

Product datasheet for **RC206640**

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:	Myc-DDK
Symbol:	Pyruvate Dehydrogenase E2
Synonyms:	DLTA; E2; PBC; PDC-E2; PDCE2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

ORF Nucleotide
Sequence:

>RC206640 representing NM_001931
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGCATCGCC**

ATGTGGCGCTGTGCGCGACGGCTCAGAATGTAGCCCATGGCGGGACTCGAGGCTCGGTGGACGG
CCTTGCAGGAGGTACCCGGAACCCACGAGTGACCTCGCGATCTGGCCCGGCTCCCGCTCGTCGCAACAG
CGTACTACAGGGTATGGCGGGTCCGGGCACTGTGCGGCTGGACCCCAAGTTCTGGGGCCACGCCGCGG
AACCGCTTACTGCTGAGCTTTTGGGGTGCAGCGCCGCGCTATTACAGTCTTCCCGGCATCAGAAGG
TTCCATTGCCCTTCTTTCCCCACAATGCAGGCAGGCACCATAGCCGTTGGGAAAAAAGAGGGGA
CAAAATCAATGAAGGTGACCTAATTGCAGAGGTTGAACTGATAAAGCCACTGTTGGATTGAGAGCCTG
GAGGAGTGTATATGGCAAAGATACTTGTGCTGAAGGTACCAGGGATGTTCCCATCGGAGCGATCATCT
GTATCACAGTTGGCAAGCCTGAGGATATTGAGGCCTTTAAAAATTATACACTGGATTCTCAGCAGCACC
TACCCACAAGCGGCCAGCACCAACCCCTGCTGCCACTGCTTGCACCTACACCTTCTGCTCAGGCT
CCTGGTAGCTCATATCCCCCTCACATGCAGTACTTCTTCTGCCCTCTCTCCCACCATGACCATGGGCA
CAGTTCAGAGATGGGAAAAAAGTGGGTGAGAAGCTAAGTGAAGGAGACTTACTGGCAGAGATAGAAAC
TGACAAAGCCACTATAGGTTTTGAAGTACAGGAAGAAGTTATCTGGCAAAAATCCTGGTCCCTGAAGGC
ACAAGAGATGTCCTCTAGGAACCCCACTCTGTATCATTGTAGAAAAAGAGGCAGATATATCAGCATTG
CTGACTATAGGCCAACGAAGTAACAGATTTAAAACCAAGTGCACACCCTACCCACCCCGGTGGC
CGCTGTTCTCCAACCTCCAGCCTTTAGCTCTACACCTCAGCACCTGCCAGCTACTCCTGCTGGA
CCAAAGGGAAGGGTGTGTTAGCCCTTTGCAAAGAAGTTGGCAGTAGAGAAAGGATTGATCTTACAC
AAGTAAAAGGGACAGGACCAGATGGTGAATCACCAGAAGGATATCGACTCTTTTGTGCATGATAAAGT
TGCTCCTGCTCCGGCAGCTGTTGTGCCTCCACAGGTCCTGGAATGGCACCAGTTCCTACAGGTGCTTC
ACAGATATCCCAATCAGCAACATTTCGTCGGGTTATTGCACAGCGATTAATGCAATCAAAGCAAACCATAC
CTCATTATTACCTTTCTATCGATGATAAATATGGGAGAAGTTTTGTTGGTACGGAAAGAACTTAATAAGAT
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GTTCCCGAAGCAAATTTCTTGGATGGACACAGTTATAAGACAAAATCATGTTGTTGATGTCAGTGTG
CGGTCACTACTCCTGCAGGACTCATCACCTATTGTGTTAATGCACATATAAAAGGAGTGAAACCAT
TGCTAATGATGTTGTTTCTTTAGCAACCAAGCAAGAGGGTAACTACAGCCACATGAATTCAGGGT
GGCACTTTTACGATCTCCAATTTAGGAATGTTTGAATTAAGAATTTCTCTGCTATTATTAACCCACCTC
AAGCATGATTTTGGCAATTGGTCTTCAGAGGATAAACTGGTCCCTGCAGATAATGAAAAAGGGTTTGA
TGTGGCTAGCATGATGCTGTTACACTCAGTTGTGATCACCGGGTGGTGGATGGAGCAGTTGGAGCCAG
TGCTTGTGAGTTAGAAAGTACCTTGAAAAACCTATCACTATGTTGTTG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTAA

Protein Sequence: >RC206640 representing NM_001931
 Red=Cloning site Green=Tags(s)

MWRVCARRAQNVPWAGLEARWTALQEVPGTPRVTSRSGPAPARRNSVTTGYGGVRLCGWTPSSGATPR
 NRLLQLQLGSPGRRYSLPPHQKVLPSLSPTMQAGTIARWEKKEGDKINEGDLIAEVETDKATVGFESL
 EECYMAKILVAEGTRDVPVIGAIICITVKGKPEDIEAFKNYTLDSSAAPTQAAAPAPTPAATASPPTSAQA
 PGSSYPHMQVLLPALSPTMTMGTVQRWEKKVGEKLSGDLLAEIETDKATIGFEVQEGLAKILVPEG
 TRDVPVLTPLCIIVEKEADISAFADYRPTVTDLKPQVPPPTPPPVAAPVPTPQPLAPTPSAPCPATPAG
 PKGRVVFVSPVLAKEKIDLTQVKGTPDGRITKIDSDVPSKVAPAPAAVVPPTGPGMAPVPTGVF
 TDIPISNIRRVIQRLMQSKQTIPIHYLLSIDVNMGEVLLVRKELNKILEGRSKISVNDFIKASALACKL
 VPEANSSWMDTVIRQNHVVDVSVAVSTPAGLITPIVFNHAIKGVETIANDVVSATKAREGKLQPFHQG
 GTFTISNLGMFGIKNFSAIINPPQACILAI GASEDKLVPADNEKGFVDVSMMSVTLSCDHRVVDGAVGAQ
 WLAEFRKYLEKPITMLL

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mg3106_c10.zip

Restriction Sites: Sgfl-MluI

Cloning Scheme:



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:

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

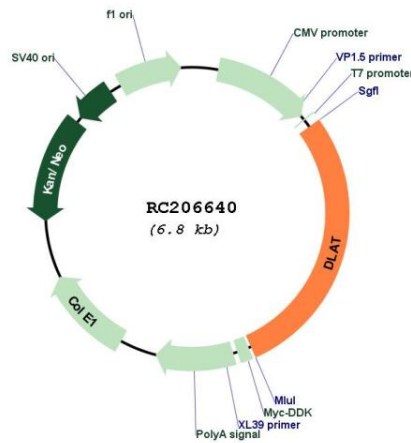
Protein Pathways: Citrate cycle (TCA cycle), Glycolysis / Gluconeogenesis, Metabolic pathways, Pyruvate metabolism

MW: 69 kDa

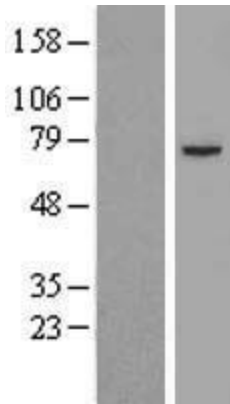
Gene Summary:

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]

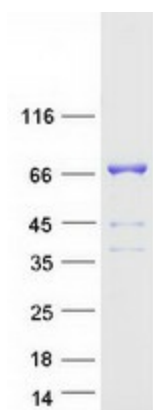
Product images:



Circular map for RC206640



Western blot validation of overexpression lysate (Cat# [LY419633]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC206640 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified DLAT protein (Cat# [TP306640]). The protein was produced from HEK293T cells transfected with DLAT cDNA clone (Cat# RC206640) using MegaTran 2.0 (Cat# [TT210002]).