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# Product datasheet for RC208796

## YTHDC1 (NM_133370) Human Tagged ORF Clone

### Product data:

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|---|---|
| **Product Type:** | Expression Plasmids |
| **Product Name:** | YTHDC1 (NM_133370) Human Tagged ORF Clone |
| **Tag:** | Myc-DDK |
| **Symbol:** | YTHDC1 |
| **Synonyms:** | YT521; YT521-B |
| **Mammalian Cell Selection:** | Neomycin |
| **Vector:** | pCMV6-Entry (PS100001) |
| **E. coli Selection:** | Kanamycin (25 ug/mL) |

**ORF Nucleotide Sequence:**

>RC208796 ORF sequence, codon optimized.
Due to the complexity of NM_133370, the ORF clone is codon optimized for mammalian Expression.
The nucleotide sequence differs from the reference sequence, yet the amino acid sequence remains identical.

Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCTGCTGATTCAAGAGAGGAAAAAGATGGGGAACTTAACGTTCTGGACGACATACTGACGGAGGTAC
CCGAGCAAGACGACGAACTGTACAACCCTGAGTCCGAGCAGGACAAAAATGAAAAGAAGGGGTCCAAAAG
GAAGTCTGACAGAATGGAGTCCACCGATACCAAAAGACAGAAGCCTAGTGTGCACTCTAGACAACTGGTA
TCCAAGCCCCTGAGCTCATCTGTTTCAAACAATAAAAGAATCGTGTCCACTAAGGGAAAGAGTGCCACCG
AGTACAAAAACGAAGAGTATCAGCGGAGTGAGCGGAATAAGCGGCTCGACGCTGACAGAAAGATTAGACT
GTCCAGCAGCGCTAGCAGAGAACCTTACAAAAATCAGCCTGAAAAAACATGCGTGAGGAAGCGGGACCCG
GAGCGGAGAGCGAAAAGTCCCACCCCAGATGGATCAGAGCGCATAGGCCTCGAGGTTGACAGAAGGGCCT
CTCGGAGCTCACAGTCATCCAAAGAGGAAGTCAATTCCGAGGAATACGGGAGCGACCACGAGACTGGTTC
CTCCGGCTCCTCTGACGAGCAGGGAAACAACACCGAGAACGAGGAGGAGGGGGTGGAGGAGGACGTTGAG
GAAGATGAAGAGGTCGAGGAGGATGCAGAGGAAGACGAAGAAGTGGACGAAGACGGCGAGGAGGAGGAAG
AAGAAGAAGAGGAGGAGGAAGAAGAAGAGGAAGAGGAAGAGGAAGAATATGAGCAGGATGAGCGCGACCA
GAAGGAAGAAGGCAACGATTACGATACAAGATCAGAAGCATCCGATAGTGGGTCCGAGAGTGTCTCCTTC
ACCGACGGCAGCGTGCGCTCCGGTTCTGGCACAGACGGATCTGACGAGAAGAAGAAGGAGCGAAAAAGAG
CTCGCGGTATCAGCCCTATCGTGTTTGACCGCTCTGGAAGCAGCGCTAGTGAGAGTTATGCCGACCAGAC
CTCAAAGCTGAAGTATGTCCTTCAGGATGCCCGCTTTTTTCTCATTAAGTCTAATAATCATGAAAACGTT
TCCCTGGCGAAGGCAAAAGGAGTGTGGTCTACCCTGCCCGTGAATGAGAAAAAACTGAATCTCGCTTTCC
GATCCGCCCGCAGCGTCATTCTGATATTCAGCGTTCGGGAGTCAGGTAAATTCCAAGGTTTCGCTAGACT
TAGCTCCGAGTCTCACCATGGCGGCAGCCCTATCCATTGGGTGTTGCCCGCTGGAATGTCTGCTAAGATG
TTGGGGGGTGTATTTAAGATCGATTGGATTTGCAGGCGGGAGCTCCCATTCACCAAATCAGCACATTTGA
CTAATCCATGGAATGAACACAAACCCGTGAAGATAGGCCGGGACGGTCAAGAGATTGAACTGGAATGCGG
TACTCAACTGTGCCTTCTGTTCCCTCCAGACGAGTCAATCGATTTGTATCAGGTAATCCACAAGATGAGG
CATAAGAGACGAATGCACTCCCAGCCAAGATCCCGAGGTAGGCCTTCTCGAAGAGAACCAGTCAGAGATG
TTGGTCGACGGCGCCCGGAGGACTACGACATCCATAACTCTCGGAAGAAGCCTCGCATCGACTACCCCCC
CGAATTCCATCAGCGGCCAGGGTATCTGAAAGACCCACGATATCAGGAGGTGGACAGAAGATTCTCAGGT
GTACGCCGCGATGTTTTTTTGAACGGAAGCTACAACGACTACGTACGCGAGTTCCACAATATGGGTCCTC
CCCCTCCTTGGCAGGGGATGCCACCGTACCCAGGTATGGAACAACCACCACATCATCCCTACTATCAACA
CCATGCTCCGCCACCTCAGGCCCATCCTCCATACTCTGGACATCATCCAGTACCTCACGAAGCGAGGTAT
CGAGACAAGAGAGTCCACGACTACGACATGAGGGTCGATGACTTTCTCAGAAGGACACAAGCTGTGGTGA
GCGGACGAAGAAGTCGGCCACGCGAGCGAGACAGAGAAAGGGAAAGGGACCGCCCACGGGACAACCGCCG
GGACCGGGAACGCGACCGGGGGTAGGGATAGGGAAAGGGAAAGGGAAAGATTGTGTGATCGGGACCGCGAT
AGGGGGGAGCGGGGAAGATACAGGCGG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

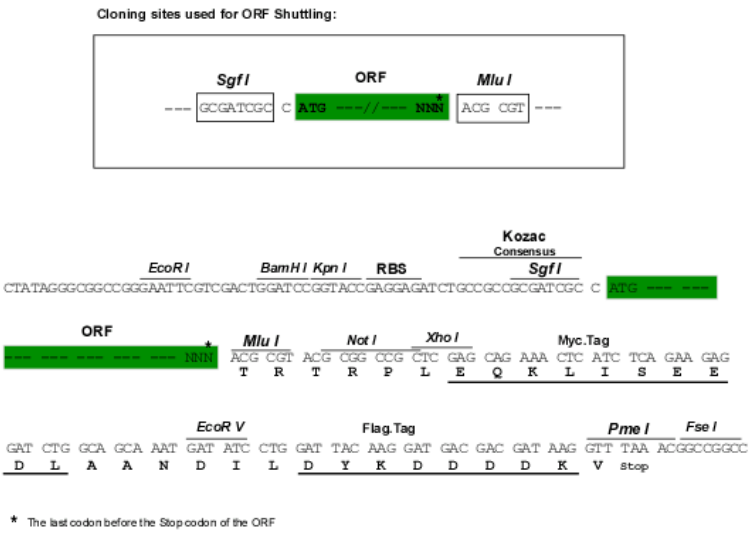
>RC208796 representing NM_133370
Red=Cloning site Green=Tags(s)

MAADSREEKDGELNVLDDILTEVPEQDDELYNPESEQDKNEKKGSKRKSDRMESTDTKRQKPSVHSRQLV
SKPLSSSVSNNKRIVSTKGKSATEYKNEEYQRSERNKRLDADRKIRLSSSASREPYKNQPEKTCVRKRDP
ERRAKSPTPDGSERIGLEVDRRASRSSQSSKEEVNSEEYGSDHETGSSGSSDEQGNNTENEEEGVEEDVE
EDEEVEEDAEEDEEVDEDGEEEEEEEEEEEEEEEEEEEYEQDERDQKEEGNDYDTRSEASDSGSESVSF
TDGSVRSGSGTDGSDEKKKERKRARGISPIVFDRSGSSASESYADQTSKLKYVLQDARFFLIKSNNHENV
SLAKAKGVWSTLPVNEKKLNLAFRSARSVILIFSVRESGKFQGFARLSSESHHGGSPIHWVLPAGMSAKM
LGGVFKIDWICRRELPFTKSAHLTNPWNEHKPVKIGRDGQEIELECGTQLCLLFPPDESIDLYQVIHKMR
HKRRMHSQPRSRGRPSRREPVRDVGRRRPEDYDIHNSRKKPRIDYPPEFHQRPGYLKDPRYQEVDRRFSG
VRRDVFLNGSYNDYVREFHNMGPPPPWQGMPPYPGMEQPPHHPYYQHHAPPPQAHPPYSGHHPVPHEARY
RDKRVHDYDMRVDDFLRRTQAVVSGRRSRPRERDRERERDRPRDNRRDRERDRGRDRERERERLCDRDRD
RGERGRYRR

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

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| **ACCN:** | NM_133370 |
| **ORF Size:** | 2127 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). |

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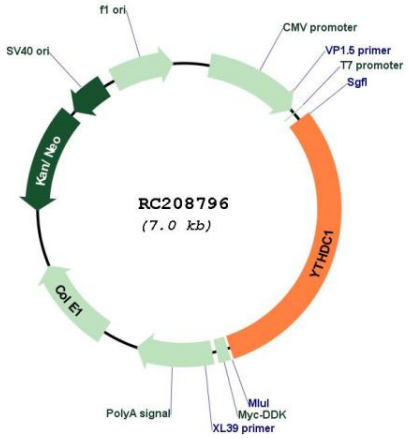
| **Reconstitution Method:** | 1. Centrifuge at 5,000xg for 5min.<br>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.<br>3. Close the tube and incubate for 10 minutes at room temperature.<br>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.<br>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_133370.2, NM_133370.3, NP_588611.2 |
| **RefSeq Size:** | 6216 bp |
| **RefSeq ORF:** | 2130 bp |
| **Locus ID:** | 91746 |
| **UniProt ID:** | Q96MU7 |
| **Cytogenetics:** | 4q13.2 |
| **Domains:** | YTH |
| **MW:** | 82.7 kDa |
| **Gene Summary:** | Regulator of alternative splicing that specifically recognizes and binds N6-methyladenosine (m6A)-containing RNAs (PubMed:26318451, PubMed:26876937, PubMed:25242552, PubMed:28984244). M6A is a modification present at internal sites of mRNAs and some non-coding RNAs and plays a role in the efficiency of mRNA splicing, processing and stability (PubMed:26318451, PubMed:25242552). Acts as a key regulator of exon-inclusion or exon-skipping during alternative splicing via interaction with mRNA splicing factors SRSF3 and SRSF10 (PubMed:26876937). Specifically binds m6A-containing mRNAs and promotes recruitment of SRSF3 to its mRNA-binding elements adjacent to m6A sites, leading to exon-inclusion during alternative splicing (PubMed:26876937). In contrast, interaction with SRSF3 prevents interaction with SRSF10, a splicing factor that promotes exon skipping: this prevents SRSF10 from binding to its mRNA-binding sites close to m6A-containing regions, leading to inhibit exon skipping during alternative splicing (PubMed:26876937). May also regulate alternative splice site selection (PubMed:20167602). Also involved in nuclear export of m6A-containing mRNAs via interaction with SRSF3: interaction with SRSF3 facilitates m6A-containing mRNA-binding to both SRSF3 and NXF1, promoting mRNA nuclear export (PubMed:28984244). Also recognizes and binds m6A on other RNA molecules (PubMed:27602518). Involved in random X inactivation mediated by Xist RNA: recognizes and binds m6A-containing Xist and promotes transcription repression activity of Xist (PubMed:27602518). Involved in S-adenosyl-L-methionine homeostasis by regulating expression of MAT2A transcripts, probably by binding m6A-containing MAT2A mRNAs (By similarity).[UniProtKB/Swiss-Prot Function] |

## Product images:




Circular map for RC208796