

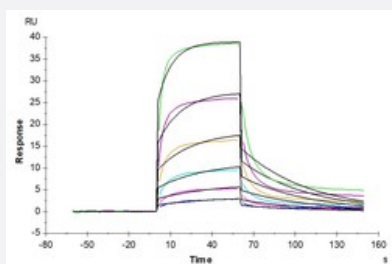
HuPro®

# HLA-A/B2M/KRAS G12V Monomer (Human) Recombinant Protein

Catalog # P9792

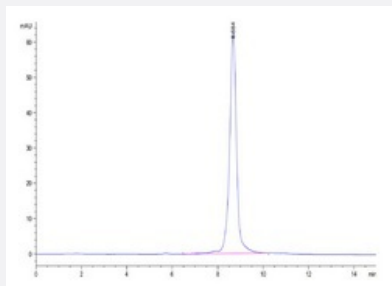
Size 100 ug

## Applications



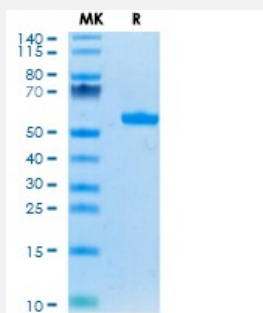
### Surface Plasmon Resonance

Human HLA-A\*03:01 & B2M & KRAS G12V (VVGAVGVGK) Monomer, His Tag captured on CM5 Chip via anti-his antibody can bind Anti-HLA-A\*03:01 & B2M & KRAS G12V (VVGAVGVGK) Antibody with an affinity constant of 0.11 uM as determined in SPR assay (Biacore T200).



### SEC-HPLC

The purity of Human HLA-A\*03:01 & B2M & KRAS G12V (VVGAVGVGK) Monomer is greater than 95% as determined by SEC-HPLC.



### Tris-Bis PAGE

Human HLA-A\*03:01 & B2M & KRAS G12V (VVGAVGVGK) Monomer on Tris-Bis PAGE under reduced condition. The purity is greater than 95%.

## Specification

|                         |                                                                                                                                                                                                                                                                                                                        |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Description     | Human HLA-A   B2M   KRAS G12V Tetramer (NP_002107.3   P61769   P01116, Gly25-Thr305   Ile21-Met119   VVVGAVGVGK) partial recombinant protein with His-Avi tag at C-terminus expressed in HEK293 cells.                                                                                                                 |
| Sequence                | Gly25-Thr305   Ile21-Met119   VVVGAVGVGK                                                                                                                                                                                                                                                                               |
| Host                    | Human                                                                                                                                                                                                                                                                                                                  |
| Theoretical MW (kDa)    | 50.2                                                                                                                                                                                                                                                                                                                   |
| Form                    | Lyophilized                                                                                                                                                                                                                                                                                                            |
| Preparation Method      | Mammalian cell (HEK293) expression system                                                                                                                                                                                                                                                                              |
| Quality Control Testing | SEC-HPLC and Tris-Bis PAGE<br>SEC-HPLC<br>The purity of Human HLA-A*03:01 & B2M & KRAS G12V (VVVGAVGVGK) Monomer is greater than 95% as determined by SEC-HPLC.<br>Tris-Bis PAGE<br>Human HLA-A*03:01 & B2M & KRAS G12V (VVVGAVGVGK) Monomer on Tris-Bis PAGE under reduced condition. The purity is greater than 95%. |
| Recommend Usage         | Biological Activity<br>SPR<br>SDS-PAGE<br>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

- Functional Study
- SDS-PAGE
- Surface Plasmon Resonance

Human HLA-A\*03:01 & B2M & KRAS G12V (VVVGAVGVGK) Monomer, His Tag captured on CM5 Chip via anti-his antibody can bind Anti-HLA-A\*03:01 & B2M & KRAS G12V (VVVGAVGVGK) Antibody with an affinity constant of 0.11 uM as determined in SPR assay (Biacore T200).

## Gene Info — B2M

|                    |                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Entrez GeneID      | <a href="#">567</a>                                                                                                                                                                                                                                                                                                                                                                     |
| Protein Accession# | <a href="#">NP_002107.3(HLA-A*03:01)</a>   <a href="#">P61769(B2M)</a>   <a href="#">VVGAVGVGK</a>                                                                                                                                                                                                                                                                                      |
| Gene Name          | B2M                                                                                                                                                                                                                                                                                                                                                                                     |
| Gene Alias         | -                                                                                                                                                                                                                                                                                                                                                                                       |
| Gene Description   | beta-2-microglobulin                                                                                                                                                                                                                                                                                                                                                                    |
| Omim ID            | <a href="#">109700</a> <a href="#">241600</a>                                                                                                                                                                                                                                                                                                                                           |
| Gene Ontology      | <a href="#">Hyperlink</a>                                                                                                                                                                                                                                                                                                                                                               |
| 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      | <a href="#">3105</a>                                                                               |
| Protein Accession# | <a href="#">NP_002107.3(HLA-A*03:01)</a>   <a href="#">P61769(B2M)</a>   <a href="#">VVGAVGVGK</a> |
| Gene Name          | HLA-A                                                                                              |
| Gene Alias         | HLAA                                                                                               |
| Gene Description   | major histocompatibility complex, class I, A                                                       |
| Omim ID            | <a href="#">106300</a> <a href="#">142800</a> <a href="#">608579</a>                               |
| Gene Ontology      | <a href="#">Hyperlink</a>                                                                          |

## 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 in the membrane. Class I molecules play a central role in the immune system by presenting peptides derived from the endoplasmic reticulum lumen. They are expressed in nearly all cells. The heavy chain is approximately 45 kDa and its gene contains 8 exons. Exon 1 encodes the leader peptide, exons 2 and 3 encode the alpha1 and alpha2 domains, which both bind the peptide, exon 4 encodes 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 binding specificity of each class one molecule. Typing for these polymorphisms is routinely done for bone marrow and kidney transplantation. Hundreds of HLA-A alleles have been described. [provided 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|leukocyte antigen class II|leukocyte antigen class I-A

## Gene Info — KRAS

### Entrez GeneID

[3845](#)

### Protein Accession#

[NP\\_002107.3\(HLA-A\\*03:01\)](#) | [P61769\(B2M\)](#) | [VVGAVGVGK](#)

### Gene Name

KRAS

### Gene Alias

C-K-RAS, K-RAS2A, K-RAS2B, K-RAS4A, K-RAS4B, KI-RAS, KRAS1, KRAS2, NS3, RASK2

### Gene Description

v-Ki-ras2 Kirsten rat sarcoma viral oncogene homolog

### Omim ID

[109800](#) [114480](#) [137215](#) [190070](#) [211980](#) [218040](#) [260350](#) [609942](#)

### Gene Ontology

[Hyperlink](#)

## Gene Summary

This gene, a Kirsten ras oncogene homolog from the mammalian ras gene family, encodes a protein that is a member of the small GTPase superfamily. A single amino acid substitution is responsible for an activating mutation. The transforming protein that results is implicated in various malignancies, including lung adenocarcinoma, mucinous adenoma, ductal carcinoma of the pancreas and colorectal carcinoma. Alternative splicing leads to variants encoding two isoforms that differ in the C-terminal region. [provided by RefSeq]

## Other Designations

K-ras p21 protein|Kirsten rat sarcoma-2 viral (v-Ki-ras2) oncogene homolog|PR310 c-K-ras oncogene|c-K-ras2 protein|c-Kirsten-ras protein|cellular c-Ki-ras2 proto-oncogene|oncogene KRAS2|transforming protein p21|v-Ki-ras2 Kirsten rat sarcoma 2 viral oncogene

## Pathway

- [Acute myeloid leukemia](#)

- [Allograft rejection](#)
- [Antigen processing and presentation](#)
- [Antigen processing and presentation](#)
- [Autoimmune thyroid disease](#)
- [Axon guidance](#)
- [B cell receptor signaling pathway](#)
- [Bladder cancer](#)
- [Cell adhesion molecules \(CAMs\)](#)
- [Chemokine signaling pathway](#)
- [Chronic myeloid leukemia](#)
- [Colorectal cancer](#)
- [Dorso-ventral axis formation](#)
- [Endocytosis](#)
- [Endometrial cancer](#)
- [ErbB signaling pathway](#)
- [Fc epsilon RI signaling pathway](#)
- [Gap junction](#)
- [Glioma](#)
- [GnRH signaling pathway](#)
- [Graft-versus-host disease](#)
- [Insulin signaling pathway](#)
- [Long-term depression](#)
- [Long-term potentiation](#)
- [MAPK signaling pathway](#)
- [Melanogenesis](#)
- [Melanoma](#)

- [Natural killer cell mediated cytotoxicity](#)
- [Natural killer cell mediated cytotoxicity](#)
- [Neurotrophin signaling pathway](#)
- [Non-small cell lung cancer](#)
- [Pancreatic cancer](#)
- [Pathways in cancer](#)
- [Prostate cancer](#)
- [Regulation of actin cytoskeleton](#)
- [Renal cell carcinoma](#)
- [T cell receptor signaling pathway](#)
- [Thyroid cancer](#)
- [Tight junction](#)
- [Type I diabetes mellitus](#)
- [VEGF signaling pathway](#)

## Disease

- [Abnormalities](#)
- [Abortion](#)
- [Abruptio Placentae](#)
- [Acquired Immunodeficiency Syndrome](#)
- [Acute Disease](#)
- [Acute Disease](#)
- [Addison Disease](#)
- [Adenocarcinoma](#)
- [Adenocarcinoma](#)
- [Adenoma](#)

- [Adenomatous Polyposis Coli](#)
- [Adenovirus Infections](#)
- [Agranulocytosis](#)
- [AIDS-Related Opportunistic Infections](#)
- [Alcoholism](#)
- [Alcoholism](#)
- [Alopecia Areata](#)
- [Alveolar Bone Loss](#)
- [Alzheimer disease](#)
- [Anemia](#)
- [Anus Neoplasms](#)
- [Aortic Aneurysm](#)
- [Aortic Diseases](#)
- [Arterial Occlusive Diseases](#)
- [Arthritis](#)
- [Arthritis](#)
- [Asthma](#)
- [Atherosclerosis](#)
- [Autistic Disorder](#)
- [Autoimmune Diseases](#)
- [Autonomic Nervous System Diseases](#)
- [Behcet Syndrome](#)
- [Biliary Atresia](#)
- [Biliary Tract Neoplasms](#)
- [Bipolar Disorder](#)

- [Birth Weight](#)
- [Brain Neoplasms](#)
- [Breast cancer](#)
- [Breast cancer](#)
- [Breast Neoplasms](#)
- [Breast Neoplasms](#)
- [Bronchiectasis](#)
- [Bronchiolitis](#)
- [Calcinosis](#)
- [Carcinoma](#)
- [Carcinoma](#)
- [Cardiomyopathy](#)
- [Cardiovascular Diseases](#)
- [Cardiovascular Diseases](#)
- [Celiac Disease](#)
- [Cell Transformation](#)
- [Cervical Intraepithelial Neoplasia](#)
- [Chagas Cardiomyopathy](#)
- [Chagas Disease](#)
- [Chlamydophila Infections](#)
- [Cholangiocarcinoma](#)
- [Cholangitis](#)
- [Choroidal Neovascularization](#)
- [Chromosomal Instability](#)
- [Chromosome Aberrations](#)
- [Chromosome Deletion](#)

- [Chronic Disease](#)
- [Churg-Strauss Syndrome](#)
- [Cognition Disorders](#)
- [Colitis](#)
- [Colitis](#)
- [Colon cancer](#)
- [Colonic Neoplasms](#)
- [Colonic Polyps](#)
- [Colorectal Neoplasms](#)
- [Common Bile Duct Neoplasms](#)
- [Common Variable Immunodeficiency](#)
- [Complex Regional Pain Syndromes](#)
- [Conjunctivitis](#)
- [Connective Tissue Diseases](#)
- [Coronary Aneurysm](#)
- [Coronary Artery Disease](#)
- [Coronary Disease](#)
- [Crohn Disease](#)
- [Crohn Disease](#)
- [Cystadenocarcinoma](#)
- [Cytomegalovirus Infections](#)
- [Cytomegalovirus Retinitis](#)
- [Dengue](#)
- [Dermatitis](#)
- [Developmental Disabilities](#)
- [Diabetes Complications](#)

- [Diabetes Mellitus](#)
- [Diabetes Mellitus](#)
- [Diarrhea](#)
- [Dilatation](#)
- [Disease](#)
- [Disease Progression](#)
- [Disease Progression](#)
- [Disease Susceptibility](#)
- [Down Syndrome](#)
- [Drug Eruptions](#)
- [Drug Hypersensitivity](#)
- [Drug Toxicity](#)
- [Drug Toxicity](#)
- [Drug-Induced Liver Injury](#)
- [Duchenne muscular dystrophy](#)
- [Duodenal Ulcer](#)
- [Dystonia](#)
- [Edema](#)
- [Encephalitis](#)
- [Encephalomyelitis](#)
- [Endometrial Hyperplasia](#)
- [Endometrial Neoplasms](#)
- [Endometriosis](#)
- [Endometriosis](#)
- [Enterovirus Infections](#)
- [Eosinophilia](#)

- [Epidermal Necrolysis](#)
- [Epilepsy](#)
- [Epstein-Barr Virus Infections](#)
- [Esophageal Neoplasms](#)
- [Esophageal Neoplasms](#)
- [Exanthema](#)
- [Exanthema](#)
- [Eye Diseases](#)
- [Eye Infections](#)
- [Fibrosis](#)
- [Gastritis](#)
- [Gastritis](#)
- [Gastrointestinal Diseases](#)
- [Gastrointestinal Stromal Tumors](#)
- [Genetic Diseases](#)
- [Genetic Predisposition to Disease](#)
- [Genetic Predisposition to Disease](#)
- [Genetic Predisposition to Disease](#)
- [Genomic Instability](#)
- [Gingival Hemorrhage](#)
- [Glioblastoma](#)
- [Glioma](#)
- [Glioma](#)
- [Glomerulonephritis](#)
- [Graft vs Host Disease](#)
- [Graves Disease](#)

- [Head and Neck Neoplasms](#)
- [Head and Neck Neoplasms](#)
- [Heart Defects](#)
- [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 Infections](#)
- [HIV Seropositivity](#)
- [Hodgkin Disease](#)

- [HTLV-I Infections](#)
- [Hyperplasia](#)
- [Hyperplasia](#)
- [Hypersensitivity](#)
- [Hypertension](#)
- [IgA Deficiency](#)
- [IgG Deficiency](#)
- [Immunologic Deficiency Syndromes](#)
- [Infection](#)
- [Infectious Mononucleosis](#)
- [Inflammation](#)
- [Inflammation](#)
- [Inflammatory Bowel Diseases](#)
- [Iron Overload](#)
- [Joint Diseases](#)
- [Keloid](#)
- [Kidney Diseases](#)
- [Kidney Failure](#)
- [Kidney Failure](#)
- [Kidney Failure](#)
- [Kidney Neoplasms](#)
- [Knee Injuries](#)
- [LEOPARD Syndrome](#)
- [Leprosy](#)
- [Leptospirosis](#)
- [Leukemia](#)

- [Leukemia](#)
- [Leukemia-Lymphoma](#)
- [Lipodystrophy](#)
- [Liver Cirrhosis](#)
- [Liver Neoplasms](#)
- [Lung carcinoma](#)
- [Lung Neoplasms](#)
- [Lung Neoplasms](#)
- [Lupus Erythematosus](#)
- [Lymphatic Metastasis](#)
- [Lymphatic Metastasis](#)
- [Lymphoma](#)
- [Lymphoma](#)
- [Lymphoproliferative Disorders](#)
- [Macular Degeneration](#)
- [Malaria](#)
- [Malignant melanoma](#)
- [Melanoma](#)
- [Meningeal Neoplasms](#)
- [Meningeal Neoplasms](#)
- [Meningioma](#)
- [Meningioma](#)
- [Menkes syndrome](#)
- [Metabolic Syndrome X](#)
- [Microsatellite Instability](#)
- [Mouth Neoplasms](#)

- [Mucocutaneous Lymph Node Syndrome](#)
- [Multiple Myeloma](#)
- [Multiple Sclerosis](#)
- [Muscular Dystrophy](#)
- [Myasthenia Gravis](#)
- [Mycobacterium avium-intracellulare Infection](#)
- [Myelodysplastic Syndromes](#)
- [Myoma](#)
- [Myositis](#)
- [Nasal Polyps](#)
- [Nasopharyngeal Neoplasms](#)
- [Nausea](#)
- [Necrosis](#)
- [Neoplasm Invasiveness](#)
- [Neoplasm Invasiveness](#)
- [Neoplasm Metastasis](#)
- [Neoplasm Recurrence](#)
- [Neoplasms](#)
- [Neoplasms](#)
- [Neovascularization](#)
- [Nephrosis](#)
- [Nephrotic Syndrome](#)
- [Nerve Sheath Neoplasms](#)
- [Neuralgia](#)
- [Neuroblastoma](#)

- [Neurofibromatosis](#)
- [Neurofibromatosis 1](#)
- [Neuromyelitis Optica](#)
- [Neutropenia](#)
- [Noonan Syndrome](#)
- [Nut Hypersensitivity](#)
- [Obesity](#)
- [Obesity](#)
- [Occupational Diseases](#)
- [Optic Neuritis](#)
- [Oral Submucous Fibrosis](#)
- [Osteoarthritis](#)
- [Osteoporosis](#)
- [Ovarian cancer](#)
- [Ovarian cancer](#)
- [Ovarian Failure](#)
- [Ovarian Neoplasms](#)
- [Ovarian Neoplasms](#)
- [Pancreatic cancer](#)
- [Pancreatic cancer](#)
- [Pancreatic Neoplasms](#)
- [Pancreatic Neoplasms](#)
- [Pancreatitis](#)
- [Pancreatitis](#)
- [Papilloma](#)
- [Papillomavirus Infections](#)
- [Papillomavirus Infections](#)

- [Paraneoplastic Syndromes](#)
- [Paraparesis](#)
- [Paraproteinemias](#)
- [Parkinson disease](#)
- [Paroxysmal nocturnal hemoglobinuria](#)
- [Pars Planitis](#)
- [Pemphigus](#)
- [Penile Induration](#)
- [Periodontal Attachment Loss](#)
- [Periodontitis](#)
- [Peritoneal Neoplasms](#)
- [Photosensitivity Disorders](#)
- [Pityriasis Rosea](#)
- [Polycystic Ovary Syndrome](#)
- [Polycystic Ovary Syndrome](#)
- [Porphyria](#)
- [Porphyria Cutanea Tarda](#)
- [Postoperative Complications](#)
- [Precancerous Conditions](#)
- [Pre-Eclampsia](#)
- [Pregnancy Complications](#)
- [Prostate cancer](#)
- [Prostatic Neoplasms](#)
- [Prostatic Neoplasms](#)
- [Proteinuria](#)
- [Psoriasis](#)

- [Psychotic Disorders](#)
- [Puberty](#)
- [Pulmonary Disease](#)
- [Pulmonary Disease](#)
- [Pulmonary Embolism](#)
- [Pulmonary Valve Stenosis](#)
- [Purpura](#)
- [Ras oncogene](#)
- [Rectal Neoplasms](#)
- [Recurrence](#)
- [Recurrence](#)
- [Respiratory Tract Infections](#)
- [Retinal Neoplasms](#)
- [Retinoblastoma](#)
- [Retroperitoneal Fibrosis](#)
- [Rheumatic Diseases](#)
- [Rheumatic Heart Disease](#)
- [Salivary Gland Diseases](#)
- [Sarcoidosis](#)
- [Sarcoma](#)
- [Sarcoma](#)
- [Schizophrenia](#)
- [Severe Acute Respiratory Syndrome](#)
- [Sexually Transmitted Diseases](#)
- [Skin Abnormalities](#)
- [Skin Diseases](#)

- [Skin Neoplasms](#)
- [Small Cell Lung Carcinoma](#)
- [Spinal Cord Diseases](#)
- [Spondylarthritis](#)
- [Spondylarthropathies](#)
- [Spondylitis](#)
- [Stevens-Johnson Syndrome](#)
- [Stomach Neoplasms](#)
- [Stomach Neoplasms](#)
- [Stomach Neoplasms](#)
- [Stomatitis](#)
- [Substance Abuse](#)
- [Syndrome](#)
- [Temporomandibular Joint Disorders](#)
- [Testicular Neoplasms](#)
- [Thromboembolism](#)
- [Thrombophilia](#)
- [Thrombophlebitis](#)
- [Thymoma](#)
- [Thymus Neoplasms](#)
- [Thyroid Diseases](#)
- [Thyroid Neoplasms](#)
- [Thyroiditis](#)
- [Tobacco Use Disorder](#)
- [Tonsillar Neoplasms](#)
- [Translocation](#)

- [Tuberculosis](#)
- [Tumor Virus Infections](#)
- [Urinary Bladder Neoplasms](#)
- [Urticaria](#)
- [Uterine Cervical Neoplasms](#)
- [Uterine Neoplasms](#)
- [Uveitis](#)
- [Uveomeningoencephalitic Syndrome](#)
- [Venous Thrombosis](#)
- [Viremia](#)
- [Vitiligo](#)
- [Werner syndrome](#)