

Product datasheet for **RG206640**

Pyruvate Dehydrogenase E2 (DLAT) (NM_001931) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Pyruvate Dehydrogenase E2 (DLAT) (NM_001931) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Pyruvate Dehydrogenase E2
Synonyms:	DLTA; E2; PBC; PDC-E2; PDCE2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG206640 representing NM_001931
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTGGCGCTGTGCGCGACGGCTCAGAATGTAGCCCATGGGCGGACTCGAGGCTCGGTGGACGG
 CCTTGCAGGAGGTACCCGGAACCCACGAGTGACCTCGCGATCTGGCCCGGCTCCCGCTCGTCGCAACAG
 CGTGACTIONACAGGGTATGGCGGGTCCGGGCACTGTGCGGCTGGACCCCACTTCTGGGGCCACGCCGCGG
 AACCGCTTACTGCTGAGCTTTTGGGGTCCGCCGCGCCGCTATTACAGTCTTCCCGGCATCAGAAGG
 TTCCATTGCCCTTCTTTCCCCACAATGCAGGCAGGCACCATAGCCCGTTGGGAAAAAAGAGGGGGA
 CAAAATCAATGAAGGTGACCTAATTGCAGAGGTTGAACTGATAAAGCCACTGTTGGATTGAGAGCCTG
 GAGGAGTGTATATGGCAAAGATACTTGTGCTGAAGGTACCAGGGATGTTCCCATCGGAGCGATCATCT
 GTATCACAGTTGGCAAGCCTGAGGATATTGAGGCCTTTAAAAATTATACACTGGATTCTCAGCAGCACC
 TACCCACAAGCGGCCCCAGCACCAACCCCTGCTGCCACTGCTTCCGCACCTACACCTTCTGCTCAGGCT
 CCTGGTAGCTCATATCCCCCTCACATGCAGGACTTCTTCTGCCCTCTCTCCACCATGACCATGGGCA
 CAGTTCAGAGATGGGAAAAAAGTGGGTGAGAAGCTAAGTGAAGGAGACTTACTGGCAGAGATAGAAAC
 TGACAAAGCCACTATAGGTTTTGAAGTACAGGAAGAAGTTATCTGGCAAAAATCCTGGTCCCTGAAGGC
 ACAAGAGATGTCCTCTAGGAACCCACTCTGTATCATTGTAGAAAAAGAGGCAGATATATCAGCATTG
 CTGACTATAGGCCAACCGAAGTAACAGATTTAAAACCAAGTGCACCCACTACCCACCCCGGTGGC
 CGCTGTTCTCCAACCTCCAGCCTTTAGCTCTACACCTCAGCACCTGCCAGCTACTCCTGCTGGA
 CCAAAGGAAGGGTGTGTTGTTAGCCCTTGTCAAAGAAGTTGGCAGTAGAGAAAGGATTGATCTTACAC
 AAGTAAAAGGGACAGGACCAGATGGTGAATCACCAAGAAGGATATCGACTCTTTTGTGCCTAGTAAAGT
 TGCTCCTGCTCCGGCAGCTGTTGTGCCTCCACAGGTCCTGGAATGGCACCAGTTCCTACAGGTGCTTTC
 ACAGATATCCCAATCAGCAACATTCGTCGGGTTATTGCACAGCGATTAATGCAATCAAAGCAAACCATAC
 CTCATTATTACCTTTCTATCGATGTAATATGGGAGAAGTTTTGTTGGTACGGAAAGAACTTAATAAGAT
 ATTAGAAGGGAGAAGCAAAATTTCTGTCAATGACTTCATCATAAAAGCTCAGCTTTGGCATGTTTAAAA
 GTTCCCGAAGCAATTTCTTGGATGGACACAGTTATAAGACAAAATCATGTTGTTGATGTCAGTGTG
 CGGTCAGTACTCCTGCAGGACTCATCACCTATTGTGTTAATGCACATATAAAGGAGTGGAAACCAT
 TGCTAATGATGTTGTTTCTTTAGCAACCAAGCAAGAGAGGTAAGTACAGCCACATGAATCCAGGGT
 GGCACCTTTACGATCTCCAATTTAGGAATGTTTGAATTAAGAATTTCTCTGCTATTATTAACCCACCTC
 AAGCATGTATTTGGCAATTGGTCTTCAGAGGATAAACTGGTCCCTGCAGATAATGAAAAAGGGTTTGA
 TGTGGCTAGCATGATGCTGTTACACTCAGTTGTGATCACCGGGTGGTGGATGGAGCAGTTGGAGCCCA
 TGGCTTGCTGAGTTAGAAAAGTACCTTGAAAAACCTATCACTATGTTGTTG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>RG206640 representing NM_001931
 Red=Cloning site Green=Tags(s)

MWRVCARRAQNVPWAGLEARWTALQEVPGTPRVTSRSGPAPARRNSVTTGYGGVRLCGWTPSSGATPR
 NRLLQLLGGSPGRRYSLPPHQKVPLPSLSPTMQAGTIARWEKKEGDKINEGDLIAEVETDKATVGFESL
 EECYMAKILVAEGTRDVPVIGAIICITVVKPEDIEAFKNYLDSSAAPTQAAAPAPTPAATASPPTPSAQA
 PGSSYPHMQVLLPALSPTMTMGTVQRWEKKVGEKLESEGDLAEIETDKATIGFEVQEELAKILVPEG
 TRDVPLGTPLCIIVEKEADISAFADYRPTVETDLKPQVPPPTPPPVAAPVPTPQPLAPTPSAPCPATPAG
 PKGRVFSVPLAKKLAVEKIDLTQVKGTGPDGRITKDKIDSFVPSKVAPAPAAPVPTGPGMAPVPTGVF
 TDIPISNIRRVIAQRLMQSKQTIPIHYLSIDVNMGEVLLVRKELNKILEGRSKISVNDFIKASALACLK
 VPEANSSWMDTVIRQNHVVDVSVAVSTPAGLITPIVFNAHIKGVETIANDVVSLATKAREGKLQPHFQGG
 GTFTISNLGMFGIKNFSAIINPPQACILAI GASEDKLVPADNEKGFVDVASMMSVTLSCDHRVVDGAVGAQ
 WLAEFRKYLEKPITMLL

TRTRPLE - GFP Tag - V

Restriction Sites: Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



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                                     Kozac
                                     Consensus
                                     SgfI
                                     AscI
EcoRI      BamHI KpnI      RBS      Kozac
CTATAGGGCGGCCGGGAATTCGTGACTGGATCCGGTACCGAGGAGATCTGCCGCCGATCGCCGGCGCCAGATCT

HindIII    NheI  RsrII    MluI      NotI      XhoI      GFP Tag
CAAGCTTAAGTACTAGTAGCGGACCG  ACG CGT  ACG CGG  CCG CTC GAG  ATG GAG AGC GAC -----
                                     T  R  T  R  P  L  E  M  E  S  D  -  -  -

                                     PmeI  FseI
----- GAA GAA AGA GTT TAA ACGGCCGGCCGGGAGCT
- - - E E R V Stop
    
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ACCN: NM_001931

ORF Size: 1941 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.

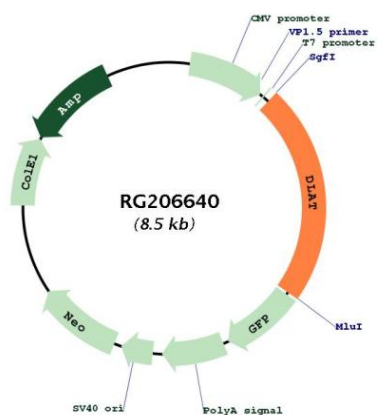
The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in 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:	<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_001931.5
RefSeq Size:	3321 bp
RefSeq ORF:	1944 bp
Locus ID:	1737
UniProt ID:	P10515
Cytogenetics:	11q23.1
Domains:	biotin_lipoyl, 2-oxoacid_dh, e3_binding
Protein Families:	Druggable Genome
Protein Pathways:	Citrate cycle (TCA cycle), Glycolysis / Gluconeogenesis, Metabolic pathways, Pyruvate metabolism
Gene Summary:	<p>This gene encodes component E2 of the multi-enzyme pyruvate dehydrogenase complex (PDC). PDC resides in the inner mitochondrial membrane and catalyzes the conversion of pyruvate to acetyl coenzyme A. The protein product of this gene, dihydrolipoamide acetyltransferase, accepts acetyl groups formed by the oxidative decarboxylation of pyruvate and transfers them to coenzyme A. Dihydrolipoamide acetyltransferase is the antigen for antimitochondrial antibodies. These autoantibodies are present in nearly 95% of patients with the autoimmune liver disease primary biliary cirrhosis (PBC). In PBC, activated T lymphocytes attack and destroy epithelial cells in the bile duct where this protein is abnormally distributed and overexpressed. PBC eventually leads to cirrhosis and liver failure. Mutations in this gene are also a cause of pyruvate dehydrogenase E2 deficiency which causes primary lactic acidosis in infancy and early childhood.[provided by RefSeq, Oct 2009]</p>

Product images:



Circular map for RG206640