

Product datasheet for **RG232333**

HLA-DRB1 (NM_001243965) Human Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: HLA-DRB1 (NM_001243965) Human Tagged ORF Clone
Tag: TurboGFP
Symbol: HLA-DRB1
Synonyms: DRB1; HLA-DR1B; HLA-DRB; SS1
Mammalian Cell Selection: Neomycin
Vector: pCMV6-AC-GFP (PS100010)
E. coli Selection: Ampicillin (100 ug/mL)
ORF Nucleotide Sequence: >RG232333 representing NM_001243965
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGTGTGCTGAGGCTCCCTGGAGGCTCCTGCATGGCAGTTCTGACAGTGACACTGATGGTGCTGAGCT
CCCCACTGGCTTTGGCTGGGGACACCAGACCACGTTTCTTGGAGTACTCTACGTCTGAGTGTCATTTCTT
CAATGGGACGGAGCGGGTGGGTACCTGGACAGATACTCCATAACCAGGAGGAGAACGTGCGCTTCGAC
AGCGACGTGGGGAGTTCGGGGCGGTGACGGAGCTGGGGCGCCTGATGCCGAGTACTGGAACAGCCAGA
AGGACCTCCTGGAGCAGAAGCGGGCCGGTGGACAACACTGACAGACACAACACTACGGGGTTGTGGAGAG
CTTCACAGTGCAGCGCGAGTCCATCCTAAGGTGACTGTGTATCCTTCAAAGACCCAGCCCTGCAGCAC
CATAACCTCCTGGTCTGTTCTGTGAGTGGTTTCTATCCAGGCAGCATTGAAGTCAGGTGGTTCCGGAATG
GCCAGGAAGAGAAGACTGGGGTGGTGTCCACAGGCCTGATCCACAATGGAGACTGGACCTTCAGACCCCT
GGTGTGCTGGAAACAGTTCTCGGAGTGGAGAGGTTTACACCTGCCAAGTGGAGCACCCAAGCGTGACA
AGCCCTCTCACAGTGGAAATGGAGAGCACGGTCTGAATCTGCACAGAGCAAGATGCTGAGTGGAGTCCGGG
GCTTTGTGCTGGGCTGCTTCTTGGGGCCGGGCTGTTTCATCTACTTCAGGAATCAGAAAGGACACTC
TGGACTTCAGCCAAGAGGATTCTGAGC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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Protein Sequence: >RG232333 representing NM_001243965
 Red=Cloning site Green=Tags(s)

MVCLRLPGGSCMAVLTVTLMLVSSPLALAGDTRPRFLEYSTSECHFFNGTERTVRYLDRYFHNQEENVRFD
 SDVGEFRAVTELRPDAEYWNSQKDLLEQKRGRVDNYCRHNYGVVESFTVQRRVHPKVTVYPSKTQPLQH
 HNLLVCSVSGFYPGSIEVRWFRNGQEEKTGVVSTGLIHNGDWTFTLVMLETVPRSGEVYTCQVEHPSVT
 SPLTVEWRARSESAQSKMLSGVGGFVLGLLFLGAGLFIYFRNQKGHSGLQPRGFLS

TRTRPLE - GFP Tag - V

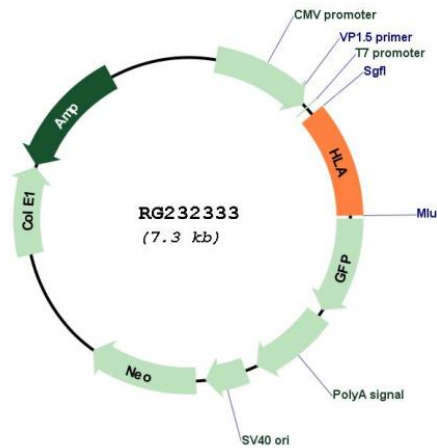
Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:



ACCN: NM_001243965

ORF Size: 798 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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_001243965.1](#), [NP_001230894.1](#)

RefSeq Size: 1233 bp

RefSeq ORF: 801 bp

Locus ID: 3123

UniProt ID: [P04229](#)

Cytogenetics: 6p21.32

Protein Families: Transmembrane

Protein Pathways: Allograft rejection, Antigen processing and presentation, Asthma, Autoimmune thyroid disease, Cell adhesion molecules (CAMs), Graft-versus-host disease, Hematopoietic cell lineage, Systemic lupus erythematosus, Type I diabetes mellitus, Viral myocarditis

Gene Summary:

HLA-DRB1 belongs to the HLA class II beta chain paralogs. The class II molecule is a heterodimer consisting of an alpha (DRA) and a beta chain (DRB), both anchored in the membrane. It plays a central role in the immune system by presenting peptides derived from extracellular proteins. Class II molecules are expressed in antigen presenting cells. The beta chain is approximately 26-28 kDa. It is encoded by 6 exons. Exon one encodes the leader peptide; exons 2 and 3 encode the two extracellular domains; exon 4 encodes the transmembrane domain; and exon 5 encodes the cytoplasmic tail. Within the DR molecule the beta chain contains all the polymorphisms specifying the peptide binding specificities. Hundreds of DRB1 alleles have been described and some alleles have increased frequencies associated with certain diseases or conditions. For example, DRB1*1302 has been related to acute and chronic hepatitis B virus persistence. There are multiple pseudogenes of this gene. [provided by RefSeq, Jul 2020]