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Product datasheet for SC116430

Isocitrate dehydrogenase (IDH1) (NM_005896) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Isocitrate dehydrogenase (IDH1) (NM_005896) Human Untagged Clone
Tag:	Tag Free
Symbol:	Isocitrate dehydrogenase
Synonyms:	HEL-216; HEL-S-26; IDCD; IDH; IDP; IDPC; PICD
Mammalian Cell Selection:	None
Vector:	pCMV6-XL5
E. coli Selection:	Ampicillin (100 ug/mL)

Fully Sequenced ORF:

>OriGene ORF within SC116430 sequence for NM_005896 edited (data generated by NextGen Sequencing)

ATGTCCAAAAAAATCAGTGGCGGTTCTGTGGTAGAGATGCAAGGAGATGAAATGACACGA
ATCATTTGGGAATTGATTAAAGAGAAACTCATTTTTCCCTACGTGGAATTGGATCTACAT
AGCTATGATTTAGGCATAGAGAATCGTGATGCCACCAACGACCAAGTCACCAAGGATGCT
GCAGAAGCTATAAAGAAGCATAATGTTGGCGTCAAATGTGCCACTATCACTCCTGATGAG
AAGAGGGTTGAGGAGTTCAAGTTGAAACAAATGTGGAAATCACCAAATGGCACCATACGA
AATATTCTGGGTGGCACGGTCTTCAGAGAAGCCATTATCTGCAAAAATATCCCCCGGCTT
GTGAGTGGATGGGTAAAACCTATCATCATAGGTCGTCATGCTTATGGGGATCAATACAGA
GCAACTGATTTTGTTGTTCCTGGGCCTGGAAAAGTAGAGATAACCTACACACCAAGTGAC
GGAACCCAAAAGGTGACATACCTGGTACATAACTTTGAAGAAGGTGGTGGTGTTGCCATG
GGGATGTATAATCAAGATAAGTCAATTGAAGATTTTGCACACAGTTCCTTCCAAATGGCT
CTGTCTAAGGGTTGGCCTTTGTATCTGAGCACCAAAAACACTATTCTGAAGAAATATGAT
GGGCGTTTTAAAGACATCTTTCAGGAGATATATGACAAGCAGTACAAGTCCCAGTTTGAA
GCTCAAAAGATCTGGTATGAGCATAGGCTCATCGACGACATGGTGGCCCAAGCTATGAAA
TCAGAGGGAGGCTTCATCTGGGCCTGTAAAAACTATGATGGTGACGTGCAGTCGGACTCT
GTGGCCCAAGGGTATGGCTCTCTCGGCATGATGACCAGCGTGCTGGTTTGTCCAGATGGC
AAGACAGTAGAAGCAGAGGCTGCCCACGGGACTGTAACCCGTCACTACCGCATGTACCAG
AAAGGACAGGAGACGTCCACCAATCCCATTGCTTCCATTTTTGCCTGGACCAGAGGGTTA
GCCCACAGAGCAAAGCTTGATAACAATAAAGAGCTTGCCTTCTTTGCAAATGCTTTGGAA
GAAGTCTCTATTGAGACAATTGAGGCTGGCTTCATGACCAAGGACTTGGCTGCTTGCATT
AAAGGTTTACCCAATGTGCAACGTTCTGACTACTTGAATACATTTGAGTTCATGGATAAA
CTTGGAGAAAACTTGAAGATCAAACTAGCTCAGGCCAAACTTTAA

Clone variation with respect to NM_005896.2

View online »

5' Read Nucleotide Sequence:

>OriGene 5' read for NM_005896 unedited
TGTAATACGACTCACTATAGGGCGGCCGCGAATTCGGCACGAGGATCCCGGCAGGCGATA
AACTACATTCAGTTGAGTCTGCAAGACTGGGAGGAACTGGGGTGATAAGAAATCTATTCA
CTGTCAAGGTTTATTGAAGTCAAAATGTCCAAAAAAAATCAGTGGCGGTTCTGTGGTAGAG
ATGCAAGGAGATGAAATGACACGAATCATTTGGGAATTGATTAAAGAGAAACTCATTTTT
CCCTACGTGGAATTGGATCTACATAGCTATGATTTAGGCATAGAGAATCGTGATGCCACC
AACGACCAAGTCACCAAGGATGCTGCAGAAGCTATAAAGAAGCATAATGTTGGCGTCAAA
TGTGCCACTATCACTCCTGATGAGAAGAGGGTTGAGGAGTTCAAGTTGAAACAAATGTGG
AAATCACCAAATGGCACCATACGAAATATTCTGGGTGGCACGGTCTTCAGAGAAGCCATT
ATCTGCAAAAATATCCCCCGGCTTGTGAGTGGATGGGTAAAACCTATCATCATAGGTCGT
CATGCTTATGGGGATCAATACAGAGCAACTGATTTTGTTGTTCCTGNGCCTGGAAAAGTA
GAGATAACCTACACACCAAGTGACGGAACCCAAAAGGTGACATACCTGGTACATAACTTT
GAAGAAGGGTGGTGGTGTTGCCATGGNNGATGTATAATCAAGATAAGTCAATTGAAGATT
TTGCACACAGTTCCTTCCAATGGCTCTGTCTAAGGGTTNGGCCTTTGTATCTGAGCCCAA
AACACTATTCTGAGAATATGANTGGGCGTTTAAGACATCTTCAGAGATTATGACAGCAGT
ACAGGTCCAGTTGAGCTCANNAGATCTGTATGACATAGCTCATCACN

3' Read Nucleotide Sequence:

>OriGene 3' read for NM_005896 unedited
CGCAATCTAGAGTCGAGTNNTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT
TTTTTAAAGGGGAATTACCCCTTATTTTTAATTAAAATCACCCGTTCAGGAAAAAATAAA
ATAGGGTTAAATTTCAATTTCTGAAAAATCCCTTTTTTTTAAAAAAAATAAACCGGGCCC
CCAAAAGTCCAAAAAAAATTCACCTTACTTTTTTGCCCTTGGATAAAATTTCCTTTTTAA
AGTATTTTAATTTTCAGGCCCGCCCCGGAGGAAAAAAAAAAAAAATGGGGAGGACAACCCT
CCAGGTAGTTTTTTTTCCGGATTCCAAACTTTCCTGGGGCCTAAACAGTTTTTATTCTTT
TGGAAACATTCACCAGGGTTTTTACAAAAATGACTGCAGTTTCTTCAACCCATTTGAGTG
GCACTCATCCTTCGTTCCAGTCTTGTGCAATTTTAATGCCCACTTCTTCCTTAAAAAACG
GATTTTTTTTACCCCAAATTTCCCTGTCCCCAAGTTTTGGCCAGGAGGGGAAGCCCGGAA
ATTCCCTTCTTCGCTTTTTAGGGGACATTCCGGGGGTTTTTTTCCCCTTTAGAACCCTTG
TTTTTGGCCTTTTTTATTAAACCCGGAAAAAAGGGCCGGGATCCCAGTGTTCCTCCCCGA
TTTCTTGGGGGGGCCCAAAAAAAAAAAAAAATTTTAAAAACCCCCTTCCTTTTTCCCAAA
GGGGGCGATACGTTTTTTAAAAAAAAGGGGGGGACCTTTAAAAAAAAAAACTTGGGTTTT
TAAAAAAAAAAAAAAAAGGGTCCCCTTTTCCCTCGGGGGCAACAACAAAAAGAAACCCTG
CCCACCC

Restriction Sites: NotI-NotI

ACCN: NM_005896

Insert Size: 2210 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

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_005896.2, NP_005887.2
RefSeq Size:	2339 bp
RefSeq ORF:	1245 bp
Locus ID:	3417
UniProt ID:	O75874
Cytogenetics:	2q34
Domains:	isodh
Protein Pathways:	Citrate cycle (TCA cycle), Glutathione metabolism, Metabolic pathways
Gene Summary:	Isocitrate dehydrogenases catalyze the oxidative decarboxylation of isocitrate to 2-oxoglutarate. These enzymes belong to two distinct subclasses, one of which utilizes NAD(+) as the electron acceptor and the other NADP(+). Five isocitrate dehydrogenases have been reported: three NAD(+)-dependent isocitrate dehydrogenases, which localize to the mitochondrial matrix, and two NADP(+)-dependent isocitrate dehydrogenases, one of which is mitochondrial and the other predominantly cytosolic. Each NADP(+)-dependent isozyme is a homodimer. The protein encoded by this gene is the NADP(+)-dependent isocitrate dehydrogenase found in the cytoplasm and peroxisomes. It contains the PTS-1 peroxisomal targeting signal sequence. The presence of this enzyme in peroxisomes suggests roles in the regeneration of NADPH for intraperoxisomal reductions, such as the conversion of 2, 4-dienoyl-CoAs to 3-enoyl-CoAs, as well as in peroxisomal reactions that consume 2-oxoglutarate, namely the alpha-hydroxylation of phytanic acid. The cytoplasmic enzyme serves a significant role in cytoplasmic NADPH production. Alternatively spliced transcript variants encoding the same protein have been found for this gene. [provided by RefSeq, Sep 2013] Transcript Variant: This variant (1) and variants 2 and 3 encode the same protein.