

Product datasheet for SC319417

HLAA (HLA-A) (NM_002116) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	HLAA (HLA-A) (NM_002116) Human Untagged Clone
Tag:	Tag Free
Symbol:	HLAA
Synonyms:	HLAA
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC (PS100020)
E. coli Selection:	Ampicillin (100 ug/mL)

Fully Sequenced ORF: >OriGene sequence for NM_002116.5
GGCACGAGGGATGGCCGTCATGGCGCCCCGAACCCTCCTCTGCTACTCTCGGGGGCCCT
GGCCCTGACCCAGACCTGGGCGGGCTCCCACTCCATGAGGTATTTCTTACATCCGTGTC
CCGGCCCCGGCCGGGGAGCCCCGCTTCATCGCCGTGGGCTACGTGGACGACACGCAGTT
CGTGCGGTTTCGACAGCGACGCCGAGCCAGAAGATGGAGCCGGCGGGCGCGTGGATAGA
GCAGGAGGGGGCCGGAGTATTGGGACCAGGAGACACGGAATATGAAGGCCCACTCACAGAC
TGACCGAGCGAACCTGGGGACCCTGCGCGGCTACTACAACCAGAGCGAGGACGGTTCTCA
CACCATCCAGATAATGTATGGCTGCGACGTGGGGCCGACGGGCGCTTCTCCGCGGGTA
CCGGCAGGACGCCTACGACGGCAAGGATTACATCGCCCTGAACGAGGACCTGCGCTTTG
GACCGCGGGGACATGGCAGCTCAGATCACCAAGCGCAAGTGGGAGGCGGTCCATGCGGC
GGAGCAGCGGAGAGTCTACCTGGAGGGCCGGTGCCTGGACGGGCTCCGCAGATACCTGGA
GAACGGGAAGGAGACGCTGCAGCGCACGGACCCCCCAAGACACATATGACCCACCACCC
CATCTCTGACCATGAGGCCACCCTGAGGTGCTGGGCCCTGGGCTTCTACCCTGCGGAGAT
CACACTGACCTGGCAGCGGGATGGGGAGGACCAGACCCAGGACACGGAGCTCGTGGAGAC
CAGGCCTGCAGGGGATGGAACCTTCCAGAAGTGGGCGGCTGTGGTGGTGCCTTCTGGAGA
GGAGCAGAGATACACCTGCCATGTGCAGCATGAGGGTCTGCCAAGCCCCCACCTGAG
ATGGGAGCTGTCTCCAGCCCACCATCCCCATCGTGGGCATCATTGCTGGCCTGGTTCT
CCTTGGAGCTGTGATCACTGGAGCTGTGGTGCCTGCCGTGATGTGGAGGAGGAAGAGCTC
AGATAGAAAAGGAGGGAGTTACACTCAGGCTGCAAGCAGTGCAGTGCACAGGGCTCTGA
TGTGTCTCTCACAGCTTGTAAAGTGTGAGACAGCTGCCTTGTGTGGGACTGAGAGGCAAG
AGTTGTTCTGCCCTTCCCTTTGTGACTTGAAGAACCCTGACTTTGTTTCTGCAAAGGCA
CCTGCATGTGTCTGTGTTGCTGTAGGCATAATGTGAGGAGGTGGGGAGAGCACCCACCC
CCATGTCCACCATGACCCTTCCACGCTGACCTGTGCTCCCTCTCCAATCATCTTTCC
TGTTCCAGAGAGGTGGGGCTGAGGTGTCTCCATCTGTCTCAACTTCATGGTGCCTGA
GCTGTAACCTTCTCCTTCCCTATTAATAATTAGAACCTGAGTATAAAAAAAAAAAAAAAAA
AAA



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Restriction Sites:	Please inquire
ACCN:	NM_002116
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).
OTI Annotation:	This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.
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:	NM_002116.5 , NP_002107.3
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]

Transcript Variant: This variant (1) represents the A*03:01:0:01 allele of the HLA-A gene, as found in the primary assembly of the reference genome.