

Product datasheet for **RG200661**

HLAA (HLA-A) (NM_002116) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	HLAA (HLA-A) (NM_002116) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	HLAA
Synonyms:	HLAA
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG200661 representing NM_002116 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGC**C

ATGGCCGTATGGCGCCCGAACCCCTCCTCCTGCTACTCTCGGGGGCCCTGGCCCTGACCCAGACCTGGG
CGGGCTCCACTCCATGAGGATTTCTTCACATCCGTGTCCCGGCCCGCCGGGGAGCCCGCTTCAT
CGCCGTGGGCTACGTGGACGACACGCAGTTCGTGCGGTTGACAGCGACCCGCGAGCCAGAAGATGGAG
CCGCGGGCGCCGTGGATAGAGCAGGAGGGGCCGGAGTATTGGGACCAGGAGACACGGAATATGAAGGCC
ACTCACAGACTGACCGAGCGAACCTGGGGACCTGCGCGGCTACTACAACCAGAGCGAGGACGGTTCTCA
CACCATCCAGATAATGTATGGCTGCGACGTGGGGCCGGACGGGGCCTTCTCCCGGGTACCGGCAGGAC
GCCTACGACGGCAAGGATTACATCGCCCTGAACGAGGACCTGCGCTCTTGACCGCGGGCAGATGGCAG
CTCAGATACCAAGCGCAAGTGGGAGGGTCCATGCGGCGGAGCAGCGGAGAGTCTACCTGGAGGGCCG
GTGCGTGGACGGGCTCCGCAGATACCTGGAGAACGGGAAGGAGACGCTGCAGCGCACGGACCCCCCAAG
ACACATATGACCCACCACCCATCTCTGACCATGAGGCCACCCTGAGGTGCTGGGCCCTGGGCTTCTACC
CTGCGGAGATCACACTGACCTGGCAGCGGGATGGGAGGACCAGACCAGGACACGGAGCTCGTGGAGAC
CAGGCCGTCAGGGGATGGAACCTTCCAGAAGTGGCGGCTGTGGTGTGCCTTCTGGAGAGGAGCAGAGA
TACACCTGCCATGTGCAGCATGAGGGTCTGCCAAGCCCTCACCTGAGATGGGAGCTGTCTTCCAGC
CCACCATCCCATCGTGGGCATCATTGCTGGCCTGGTTCTCCTTGGAGCTGTGATCACTGGAGCTGTGGT
CGCTGCCGTGATGTGGAGGAGGAAGAGCTCAGATAGAAAAGGAGGGAGTTACACTCAGGCTGCAAGCAGT
GACAGTGCCAGGGCTCTGATGTGTCTCTCACAGCTTGTAAAGTG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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Protein Sequence: >RG200661 representing NM_002116
Red=Cloning site Green=Tags(s)

MAVMAPRTL L L L L L S G A L A L T Q T W A G S H S M R Y F F T S V S R P G R G E P R F I A V G Y V D D T Q F V R F D S D A A S Q K M E
 P R A P W I E Q E G P E Y W D Q E T R N M K A H S Q T D R A N L G T L R G Y N Q S E D G S H T I Q I M Y G C D V G P D G R F L R G Y R Q D
 A Y D G K D Y I A L N E D L R S W T A A D M A A Q I T K R K W E A V H A A E Q R R V Y L E G R C V D G L R R Y L E N G K E T L Q R T D P P K
 T H M T H H P I S D H E A T L R C W A L G F Y P A E I T L T W Q R D G E D Q T Q D T E L V E T R P A G D G T F Q K W A A V V V P S G E E Q R
 Y T C H V Q H E G L P K P L T L R W E L S S Q P T I P I V G I I A G L V L L G A V I T G A V V A A V M W R R K S S D R K G G S Y T Q A A S S
 D S A Q G S D V S L T A C K V

TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_002116

ORF Size: 1095 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).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
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.

RefSeq: [NM_002116.3](#)

RefSeq Size: 1538 bp

RefSeq ORF: 1098 bp

Locus ID: 3105

UniProt ID: [P01892](#)

Cytogenetics: 6p22.1

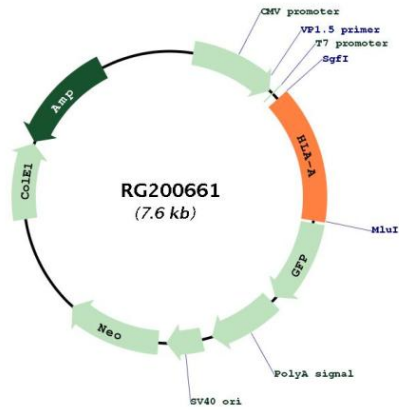
Domains: MHC_I, ig, IGc1

Protein Families: Transmembrane

Protein Pathways: Allograft rejection, 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, Viral myocarditis

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 so that they can be recognized by cytotoxic T cells. 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. More than 6000 HLA-A alleles have been described. The HLA system plays an important role in the occurrence and outcome of infectious diseases, including those caused by the malaria parasite, the human immunodeficiency virus (HIV), and the severe acute respiratory syndrome coronavirus (SARS-CoV). The structural spike and the nucleocapsid proteins of the novel coronavirus SARS-CoV-2, which causes coronavirus disease 2019 (COVID-19), are reported to contain multiple Class I epitopes with predicted HLA restrictions. Individual HLA genetic variation may help explain different immune responses to a virus across a population.[provided by RefSeq, Aug 2020]

Product images:



Circular map for RG200661