

Product datasheet for RC201831

PDHA1 (NM_000284) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	PDHA1 (NM_000284) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	PDHA1
Synonyms:	PDHA; PDHAD; PDHCE1A; PHE1A
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC201831 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGAGGAAGATGCTCGCCCGCTCTCCCGCTGCTGTCTGGCGTTCTCAGAAGCCGGCAAGCAGAGTGC
TGGTAGCATCCCCTAATTTTGCAATGATGCTACATTTGAAATTAAGAAATGTGACCTTCACCGGCTGGA
AGAAGGCCCTCTGTCAACAGTGTCTACCAGGGAGGATGGGCTCAAATACTACAGGATGATGCAGACT
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CTACCGGCTCACGGCTTACTTTACCCGGGGCCTTTCGTCGAGAAATTCGCGAGAGCTTACAGGA
CGAAAAGGAGGTTGTGCTAAAGGAAAGGAGGATCGATGCACATGTATGCCAAGAACTTCTACGGGGCA
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GAGAAGAAATTCAGGAAGTAAGAAGTAAGAGTGACCCTATTATGCTTCTCAAGGACAGGATGGTGAACAG
CAATCTTGCCAGTGTGGAAGAACTAAAGGAAATTTGATGTGGAAGTGAGGAAGGAGATTGAGGATGCTGCC
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ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
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Protein Sequence: >RC201831 protein sequence
 Red=Cloning site Green=Tags(s)

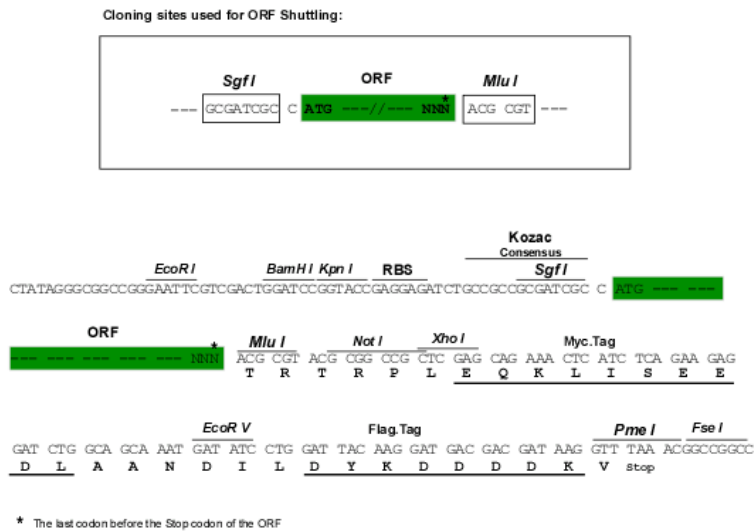
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 VRRMELKADQLYKQKIIRGFCHLCDGQEACCVGLEAGINPTDHLITAYRAHGFTFTRGLSVREILAEITG
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 AALWKLPCIFICENNRYGMGTSVERAAASTDYKRGDFIPGLRVDGMDILCVREATRFAAAYCRSGKGP
 LMELQTYRYHGHSMSPGVSYRTREEIQEVRSKSDPIMLLKDRMVNSNLAASVEELKEIDVEVRKEIEDAA
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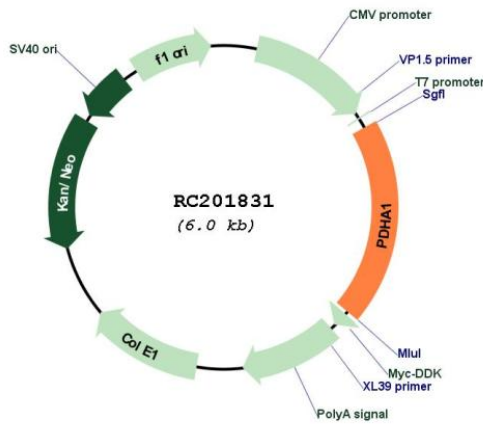
Chromatograms: https://cdn.origene.com/chromatograms/mk6151_e05.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



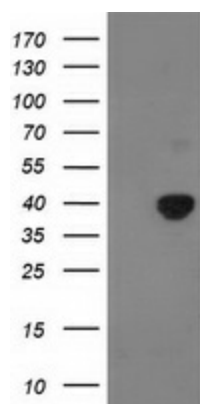
Plasmid Map:



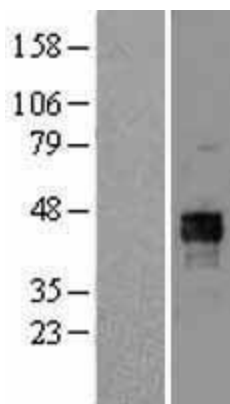
ACCN:	NM_000284
ORF Size:	1170 bp
OTI Disclaimer:	The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own 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_000284.4
RefSeq Size:	3390 bp
RefSeq ORF:	1173 bp
Locus ID:	5160
UniProt ID:	P08559
Cytogenetics:	Xp22.12
Domains:	E1_dehydrog
Protein Families:	Druggable Genome
Protein Pathways:	Butanoate metabolism, Citrate cycle (TCA cycle), Glycolysis / Gluconeogenesis, Metabolic pathways, Pyruvate metabolism, Valine, leucine and isoleucine biosynthesis
MW:	43.3 kDa

Gene Summary:

The pyruvate dehydrogenase (PDH) complex is a nuclear-encoded mitochondrial multienzyme complex that catalyzes the overall conversion of pyruvate to acetyl-CoA and CO₂, and provides the primary link between glycolysis and the tricarboxylic acid (TCA) cycle. The PDH complex is composed of multiple copies of three enzymatic components: pyruvate dehydrogenase (E1), dihydrolipoamide acetyltransferase (E2) and lipoamide dehydrogenase (E3). The E1 enzyme is a heterotetramer of two alpha and two beta subunits. This gene encodes the E1 alpha 1 subunit containing the E1 active site, and plays a key role in the function of the PDH complex. Mutations in this gene are associated with pyruvate dehydrogenase E1-alpha deficiency and X-linked Leigh syndrome. Alternatively spliced transcript variants encoding different isoforms have been found for this gene.[provided by RefSeq, Mar 2010]

Product images:

HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY PDHA1 (Cat# RC201831, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-PDHA1 (Cat# [TA502696]). Positive lysates [LY400110] (100ug) and [LC400110] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400110]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC201831 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified PDHA1 protein (Cat# [TP301831]). The protein was produced from HEK293T cells transfected with PDHA1 cDNA clone (Cat# RC201831) using MegaTran 2.0 (Cat# [TT210002]).