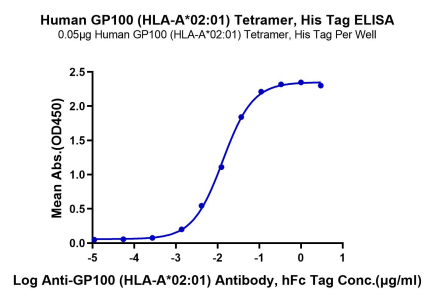
Bioactive HuPro®

HLA-A/B2M/GP100 (YLEPGPVTA) Tetramer (Human) Recombinant Protein

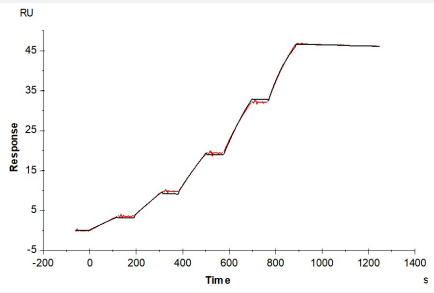
Catalog # P9875 Size 100 ug

Applications



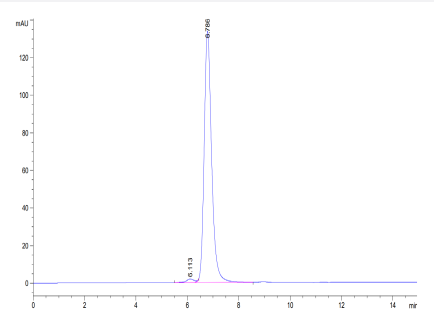
Enzyme-linked Immunoabsorbent Assay

Immobilized Human HLA-A*02:01&B2M&GP100 (YLEPGPVTA) Tetramer, His Tag at 2 ug/mL (100 uL/Well) on the plate. Dose response curve for Anti-HLA-A*02:01&B2M&GP100 (YLEPGPVTA) Antibody, hFc Tag with the EC50 of 13.4 ng/mL determined by ELISA.



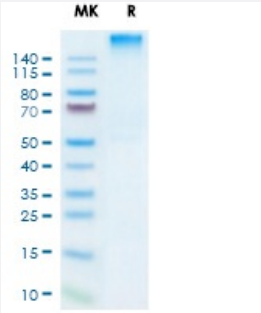
Surface Plasmon Resonance

Human HLA-A*02:01&B2M&GP100 (YLEPGPVTA) Tetramer, His Tag immobilized on CM5 Chip can bind Tebentafusp with an affinity constant of 0.196 nM as determined in SPR assay (Biacore T200).



SEC-HPLC

The purity of Human HLA-A*02:01&B2M&GP100 (YLEPGPVTA) Tetramer was greater than 95% as determined by SEC-HPLC.



Tris-Bis PAGE

Human HLA-A*02:01&B2M&GP100 (YLEPGPVTA) Tetramer on Tris-Bis PAGE under Non reducing (N) condition. The purity is greater than 95%.

Specification

Product Description	Human HLA-A/B2M/GP100 (YLEPGPVTA) Tetramer (A0A140T913/P61769/P04637, Gly25-Thr305 /Ile21-Met119/YLEPGPVTA) partial recombinant protein with His-Avi tag at C-Terminus expressed i n HEK293 cells.
Sequence	Gly25-Thr305;Ile21-Met119;YLEPGPVTA peptide
Host	Human
Theoretical MW (kDa)	258
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)
Activity	The EC_{50} was 13.4 ng/mL, messured by ELISA at 2 ug/mL. The affinity constant of 0.196 nM as dete rmined in SPR assay (Biacore T200).
Quality Control Testing	SEC-HPLC and Tris-Bis PAGE SEC-HPLC The purity of Human HLA-A*02:01&B2M&GP100 (YLEPGPVTA) Tetramer was greater than 95% as determined by SEC-HPLC. Tris-Bis PAGE Human HLA-A*02:01&B2M&GP100 (YLEPGPVTA) Tetramer on Tris-Bis PAGE under Non reducin g (N) condition. The purity is greater than 95%.
Recommend Usage	Biological Activity ELISA SDS-PAGE SPR The optimal working dilution should be determined by the end user.
Storage Buffer	Lyophilized from sterile distilled Water is > 100 ug/mL

Storage Instruction	Store at 2°C to 8°C for 1 week. For long term storage, aliquot and store at -20°C to -80°C. Aliquot to avoid repeated freezing and thawing.
Note	Result of bioactivity analysis

Applications

- Enzyme-linked Immunoabsorbent Assay

  Immobilized Human HLA-A*02:01&B2M&GP100 (YLEPGPVTA) Tetramer, His Tag at 2 ug/mL (100 uL/Well) on the plate. Dose response curve for Anti-HLA-A*02:01&B2M&GP100 (YLEPGPVTA) Antibody, hFc Tag with the EC50 of 13.4 ng/mL determined by ELISA.

- Functional Study

- SDS-PAGE

- Surface Plasmon Resonance

  Human HLA-A*02:01&B2M&GP100 (YLEPGPVTA) Tetramer, His Tag immobilized on CM5 Chip can bind Tebentafusp with an affinity constant of 0.196 nM as determined in SPR assay (Biacore T200).

Gene Info — B2M

Entrez GeneID	567
Protein Accession#	A0A140T913;P61769;YLEPGPVTA
Gene Name	B2M
Gene Alias	-
Gene Description	beta-2-microglobulin
Omim ID	109700 241600
Gene Ontology	Hyperlink
Gene Summary	This gene encodes a serum protein found in association with the major histocompatibility complex (MHC) class I heavy chain on the surface of nearly all nucleated cells. The protein has a predominantly beta-pleated sheet structure that can form amyloid fibrils in some pathological conditions. A mutation in this gene has been shown to result in hypercatabolic hypoproteinemia
Other Designations	beta chain of MHC class I molecules|beta-2-microglobin

Gene Info — HLA-A

Entrez GeneID	3105
Protein Accession#	A0A140T913;P61769;YLEPGPVTA
Gene Name	HLA-A
Gene Alias	HLAA
Gene Description	major histocompatibility complex, class I, A
Omim ID	106300 142800 608579
Gene Ontology	Hyperlink
Gene Summary	HLA-A belongs to the HLA class I heavy chain paralogues. This class I molecule is a heterodimer consisting of a heavy chain and a light chain (beta-2 microglobulin). The heavy chain is anchored i n the membrane. Class I molecules play a central role in the immune system by presenting peptid es derived from the endoplasmic reticulum lumen. They are expressed in nearly all cells. The heav y chain is approximately 45 kDa and its gene contains 8 exons. Exon 1 encodes the leader peptid e, exons 2 and 3 encode the alpha1 and alpha2 domains, which both bind the peptide, exon 4 en codes the alpha3 domain, exon 5 encodes the transmembrane region, and exons 6 and 7 encode the cytoplasmic tail. Polymorphisms within exon 2 and exon 3 are responsible for the peptide bind ing specificity of each class one molecule. Typing for these polymorphisms is routinely done for b one marrow and kidney transplantation. Hundreds of HLA-A alleles have been described. [provid ed by RefSeq
Other Designations	HLA class I histocompatibility antigen, A-23 alpha chain|MHC class I antigen HLA-A heavy chain| MHC leukocyte antigen|OTTHUMP00000161059|antigen presenting molecule|leucocyte antigen c lass I|leukocyte antigen class I-A

Gene Info — SILV

Entrez GeneID	6490
Protein Accession#	A0A140T913;P61769;YLEPGPVTA
Gene Name	SILV
Gene Alias	D12S53E, ME20, PMEL, PMEL17, SI, SIL, gp100
Gene Description	silver homolog (mouse)
Omim ID	155550
Gene Ontology	Hyperlink

Gene Summary	mouse
Other Designations	Melanocyte protein mel 17|Pmel 17|Silver, mouse, homolog of|melanosomal matrix protein17|silver (mouse homolog)-like|silver homolog

Pathway

- Allograft rejection
- Antigen processing and presentation
- Antigen processing and presentation
- Autoimmune thyroid disease
- Cell adhesion molecules (CAMs)
- Endocytosis
- Graft-versus-host disease
- Natural killer cell mediated cytotoxicity
- Type I diabetes mellitus

Disease

- Abortion
- Abruptio Placentae
- Acquired Immunodeficiency Syndrome
- Acute Disease
- Addison Disease
- Adenocarcinoma
- Adenovirus Infections
- Agranulocytosis
- AIDS-Related Opportunistic Infections
- Albinism

- Alcoholism
- Alopecia Areata
- Alveolar Bone Loss
- Alzheimer disease
- Anemia
- Aortic Aneurysm
- Aortic Diseases
- Arterial Occlusive Diseases
- Arthritis
- Arthritis
- Asthma
- Atherosclerosis
- Autistic Disorder
- Autoimmune Diseases
- Autonomic Nervous System Diseases
- Behcet Syndrome
- Biliary Atresia
- Bipolar Disorder
- Birth Weight
- Brain Neoplasms
- Breast cancer
- Breast Neoplasms
- Bronchiectasis
- Bronchiolitis
- Calcinosis
- Carcinoma

- Cardiovascular Diseases
- Cardiovascular Diseases
- Celiac Disease
- Cervical Intraepithelial Neoplasia
- Chagas Cardiomyopathy
- Chagas Disease
- Chlamydophila Infections
- Cholangitis
- Choroidal Neovascularization
- Chronic Disease
- Churg-Strauss Syndrome
- Colitis
- Common Variable Immunodeficiency
- Complex Regional Pain Syndromes
- Conjunctivitis
- Connective Tissue Diseases
- Coronary Aneurysm
- Coronary Artery Disease
- Coronary Disease
- Crohn Disease
- Cytomegalovirus Infections
- Cytomegalovirus Retinitis
- Dengue
- Dermatitis
- Diabetes Complications

- Diabetes Mellitus
- Diabetes Mellitus
- Disease
- Disease Progression
- Disease Susceptibility
- Drug Eruptions
- Drug Hypersensitivity
- Drug Toxicity
- Drug-Induced Liver Injury
- Duchenne muscular dystrophy
- Duodenal Ulcer
- Dystonia
- Edema
- Encephalitis
- Encephalomyelitis
- Endometriosis
- Enterovirus Infections
- Epidermal Necrolysis
- Epilepsy
- Epstein-Barr Virus Infections
- Esophageal Neoplasms
- Exanthema
- Eye Diseases
- Eye Infections
- Fibrosis
- Gastritis

- Gastritis
- Gastrointestinal Diseases
- Genetic Diseases
- Genetic Predisposition to Disease
- Genetic Predisposition to Disease
- Genetic Predisposition to Disease
- Gingival Hemorrhage
- Glioblastoma
- Glioma
- Glomerulonephritis
- Graft vs Host Disease
- Graves Disease
- Head and Neck Neoplasms
- Heart Failure
- Helicobacter Infections
- Hemangioma
- Hematologic Diseases
- Hematologic Neoplasms
- Hemochromatosis
- Hemoglobinuria
- Hemophilia A
- Hemophilia B
- Hemosiderosis
- Hepatitis
- Hepatitis A
- Hepatitis B

- Hepatitis C
- Hepatitis D
- Hereditary hemochromatosis
- Herpes Zoster
- Herpesviridae Infections
- Histoplasmosis
- HIV Infections
- HIV Seropositivity
- Hodgkin Disease
- HTLV-I Infections
- Hyperplasia
- Hypersensitivity
- Hypertension
- IgA Deficiency
- IgG Deficiency
- Infection
- Infectious Mononucleosis
- Inflammation
- Iron Overload
- Joint Diseases
- Keloid
- Kidney Diseases
- Kidney Failure
- Kidney Failure
- Knee Injuries
- Leprosy

- Leptospirosis
- Leukemia
- Leukemia-Lymphoma
- Lipodystrophy
- Liver Cirrhosis
- Lung carcinoma
- Lung Neoplasms
- Lupus Erythematosus
- Lymphatic Metastasis
- Lymphoma
- Lymphoproliferative Disorders
- Macular Degeneration
- Malaria
- Malignant melanoma
- Malignant melanoma
- Melanoma
- Melanoma
- Meningeal Neoplasms
- Meningioma
- Menkes syndrome
- Metabolic Syndrome X
- Mucocutaneous Lymph Node Syndrome
- Multiple Sclerosis
- Muscular Dystrophy
- Myasthenia Gravis
- Mycobacterium avium-intracellulare Infection

- Myelodysplastic Syndromes
- Myositis
- Nasal Polyps
- Nasopharyngeal Neoplasms
- Neoplasm Invasiveness
- Neoplasms
- Neovascularization
- Nephrosis
- Nephrotic Syndrome
- Neuralgia
- Neuroblastoma
- Neuromyelitis Optica
- Nut Hypersensitivity
- Obesity
- Occupational Diseases
- Optic Neuritis
- Oral Submucous Fibrosis
- Osteoarthritis
- Osteoporosis
- Ovarian cancer
- Ovarian Neoplasms
- Pancreatic cancer
- Pancreatic Neoplasms
- Pancreatitis
- Papilloma
- Papillomavirus Infections

- Paraneoplastic Syndromes
- Paraparesis
- Parkinson disease
- Paroxysmal nocturnal hemoglobinuria
- Pars Planitis
- Pemphigus
- Penile Induration
- Periodontal Attachment Loss
- Periodontitis
- Photosensitivity Disorders
- Pityriasis Rosea
- Polycystic Ovary Syndrome
- Porphyria
- Porphyria Cutanea Tarda
- Postoperative Complications
- Pre-Eclampsia
- Pregnancy Complications
- Prostate cancer
- Prostatic Neoplasms
- Proteinuria
- Psoriasis
- Psychotic Disorders
- Pulmonary Disease
- Pulmonary Embolism
- Purpura
- Recurrence

- Respiratory Tract Infections
- Retroperitoneal Fibrosis
- Rheumatic Diseases
- Rheumatic Heart Disease
- Salivary Gland Diseases
- Sarcoidosis
- Sarcoma
- Schizophrenia
- Severe Acute Respiratory Syndrome
- Sexually Transmitted Diseases
- Skin Diseases
- Skin Neoplasms
- Small Cell Lung Carcinoma
- Spinal Cord Diseases
- Spondylarthritis
- Spondylarthropathies
- Spondylitis
- Stevens-Johnson Syndrome
- Stomach Neoplasms
- Stomach Neoplasms
- Stomatitis
- Substance Abuse
- Temporomandibular Joint Disorders
- Thromboembolism
- Thrombophlebitis
- Thymoma

- Thymus Neoplasms
- Thyroiditis
- Translocation
- Tuberculosis
- Tumor Virus Infections
- Urticaria
- Uterine Cervical Neoplasms
- Uveitis
- Uveomeningoencephalitic Syndrome
- Venous Thrombosis
- Viremia
- Vitiligo