

## Product datasheet for **RC201077**

### IVD (NM\_002225) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	IVD (NM_002225) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	IVD
Synonyms:	ACAD2; IVDH
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

**ORF Nucleotide Sequence:**

>RC201077 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCGACTGCGACTCGGCTGCTGGGTGTCTGTGGCGAGCTGGAGGCTGCGGCCGCCGCTTGCCGGCT  
 TCGTTTCCAGCGGGCCACTCGCTTTTGGCCGTGGACGATGCAATCAATGGGCTAAGCGAGGAGCAGAG  
 GCAGTTCGTCAGACCATGGCTAAGTTCCTTCAGGAGCACCTGGCCCCAAGGCCAGGAGATCGATCGC  
 AGCAATGAGTTCAAGAACCTGCGAGAATTTGGAAGCAGCTGGGAACCTGGGCGTATTGGGCATCACAG  
 CCCCTGTTAGTATGGCGGCTCCGGCTGGGCTACCTGGAGCATGTGCTGGTGTGGAGGAGATATCCC  
 AGCTTCCGGAGCAGTGGGCTCAGTTACGGTGCCACTCCAACCTCTGCATCAACCAGCTTGTACGCAAT  
 GGGATGAGGCCAGAAAGAGAAGTATCTCCGAAGCTGATCAGTGGTGTGATACATCGGAGCCCTGGCCA  
 TGAGTGAGCCCAATGCAGGCTCTGATGTTGTCTCTATGAAGCTCAAAGCGGAAAAGAAAGAAATCTACTA  
 CATCCTGAATGGCAACAAGTTCTGGATCACTAATGGCCCTGATGTGACGTCCTGATTGTCTATGCCAAG  
 ACAGATCTGGCTGCTGTGCCAGCTTCTCGGGGCATCACAGCCTTATTGTGGAGAAGGGTATGCCTGGCT  
 TTAGCACCTCTAAGAAGCTGGACAAGCTGGGGATGAGGGGCTCTAACACCTGTGAGCTAATCTTTGAAGA  
 CTGCAAGATTCCTGCTGCCAACATCTGGGCCATGAGAATAAGGGTGTCTACGTGCTGTGAGTGGGCTG  
 GACCTGGAGCGGCTGGTGTGGCCGGGGGCTCTTGGGCTCATGCAAGCGGCTCTGGACCACACCATTC  
 CCTACCTGCACGTGAGGGAAGCCTTTGGCCAGAAGATCGGCCACTTCCAGTTGATGCAGGGGAAGATGGC  
 TGACATGTACACCCGCTCATGGCGTGTGGCAGTATGTCTACAATGTGCCAAGGCTGCGATGAGGGC  
 CATTGCACTGCTAAGGACTGTGCAGGTGTGATTCTTTACTCAGCTGAGTGTGCCACACAGGTAGCCCTGG  
 ACGGCATTGAGTGTGGTGGCAATGGCTACATCAATGACTTTCCCATGGGCCGCTTTCTCGAGATGC  
 CAAGCTGTATGAGATAGGGGCTGGGACCAGCGAGGTGAGGCGGCTGGTTCATCGGCAGAGCCTTCAATGCA  
 GACTTTCAC

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC201077 protein sequence  
 Red=Cloning site Green=Tags(s)

MATATRLLGCRVASWRLRPPLAGFVSQRAHSLLPVDDAINGLSEEQRQLRQTMAKFLQEHLAPKAQEIDR  
 SNEFKNLREFWKQLGNLGVLGITAPVQYGGSGLYLEHVLVMEESISRASGAVGLSYGAHSLNLCINQLVRN  
 GNEAQKEKYLPKLISGEYIGALAMSEPNAGSDVSMKLAKEKGNHYILNGNKFWITNGPDADVLIVYAK  
 TDLAAVPASRGITAFIVEKGMPGFSTSKKLDKLGMRGSNTCELFEDCKIPAANILGHENKGVYVLMMSGL  
 DLERLVLAGGPLGLMQAVLDHTIPYLHVREAFGQKIGHFQLMQGMADMYTRLMACRQYVYVNAKACDEG  
 HCTAKDCAGVILYSAECATQVALDGIQCFGGNGYINDFPMGRFLRDAKLYEIGAGTSEVRRRLVIGRAFNA  
 DFH

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk6436\\_h06.zip](https://cdn.origene.com/chromatograms/mk6436_h06.zip)

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**

**ACCN:** NM\_002225

**ORF Size:** 1269 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](mailto: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](#)

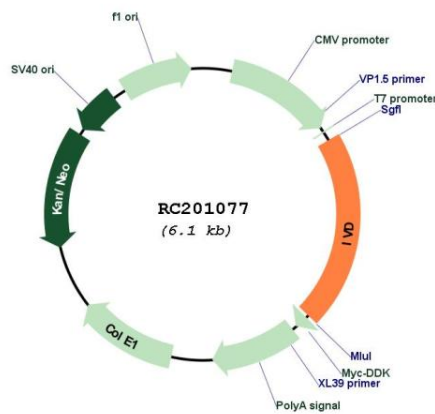
**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

**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).

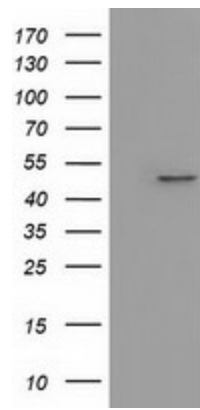
- Reconstitution Method:**
1. Centrifuge at 5,000xg for 5min.
  2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
  3. Close the tube and incubate for 10 minutes at room temperature.
  4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the 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.

<b>Note:</b>	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
<b>RefSeq:</b>	<a href="#">NM_002225.5</a>
<b>RefSeq Size:</b>	4673 bp
<b>RefSeq ORF:</b>	1272 bp
<b>Locus ID:</b>	3712
<b>UniProt ID:</b>	<a href="#">P26440</a>
<b>Cytogenetics:</b>	15q15.1
<b>Domains:</b>	Acyl-CoA_dh, Acyl-CoA_dh_M, Acyl-CoA_dh_N
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Metabolic pathways, Valine, leucine and isoleucine degradation
<b>MW:</b>	46.2 kDa
<b>Gene Summary:</b>	Isovaleryl-CoA dehydrogenase (IVD) is a mitochondrial matrix enzyme that catalyzes the third step in leucine catabolism. The genetic deficiency of IVD results in an accumulation of isovaleric acid, which is toxic to the central nervous system and leads to isovaleric acidemia. Alternatively spliced transcript variants have been found for this gene. [provided by RefSeq, Aug 2017]

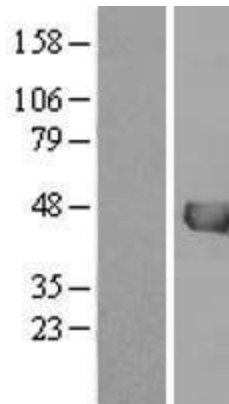
**Product images:**



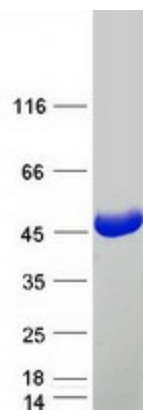
Circular map for RC201077



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY IVD (Cat# RC201077, 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-IVD(Cat# [TA501742]). Positive lysates [LY432239] (100ug) and [LC432239] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY419463]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC201077 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified IVD protein (Cat# [TP301077]). The protein was produced from HEK293T cells transfected with IVD cDNA clone (Cat# RC201077) using MegaTran 2.0 (Cat# [TT210002]).