

Product datasheet for **SC331846**

HLAA (HLA-A) (NM_001242758) Human Untagged Clone

Product data:

Product Type: Expression Plasmids
Product Name: HLAA (HLA-A) (NM_001242758) Human Untagged Clone
Tag: Tag Free
Symbol: HLAA
Synonyms: HLAA
Vector: pCMV6-Entry (PS100001)
Fully Sequenced ORF: >SC331846 representing NM_001242758.
 Blue=Insert sequence Red=Cloning site Green=Tag(s)

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ATGGCCGTATGGCGCCCCGAACCTCCTCCTGCTACTCTCGGGGGCCCTGGCCCTGACCCAGACCTGG
GCGGGCTCCCACTCCATGAGGTATTTCTTACATCCGTGTCCCGGCCCGCCGCGGGGAGCCCCGCTTC
ATCGCCGTGGGCTACGTGGACGACACGCAGTTCGTGCGGTTGACAGCGACCGCGGAGCCAGAAGATG
GAGCCGCGGGCGCCGTGGATAGAGCAGGAGGGGCCGGAGTATTGGGACCAGGAGACCGGAATATGAAG
GCCCACTCACAGACTGACCGAGCGAACCTGGGGACCCTGCGCGGCTACTACAACCAGAGCGAGGACGGT
TCTCACACCATCCAGATAATGTATGGCTGCGACGTGGGGCCGGACGGGCGCTTCTCCGCGGGTACCGG
CAGGACGCTACGACGGCAAGGATTACATCGCCCTGAACGAGGACCTGCGCTCTTGGACCGCGCGGAC
ATGGCAGCTCAGATACCAAGCGCAAGTGGGAGGCGGTCCATGCGGCGGAGCAGCGGAGAGTCTACCTG
GAGGGCCGGTGCCTGGACGGGCTCCGCAGATACCTGGAGAACGGGAAGGAGACGCTGCAGCGCACGGAC
CCCCCAAGACACATATGACCCACCACCCATCTCTGACCATGAGGCCACCCTGAGGTGCTGGGCCCTG
GGCTTCTACCTGCGGAGATCACACTGACCTGGCAGCGGGATGGGGAGGACCAGACCCAGGACACGGAG
CTCGTGGAGACCAGGCCGCAGGGGATGGAACCTTCCAGAAGTGGGCGGCTGTGGTGGTGCCTTCTGGA
GAGGAGCAGAGATACACCTGCCATGTGCAGCATGAGGGTCTGCCAAGCCCTCACCTGAGATGGGAG
CTGTCTTCCAGCCCACCATCCCCATCGTGGGCATCATTGCTGGCCTGGTCTCCTTGGAGCTGTGATC
ACTGGAGCTGTGGTTCGCTGCCGTGATGTGGAGGAGGAAGAGCTCAGATAGAAAAGGAGGGAGTTACACT
CAGGCTGCAAGCAGTGACAGTGCCAGGCTCTGATGTGTCTCTCACAGCTTGTAAAGTGTGA
  
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Restriction Sites: SgfI-MluI
ACCN: NM_001242758
Insert Size: 1098 bp
OTI Disclaimer: Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).



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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:	<ol style="list-style-type: none">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:	<u>NM_001242758.1</u>
RefSeq Size:	1611 bp
RefSeq ORF:	1098 bp
Locus ID:	3105
UniProt ID:	<u>P01892</u>
Cytogenetics:	6p22.1
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
MW:	40.8 kDa

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]

Transcript Variant: This variant (2) represents the A*01:01:01:01 allele of the HLA-A gene, as found in the alternate locus group ALT_REF_LOCI_2 of the reference genome and in the RefSeqGene NG_029217. Sequence Note: The RefSeq transcript and protein were derived from genomic sequence to make the sequence consistent with the ALT_REF_LOCI_2 genome assembly. The genomic coordinates used for the transcript record were based on alignments.