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Product datasheet for RC202977

IMPDH2 (NM_000884) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	IMPDH2 (NM_000884) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	IMPDH2
Synonyms:	IMPD2; IMPDH-II
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>RC202977 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCCGACTACCTGATTAGTGGGGGCACGTCCTACGTGCCAGACGACGGACTCACAGCACAGCAGCTCT
TCAACTGCGGAGACGGCCTCACCTACAATGACTTTCTCATTCTCCCTGGGTACATCGACTTCACTGCAGA
CCAGGTGGACCTGACTTCTGCTCTGACCAAGAAAATCACTCTTAAGACCCCACTGGTTTCCTCTCCCATG
GACACAGTCACAGAGGCTGGGATGGCCATAGCAATGGCGCTTACAGGCGGTATTGGCTTCATCCACCACA
ACTGTACACCTGAATTCCAGGCCAATGAAGTTCGGAAAGTGAAGAAATATGAACAGGGATTCATCACAGA
CCCTGTGGTCCTCAGCCCCAAGGATCGCGTGCGGGATGTTTTTGAGGCCAAGGCCCGGCATGGTTTCTGC
GGTATCCCAATCACAGACACAGGCCGGATGGGGAGCCGCTTGGTGGGCATCATCTCCTCCAGGGACATTG
ATTTTCTCAAAGAGGAGGAACATGACTGTTTCTTGGAAGAGATAATGACAAAGAGGGAAGACTTGGTGGT
AGCCCCTGCAGGCATCACACTGAAGGAGGCAAATGAAATTCTGCAGCGCAGCAAGAAGGGAAAGTTGCCC
ATTGTAAATGAAGATGATGAGCTTGTGGCCATCATTGCCCGGACAGACCTGAAGAAGAATCGGGACTACC
CACTAGCCTCCAAAGATGCCAAGAAACAGCTGCTGTGTGGGGCAGCCATTGGCACTCATGAGGATGACAA
GTATAGGCTGGACTTGCTCGCCCAGGCTGGTGTGGATGTAGTGGTTTTGGACTCTTCCCAGGGAAATTCC
ATCTTCCAGATCAATATGATCAAGTACATCAAAGACAAATACCCTAATCTCCAAGTCATTGGAGGCAATG
TGGTCACTGCTGCCCAGGCCAAGAACCTCATTGATGCAGGTGTGGATGCCCTGCGGGTGGGCATGGGAAG
TGGCTCCATCTGCATTACGCAGGAAGTGCTGGCCTGTGGGCGGCCCCAAGCAACAGCAGTGTACAAGGTG
TCAGAGTATGCACGGCGCTTTGGTGTTCCGGTCATTGCTGATGGAGGAATCCAAAATGTGGGTCATATTG
CGAAAGCCTTGGCCCTTGGGGCCTCCACAGTCATGATGGGCTCTCTCCTGGCTGCCACCACTGAGGCCCC
TGGTGAATACTTCTTTTCCGATGGGATCCGGCTAAAGAAATATCGCGGTATGGGTTCTCTCGATGCCATG
GACAAGCACCTCAGCAGCCAGAACAGATATTTCAGTGAAGCTGACAAAATCAAAGTGGCCCAGGGAGTGT
CTGGTGCTGTGCAGGACAAAGGGTCAATCCACAAATTTGTCCCTTACCTGATTGCTGGCATCCAACACTC
ATGCCAGGACATTGGTGCCAAGAGCTTGACCCAAGTCCGAGCCATGATGTACTCTGGGGAGCTTAAGTTT
GAGAAGAGAACGTCCTCAGCCCAGGTGGAAGGTGGCGTCCATAGCCTCCATTCGTATGAGAAGCGGCTTT
TC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC202977 protein sequence
Red=Cloning site Green=Tags(s)

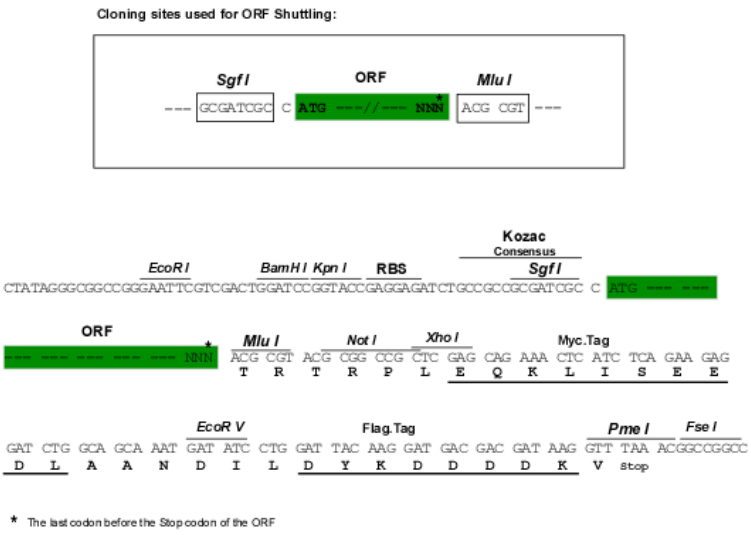
MADYLISGGTSYVPDDGLTAQQLFNCGDGLTYNDFLILPGYIDFTADQVDLTSALTKKITLKTPLVSSPM
DTVTEAGMAIAMALTGGIGFIHHNCTPEFQANEVRKVKKYEQGFITDPVVLSPKDRVRDVFEAKARHGFC
GIPITDTGRMGSRLVGIISSRDIDFLKEEEHDCFLEEIMTKREDLVVAPAGITLKEANEILQRSKKGKLP
IVNEDDELVAIIARTDLKKNRDYPLASKDAKKQLLCGAAIGTHEDDKYRLDLLAQAGVDVVVLDSSQGNS
IFQINMIKYIKDKYPNLQVIGGNVVTAAQAKNLIDAGVDALRVGMGSGSICITQEVLACGRPQATAVYKV
SEYARRFGVPVIADGGIQNVGHIAKALALGASTVMMGSLLAATTEAPGEYFFSDGIRLKKYRGMGSLDAM
DKHLSSQNRYFSEADKIKVAQGVSGAVQDKGSIHKFVPYLIAGIQHSCQDIGAKSLTQVRAMMYSGELKF
EKRTSSAQVEGGVHSLHSYEKRLF

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

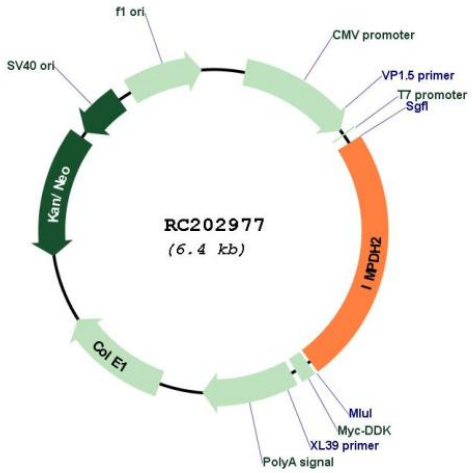
Chromatograms: https://cdn.origene.com/chromatograms/mk6247_f09.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



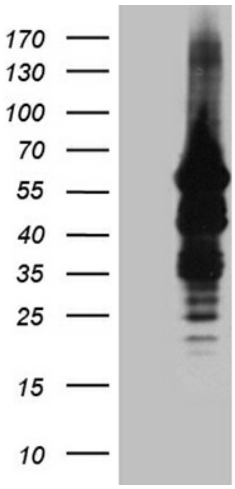
Plasmid Map:



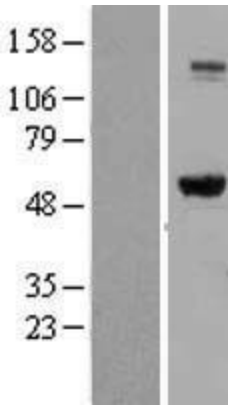
ACCN: NM_000884

ORF Size:	1542 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).
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_000884.3
RefSeq Size:	1712 bp
RefSeq ORF:	1545 bp
Locus ID:	3615
UniProt ID:	P12268
Cytogenetics:	3p21.31
Domains:	CBS, IMPDH
Protein Families:	Druggable Genome
Protein Pathways:	Drug metabolism - other enzymes, Metabolic pathways, Purine metabolism
MW:	55.8 kDa
Gene Summary:	This gene encodes the rate-limiting enzyme in the de novo guanine nucleotide biosynthesis. It is thus involved in maintaining cellular guanine deoxy- and ribonucleotide pools needed for DNA and RNA synthesis. The encoded protein catalyzes the NAD-dependent oxidation of inosine-5'-monophosphate into xanthine-5'-monophosphate, which is then converted into guanosine-5'-monophosphate. This gene is up-regulated in some neoplasms, suggesting it may play a role in malignant transformation. [provided by RefSeq, Jul 2008]

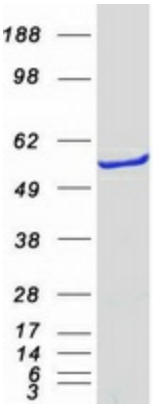
Product images:



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY IMPDH2 (Cat# RC202977, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-IMPDH2 antibody (Cat# [TA810973]). Positive lysates [LY424469] (100ug) and [LC424469] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY424469]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC202977 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified IMPDH2 protein (Cat# [TP302977]). The protein was produced from HEK293T cells transfected with IMPDH2 cDNA clone (Cat# RC202977) using MegaTran 2.0 (Cat# [TT210002]).