PC cDNA Clone – Pyruvate Carboxylase (Human)

PRODUCT OVERVIEW

Product Name	PC, cDNA Clone
Full Product Name	PC cDNA Clone
Product Gene Name	PC cdna clone
Sequence	atgctgaagt tccgaacagt ccatgggggc ctgaggctcc tgggaatccg ccgaacctcc accgcccccg ctgcctcccc aaatgtccgg cgcctggagt ataagcccat caagaaagtc atggtggcca acagaggtga gattgccatc cgtgtgttcc gggcctgcac ggagctgggc atccgcaccg tagccatcta ctctgagcag gacacgggcc agatgcaccg gcagaaagca gatgaagcct atctcatcgg ccgcggcctg gcccccgtgc aggcctacct gcacatccca gacatcatca aggtggccaa ggagaacaac gtagatgcag tgcaccctgg ctacgggttc ctctctgagc gagcggactt cgcccaggcc tgccaggatg caggggtccg gtttattggg ccaagcccag aagtggtccg caagatggga gacaaggtgg aggcccgggc catcgccatt gctgcgggtg ttcccgttgt ccctggcaca gatgccccca tcacgtccct gcatgaggcc cacgagttct ccaacaccta cggcttcccc atcatcttca aggcggccta tgggggtgga gggcgtggca tgagggtggt gcacagctac gaggagctgg aggagaatta cacccgggcc tactcagagg ctctggccgc ctttgggaat ggggcgctgt ttgtggagaa gttcatcgag aagccacggc acatcgaggt gcagatcttg ggggaccagt atgggaacat cctgcacctg tacgagcgag actgctccat ccagcggcgg caccagaagg tggtcgagat tgcccccgcc gcccacctgg acccgcagct tcggactcgg ctcaccagcg actctgtgaa actcgctaaa caggtgggct acgagaacgc aggcaccgtg gagttcctgg tggacaggca cggcaagcac tacttcatcg aggtcaactc ccgcctgcag gtggagcaca cggtcacaga ggagatcacc gacgtagacc tggtccatgc tcagatccac gtggctgagg gcaggagcct acccgacctg ggcctgcggc aggagaacat ccgcatcaac gggtgtgcca tccagtgccg ggtcaccacc gaggaccccg cgcgcagctt ccagccggac accggccgca ttgaggtgtt ccggagcgga gagggcatgg gcatccgcct ggataatgct tccgccttcc aaggagccgt catctcgccc cactacgact ccctgctggt caaagtcatt gcccacggca aagaccaccc cacggccgcc accaagatga gcagggccct tgcggagttc cgcgtccgag gtgtgaagac caacatcgcc ttcctgcaga atgtgctcaa caaccagcag ttcctggcag gcactgtgga cacccagttc atcgacgaga acccagagct gttccagctg cggcctgcac agaaccgggc ccaaaagctg ttgcactacc tcggccatgt catggtaaac ggtccaacca ccccgattcc cgtcaaggcc agccccagcc ccacggaccc cgttgtccct gcagtgccca taggcccgcc cccggctggt ttcagagaca tcctgctgcg agaggggcct gagggctttg ctcgagctgt gcggaaccac ccggggctgc tgctgatgga cacgaccttc agggacgccc accagtcact gctggccact cgtgtgcgca cccacgatct caaaaagatc gccccctatg ttgcccacaa cttcagcaag ctcttcagca tggagaactg gggaggagcc acgtttgacg tcgccatgcg cttcctgtat gagtgcccct ggcggcggct gcaggagctc cgggagctca tccccaacat ccctttccag atgctgctgc ggggggccaa tgctgtgggc tacaccaact acccagacaa cgtggtcttc aagttctgtg aagtggccaa agagaatggc atggatgtct tccgtgtgtt tgactccctc aactacttgc ccaacatgct gctgggcatg gaggcggcag gaagtgccgg aggcgtggtg gaggctgcca tctcatacac gggcgacgtg gccgacccca gccgcaccaa gtactcactg cagtactaca tgggcttggc cgaagagctg gtgcgagctg gcacccacat cctgtgcatc aaggacatgg ccgggctgct gaagcccacg gcctgcacca tgctggtcag ctccctccgg gaccgcttcc ccgacctccc actgcacatc cacacccacg acacgtcagg ggcaggcgtg gcagccatgc tggcctgtgc ccaggctgga gctgatgtgg tggatgtggc agctgattcc atgtctggga tgacttcaca gcccagcatg ggggccctgg tggcctgtac cagagggact cccctggaca cagaggtgcc catggagcgc gtgtttgact acagtgagta ctgggagggg gctcggggac tgtacgcggc cttcgactgc acggccacca tgaagtctgg caactcggac gtgtatgaaa atgagatccc agggggccag tacaccaacc tgcacttcca ggcccacagc atggggcttg gctccaagtt caaggaggtc aagaaggcct atgtggaggc caaccagatg ctgggcgatc tcatcaaggt gacgccctcc tccaagatcg tgggggacct ggcccagttt atggtgcaga atggattgag ccgggcagag gccgaagctc aggcggaaga gctgtccttt ccccgctccg tggtggagtt cctgcagggc tacatcggtg tcccccatgg ggggttcccc gaacccttte gctctaaggt actgaaggac ctgccaaggg tggaggggcg gcctggagcc tccctccctc ccctggatct gcaggcactg gagaaggagc tggtagaccg gcatggggag gaggtgacgc cggaagatgt gctctcagca gctatgtacc ccgatgtgtt tgcccacttc aaggacttca ctgccacctt tggccccctg gatagcctga atactcgcct cttcctgcag ggacccaaga tcgcagagga gtttgaggtg gagctggagc ggggcaagac gctgcacatc aaagccctgg ccgtgagcga cctgaaccgg gccggccaga ggcaggtctt ctttgagctc aatgggcagc tgcggtccat cttggtcaag gacacccagg ccatgaagga gatgcacttc caccccaagg ccctaaagga cgtgaagggc cagatcgggg cgcccatgcc tgggaaggtg atagacatca aagtggtggc aggggccaag gtggccaagg gccagccct gtgtgtgctc agtgccatga agatggagac tgtggtgacc tcacccatgg agggtactgt ccgcaaggtt catgtgacca aggacatgac actggaaggt gacgacctca tcctggagat cgagtga
Molecular Weight	57,925 Da
OMIM	266150
Vector	Please Inquire
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for PC cdna clone	MBS1275662 is a cDNA clone targeting PC.

Other Notes	Small volumes of PC cdna clone vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for PC. It may not necessarily be applicable to this product.

NCBI GI #	33871110
NCBI GeneID	5091
NCBI Accession #	BC011617
UniProt Secondary Accession #	Q16705; B4DN00
UniProt Related Accession #	P11498
NCBI Official Full Name	Homo sapiens pyruvate carboxylase, mRNA
NCBI Official Synonym Full Names	pyruvate carboxylase
NCBI Official Symbol	PC
NCBI Official Synonym Symbols	PCB
UniProt Protein Name	Pyruvate carboxylase, mitochondrial
UniProt Synonym Protein Names	Pyruvic carboxylase; PCB
Protein Family	PC-esterase domain-containing protein
UniProt Gene Name	PC
UniProt Synonym Gene Names	PCB
UniProt Entry Name	PYC_HUMAN
NCBI Protein Information	pyruvate carboxylase, mitochondrial
NCBI Summary for PC	This gene encodes pyruvate carboxylase, which requires biotin and ATP to catalyse the carboxylation of pyruvate to oxaloacetate. The active enzyme is a homotetramer arranged in a tetrahedron which is located exclusively in the mitochondrial matrix. Pyruvate carboxylase is involved in gluconeogenesis, lipogenesis, insulin secretion and synthesis of the neurotransmitter glutamate. Mutations in this gene have been associated with pyruvate carboxylase deficiency. Alternatively spliced transcript variants with different 5' UTRs, but encoding the same protein, have been found for this gene. [provided by RefSeq, Jul 2008]
UniProt Comments for PC	PC: Pyruvate carboxylase catalyzes a 2-step reaction, involving the ATP-dependent carboxylation of the covalently attached biotin in the first step and the transfer of the carboxyl group to pyruvate in the second. Catalyzes in a tissue specific manner, the initial reactions of glucose (liver, kidney) and lipid (adipose tissue, liver, brain) synthesis from pyruvate. Defects in PC are the cause of pyruvate carboxylase deficiency (PC deficiency). PC deficiency leads to lactic acidosis, mental retardation and death. It occurs in three forms: mild or type A, severe neonatal or type B, and a very mild lacticacidemia. Protein type: Carbohydrate Metabolism - citrate (TCA) cycle; EC 6.4.1.1; Carbohydrate Metabolism - pyruvate; Ligase; Mitochondrial Chromosomal Location of Human Ortholog: 11q13.4-q13.5 Cellular Component: cytoplasm; cytosol; mitochondrial matrix; mitochondrion Molecular Function: protein binding; pyruvate carboxylase activity Biological Process: biotin metabolic process; gluconeogenesis; viral RNA genome packaging Disease: Pyruvate Carboxylase Deficiency

Research Articles on PC	**1.** PC and PDH may be an important part of cellular adaptation to the IDH1 mutation and may serve as potential therapeutic targets
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