
- Pulmonary Emphysema
- Pulmonary Fibrosis
- Purpura

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- Q Fever
- Radiation Injuries
- Radiation Pneumonitis
- Radius Fractures
- Rectal Fistula
- Rectal Neoplasms
- Recurrence
- Reflex Sympathetic Dystrophy
- Renal Artery Obstruction
- Renal Insufficiency
- Reperfusion Injury
- Respiratory Distress Syndrome
- Respiratory Hypersensitivity
- Respiratory Insufficiency
- Respiratory Sounds
- Respiratory Syncytial Virus Infections
- Respiratory Tract Diseases
- Respiratory Tract Infections
- Retinal Detachment
- Retinal Vein Occlusion
- Retinopathy of Prematurity
- Retroperitoneal Fibrosis
- Rhabdomyolysis
- Rheumatic Diseases
- Rheumatic Fever
- Rheumatic Heart Disease

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- Rheumatoid Nodule
- Rhinitis
- Rubella
- Rupture
- Sarcoidosis
- Sarcoma
- Schistosomiasis japonica
- Schistosomiasis mansoni
- Schizophrenia
- Schizophrenic Psychology
- Sciatica
- Scleroderma
- Seizures
- Seminoma
- Sepsis
- Severe Acute Respiratory Syndrome
- Severe combined immunodeficiency
- Shock
- Silicosis
- Sinusitis
- Skin Diseases
- Skin Neoplasms
- Skin Ulcer
- Sleep Apnea
- Sleep Apnea Syndromes
- Sleep Deprivation

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- Sleep Disorders
- Small Cell Lung Carcinoma
- Spondylarthritis
- Spondylarthropathies
- Spondylitis
- Staphylococcal Infections
- Stevens-Johnson Syndrome
- Stomach Diseases
- Stomach Neoplasms
- Stomach Ulcer
- Stomatitis
- Streptococcal Infections
- Stress
- Stroke
- Subarachnoid Hemorrhage
- Substance Withdrawal Syndrome
- Substance-Related Disorders
- Sudden Infant Death
- Surgical Wound Infection
- Syndrome
- Systemic Inflammatory Response Syndrome
- Systemic Vasculitis
- Temporal Arteritis
- Tension-Type Headache
- Testicular Neoplasms
- Thalassemia

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- Thoracic Neoplasms
- Thrombophilia
- Thrombosis
- Thymoma
- Thymus Neoplasms
- Thyroid Diseases
- Thyroiditis
- Tobacco Use Disorder
- Tooth Diseases
- Tooth Loss
- Trachoma
- Translocation
- Trypanosomiasis
- Tuberculosis
- Tumor Virus Infections
- Typhoid Fever
- Urinary Bladder Neoplasms
- Urinary Calculi
- Urinary Tract Infections
- Urticaria
- Uterine Cervical Dysplasia
- Uterine Cervical Incompetence
- Uterine Cervical Neoplasms
- Uterine Neoplasms
- Uveitis
- Vaginal Diseases

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- Vaginosis
- Vascular Diseases
- Vasculitis
- Venous Thrombosis
- Ventricular Dysfunction
- Verbal Learning
- Vesico-Ureteral Reflux
- Viremia
- Vitiligo
- Vitreoretinopathy
- Waldenstrom Macroglobulinemia
- Wegener Granulomatosis
- Weight Gain
- Weight Loss
- Werner syndrome
- Wounds
- Wounds and Injuries

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