

Product datasheet for **RG238088**

Isocitrate dehydrogenase (IDH1) (NM_001282386) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Isocitrate dehydrogenase (IDH1) (NM_001282386) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	IDH1
Synonyms:	HEL-216; HEL-S-26; IDCD; IDH; IDP; IDPC; PICD
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG238088 representing NM_001282386. Blue=ORF Red=Cloning site Green=Tag(s)

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TTGAATACATTTGAGTTCATGGATAAACTTGGAGAAAACCTGAAGATCAAACCTAGCTCAGGCCAACTT
ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAAAC
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Protein Sequence: >Peptide sequence encoded by RG238088
 Blue=ORF Red=Cloning site Green=Tag(s)

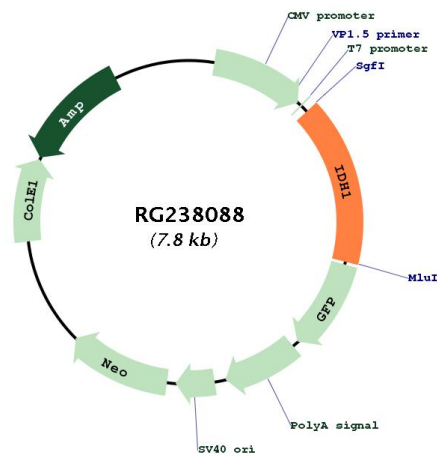
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 GVKCATITPDEKRVEEFKLMWKSNGTIRNLLGGTVFREAIICKNIPRLVSGWVKPIIIGRHAYGDQ
 YRATDFVVPGPVKVEITYTPSDGTQKVTVLVHNFEEGGVAMGMYNQDKSIEDFAHSSFQMALSKGWPL
 YLSTKNTILKKYDRFKDIFQEIYDKQYKSFQEAQKIWEHRLIDDMVAQAMKSEGGFIWACKNYDGDV
 QSDSVAQGYGSLGMMTSVLVCPDGKTVEAESAHGTVTRHYRMYQKGQETSTNPIASIFAWTRGLAHRK
 LDNNKELAFFANALEEVSIIETIEAGFMTKDLAACIKGLPNVQRSDYLNTEFEMDKLGENLKIKLAQAKL
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Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN:	NM_001282386
ORF Size:	1242 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).
RefSeq:	NM_001282386.1 , NP_001269315.1
RefSeq Size:	2313 bp
RefSeq ORF:	1245 bp
Locus ID:	3417
UniProt ID:	O75874
Cytogenetics:	2q34
Protein Pathways:	Citrate cycle (TCA cycle), Glutathione metabolism, Metabolic pathways
MW:	46.7 kDa
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]