

Product datasheet for **RC400102**

IDH2 (NM_002168) Human Mutant ORF Clone

Product data:

Product Type:	Mutant ORF Clones
Product Name:	IDH2 (NM_002168) Human Mutant ORF Clone
Mutation Description:	R172M
Affected Codon#:	172
Affected NT#:	c. 515
Nucleotide Mutation:	IDH2 mutant (R172M), Myc-DDK-tagged ORF clone of Homo sapiens isocitrate dehydrogenase 2 (NADP+), mitochondrial (IDH2), nuclear gene encoding mitochondrial protein as transfection-ready DNA
Effect:	Missense
Symbol:	IDH2
Synonyms:	D2HGA2; ICD-M; IDH; IDHM; IDP; IDPM; mNADP-IDH
E. coli Selection:	Kanamycin (25 ug/mL)
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
Tag:	Myc-DDK
ACCN:	NM_002168
ORF Size:	1359 bp
Restriction Sites:	Sgfl-Mlul



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ORF Nucleotide Sequence:

>RC400102 representing NM_002168
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGGCCGGCTACCTGCGGGTCTGTGCGCTCGCTCTGCAGAGCCTCAGGCTCGCGGCCGGCCTGGGCGCCGG
 CGGCCCTGACAGCCCCACCTCGCAAGAGCAGCCGCGGCCACTATGCCGACAAAAGGATCAAGGTGGC
 GAAGCCCGTGGTGGAGATGGATGGTGTGAGATGACCCGTATTATCTGGCAGTTCATCAAGGAGAAGCTC
 ATCCTGCCCCACGTGGACATCCAGCTAAAGTATTTTGACCTCGGGCTCCCAAACCGTGACCAGACTGATG
 ACCAGGTACCATTGACTCTGCACTGGCCACCCAGAAGTACAGTGTGGCTGTCAAGTGTGCCACCATCAC
 CCCTGATGAGGCCGTGTGGAAGAGTTCAAGCTGAAGAAGATGTGAAAAGTCCCAATGGAACACTCCGG
 AACATCTGGGGGGACTGTCTCCGGGAGCCCATCATCTGCAAAAACATCCCACGCCTAGTCCCTGGCT
 GGACCAAGCCCATCACCATTGGCATGCACGCCCATGGCGACCAGTACAAGCCACAGACTTTGTGGCAGA
 CCGGGCCGGCACTTTCAAATGGTCTTCACCCAAAAGATGGCAGTGGTGTCAAGGAGTGGGAAGTGTAC
 AACTTCCCGCAGGCGCGTGGGCATGGGCATGTACAACACCGACGAGTCCATCTCAGGTTTTGCGCACA
 GCTGCTCCAGTATGCCATCCAGAAGAAATGGCCGCTGTACATGAGCACCAAGAACCATACTGAAAGC
 CTACGATGGGCGTTTCAAGGACATCTTCCAGGAGATCTTTGACAAGCACTATAAGACCGACTTCGACAAG
 AATAAGATCTGGTATGAGCACCGGCTCATTGATGACATGGTGGCTCAGGTCCCTCAAGTCTTCGGGTGGCT
 TTGTGTGGGCTGCAAGAACTATGACGGAGATGTGCAGTCAGACATCCTGGCCAGGGCTTTGGCTCCCT
 TGGCCTGATGACGTCCGTCTGGTCTGCCCTGATGGGAAGACGATTGAGGCTGAGGCCGCTCATGGGACC
 GTCACCCGCCACTATCGGGAGCACCAGAAGGGCCGCCACCAGCACCAACCCCATCGCCAGCATCTTTG
 CCTGGACACGTGGCCTGGAGCACCGGGGAAGCTGGATGGGAACCAAGACCTCATCAGGTTTGGCCAGAT
 GCTGGAGAAGGTGTGCGTGGAGACGGTGGAGAGTGGAGCCATGACCAAGGACCTGGCGGGCTGCATTAC
 GGCCTCAGCAATGTGAAGCTGAACGAGCACTTCTGAACACCACGGACTTCTCGACACCATCAAGAGCA
 ACCTGGACAGAGCCCTGGGCAGGCAG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

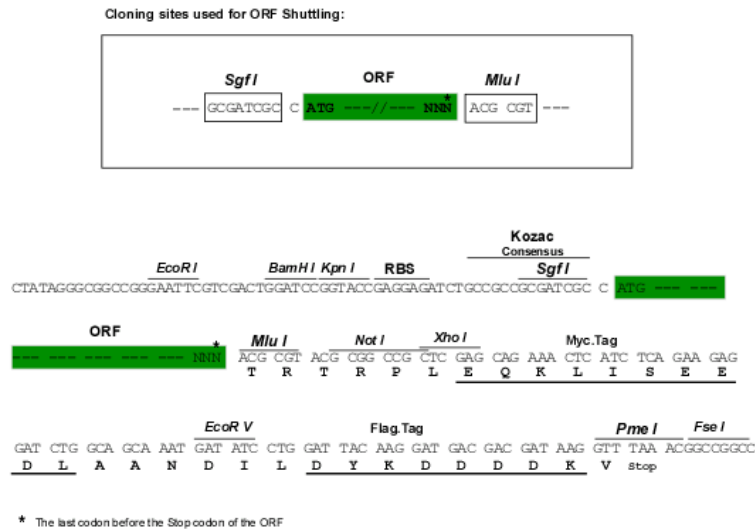
>RC400102 representing NM_002168
 Red=Cloning site Green=Tags(s)

MAGYLRVVRSLCRASGRPAWAPAALTAPTSQEQPRRHADKRIKVAKPVVEMDGDGMTRIIWQFIKEKL
 ILPHVDIQLKYFDLGLPNRDQTDQVTIDSALATQKYSVAVKCATITPDEARVEEFKLLKMWKSPNGTIR
 NILGGTVFREP IICKNIPRLVPGWTKPITIGMHAHGDQYKATDFVADRAGTFKMFVTPKDGSGVKEWEVY
 NFPAGGVGMGYNTDESISGFHSCFYA IQKKWPLYMSTKNTILKAYDGRFKDIFQEIFDKHYKTDFDK
 NKIWEHRLIDDMVAQVLKSSGGFVWACKNYDGDVQSDILAQGFGLMTSVLVCPDGKTI EAEAAHGT
 VTRHYREHQGRPTSTNPIASIFAWTRGLEHRGKLDGNQDLIRFAQMLEKVCVETVESGAMTKDLAGCIH
 GLSNVKLNEHFLNTDFLDTIKSNLDRALGRQ

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-MluI

Cloning Scheme:

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:

[NP_002159](#)

RefSeq Size:

1740 bp

RefSeq ORF:

1359 bp

Locus ID:

3418

Cytogenetics:

15q26.1

Domains:

isodh

Protein Pathways:

Citrate cycle (TCA cycle), Glutathione metabolism, Metabolic pathways

MW:

46.6 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 mitochondria. It plays a role in intermediary metabolism and energy production. This protein may tightly associate or interact with the pyruvate dehydrogenase complex. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Feb 2014]