

Product datasheet for **SC322129**

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:	Neomycin
Vector:	pCMV6-AC (PS100020)
E. coli Selection:	Ampicillin (100 ug/mL)



[View online »](#)

Fully Sequenced ORF: >OriGene sequence for SC322129
 TGGGTTTCTGCAGAGTCTACTTCAGAAGCGGAGGCACTGGGAGTCCGGTTTGGGATTGCC
 AGGCTGTGGTTGTGAGTCTGAGCTTGTGAGCGGCTGTGGCGCCCAACTCTTCGCCAGCA
 TATCATCCCGGCAGGCGATAAATACATTCAAGTTGAGTCTGCAAGACTGGGAGGAACTGG
 GGTGATAAGAAATCTATTCAGTGTCAAGGTTTATTGAAGTCAAAATGTCCAAAAAATCA
 TTAAAGAGAAACTCATTTCCTACGTGGAATTGGATCTACATAGCTATGATTTAGGCA
 TAGAGAATCGTGATGCCACCAACGACCAAGTCACCAAGGATGCTGCAGAAGCTATAAAGA
 AGCATAATGTTGGCGTCAATGTGCCACTATCACTCCTGATGAGAAGAGGGTTGAGGAGT
 TCAAGTTGAAACAAATGTGAAATCACCAATGGCACCATACGAAATATTCTGGGTGGCA
 CGGTCTTCAGAGAAGCCATTATCTGCAAAAATATCCCCGGCTTGTGAGTGGATGGGTAA
 AACCTATCATATAGGTCGTCTGCTTATGGGGATCAATACAGAGCAACTGATTTTGTG
 TTCCTGGGCTGGAAAAGTAGAGATAACCTACACACCAAGTGACGGAACCCAAAAGGTGA
 CATACCTGGTACATAACTTTGAAGAAGGTGGTGGTGTGCCATGGGGATGTATAATCAAG
 ATAAGTCAATTGAAGATTTGCACACAGTTCCTTCCAAATGGCTCTGTCTAAGGGTTGGC
 CTTTGTATCTGAGCACCAAAAACACTATTCTGAAGAAATATGATGGGCGTTTTAAAGACA
 TCTTTCAGGAGATATATGACAAGCAGTACAAGTCCAGTTTGAAGCTCAAAGATCTGGT
 ATGAGCATAGGCTCATCGACGACATGGTGGCCCAAGCTATGAAATCAGAGGGAGGCTTCA
 TCTGGGCTGTAAAACTATGATGGTGACGTGCAGTCCGACTCTGTGGCCCAAGGGTATG
 GCTCTCTCGGCATGATGACCAGCGTGTGGTTTGTCCAGATGGCAAGACAGTAGAAGCAG
 AGTCTGCCACGGGACTGTAACCCGTCACTACCGCATGTACCAGAAAGGACAGGAGACGT
 CCACCAATCCCATTGCTCCATTTTGCCTGGACCAGAGGGTTAGCCACAGAGCAAAGC
 TTGATAACAATAAAGAGCTTGCCTTCTTTGCAAATGCTTTGGAAGAAGTCTCTATTGAGA
 CAATTGAGGCTGGCTTCATGACCAAGGACTTGGCTGCTTGCATTAAAGGTTTACCCAATG
 TGCAACGTTCTGACTACTTGAATACATTTGAGTTCATGGATAAACTTGGAGAAAACCTGA
 AGATCAAAGTCTCAGGCCAAACTTTAAGTTCATACCTGAGCTAAGAAGGATAATTGTC
 TTTTGGTAACTAGGTCTACAGGTTTACATTTTCTGTGTACTCAAGGATAAAGGCAA
 AATCAATTTTGAATTTGTTTGAAGCCAGAGTTTATCTTTTCTATAAGTTTACAGCCTT
 TTTCTTATATACAGTTATTGCCACCTTTGTGAACATGGCAAGGGACTTTTTTACAATT
 TTTATTTATTTTCTAGTACCAGCCTAGGAATTCGGTTAGTACTATTTGTATTCACTGT
 CACTTTTTCTCATGTTCTAATTATAAATGACCAAAATCAAGATTGCTCAAAGGGTAAAT
 GATAGCCACAGTATTGCTCCCTAAAATATGCATAAAGTAGAAATCACTGCCTTCCCCTC
 CTGTCCATGACCTTGGGCACAGGGAAGTTCTGGTGTGATAGATATCCCCTTTTGTGAGGT
 AGAGCTGTGCATTAACCTTGACATGACTGGAACGAAGTATGAGTGCAACTCAAATGTGT
 TGAAGATACTGCAGTCAATTTTGTAAAGACCTTGTGAATGTTTCCAATAGACTAAATAC
 TGTTTAGGCCGACAGGAGTTTGGAAATCCGGAATAAATACTACCTGGAGGTTTGTCTCT
 CCATTTTCTCTTCTCCTCCTGGCCTGGCCTGAATATTATACTACTCTAAATAGCATAT
 TTCATCCAAGTGAATAATGTAAGCTGAATCTTTTTGGACTTCTGCTGGCCTGTTTTAT
 TTCTTTTATATAAATGTGATTTCTCAGAAATTGATATTAACACTATCTTATCTTCTCT
 GAACTGTTGATTTAATTAATAAAGTCTAATTACCAAAAAAAAAAAAAAAAAA

Restriction Sites: Please inquire

ACCN: NM_005896

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 TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.

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.