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# Product datasheet for RC223973

## Retinol dehydrogenase 16 (RDH16) (NM_003708) Human Tagged ORF Clone

## Product data:

| | |
|---|---|
| **Product Type:** | Expression Plasmids |
| **Product Name:** | Retinol dehydrogenase 16 (RDH16) (NM_003708) Human Tagged ORF Clone |
| **Tag:** | Myc-DDK |
| **Symbol:** | Retinol dehydrogenase 16 |
| **Synonyms:** | hRDH-E; RODH-4; SDR9C8 |
| **Mammalian Cell Selection:** | Neomycin |
| **Vector:** | pCMV6-Entry (PS100001) |
| **E. coli Selection:** | Kanamycin (25 ug/mL) |

**ORF Nucleotide Sequence:**

```
>RC223973 representing NM_003708
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGTGGCTCTACCTGGCGGTTTTCGTGGGCCTGTACTACCTTCTGCACTGGTACCGGGAGAGGCAGGTGC
TGAGCCACCTGAGAGATAAGTATGTGTTCATCACGGGCTGTGACTCTGGCTTCGGGAAACTGCTGGCCAG
ACAGCTGGATGCACGAGGCTTGCGGGTGCTGGCTGCATGTCTGACGGAGAAAGGAGCCGAGCAGCTGAGG
GGCCAGACTTCAGACAGGCTGGAGACGGTGACCCTGGATGTTACCAAGACAGAGAGCGTTGCTGCAGCCG
CCCAGTGGGTGAAGGAGTGCGTGAGAGACAAAGGACTCTGGGGCCTGGTGAATAATGCTGGCATCTCCTT
GCCCACGGCTCCCAATGAGTTGCTCACCAAGCAGGACTTGCTGACCATACTGGACGTGAACTTGTTGGGG
GTGATTGATGTGACTCTGAACCTGCTGCCCTTAGTGAGGAGGGCCAGGGGCCGTGTGGTCAACGTCTTCA
GTGTCATGGGCCGGGTGTCACTTTTTGGTGGAGGCTACTGCATCTCCAAGTATGGCGTGGAAGCCTTCTC
TGACTCCCTCAGGAGGGAACTCTCCTACTTTGGGGTGAAGGTGGCTATGATTGAACCTGGCTATTTCAAG
ACTGCTGTGACCAGTAAGGAGAGATTCTTAAAGAGCTTCCTGGAGATTTGGGACCGGTCCAGTCCAGAGG
TCAAGGAGGCCTATGGCGAGAAGTTTGTTGCAGACTATAAGAAATCAGCTGAACAAATGGAGCAGAAGTG
CACACAGGATCTGTCGTTGGTGACCAACTGCATGGAGCATGCGCTGATTGCCTGCCACCCCCGTACTCGC
TACTCAGCTGGCTGGGATGCCAAGCTTCTCTACCTCCCCATGAGCTACATGCCCACCTTCCTGGTGGATG
CCATTATGTACTGGGTCTCTCCAAGCCCGGCCAAGGCTCTA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA
```

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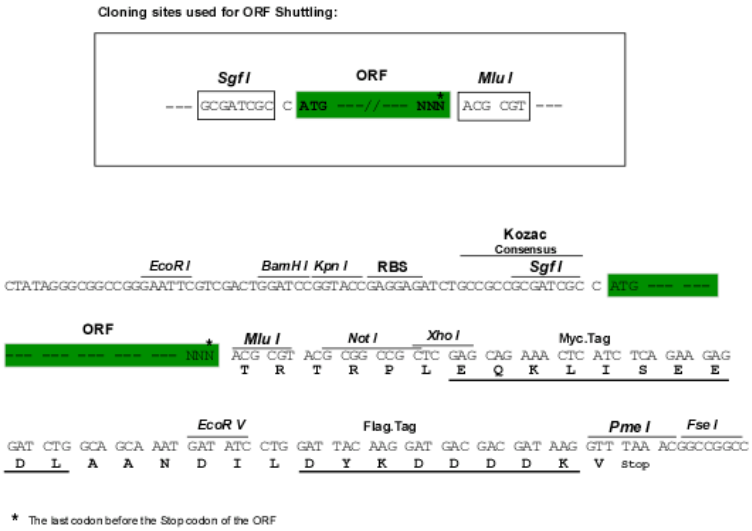
**Protein Sequence:**

```
>RC223973 representing NM_003708
Red=Cloning site Green=Tags(s)

MWLYLAVFVGLYYLLHWYRERQVLSHLRDKYVFITGCDSGFGKLLARQLDARGLRVLAACLTEKGAEQLR
GQTSDRLETVTLDVTKTESVAAAAQWVKECVRDKGLWGLVNNAGISLPTAPNELLTKQDLLTILDVNLLG
VIDVTLNLLPLVRRARGRVVNVFSVMGRVSLFGGGYCISKYGVEAFSDSLRRELSYFGVKVAMIEPGYFK
TAVTSKERFLKSFLEIWDRSSPEVKEAYGEKFVADYKKSAEQMEQKCTQDLSLVTNCMEHALIACHPRTR
YSAGWDAKLLYLPMSYMPTFLVDAIMYWVSPSPAKAL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV
```

**Chromatograms:** https://cdn.origene.com/chromatograms/mk8044_b09.zip

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**




**ACCN:** NM_003708

**ORF Size:** 951 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 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

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| | |
|---|---|
| **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.<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. |
| **Note:** | Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required. |
| **RefSeq:** | NM_003708.2, NP_003699.2 |
| **RefSeq Size:** | 2425 bp |
| **RefSeq ORF:** | 954 bp |
| **Locus ID:** | 8608 |
| **UniProt ID:** | O75452 |
| **Cytogenetics:** | 12q13.3 |
| **Domains:** | adh_short |
| **Protein Pathways:** | Metabolic pathways, Retinol metabolism |
| **MW:** | 35.5 kDa |
| **Gene Summary:** | Oxidoreductase with a preference for NAD. Oxidizes all-trans-retinol, 9-cis-retinol, 11-cis-retinol and 13-cis-retinol to the corresponding aldehydes (PubMed:10329026, PubMed:12534290, PubMed:9677409). Has higher activity towards CRBP-bound retinol than with free retinol (PubMed:12534290). Oxidizes also 3-alpha-hydroxysteroids. Oxidizes androstanediol and androsterone to dihydrotestosterone and androstanedione. Can also catalyze the reverse reaction (PubMed:10329026, PubMed:9677409, PubMed:29541409). [UniProtKB/Swiss-Prot Function] |

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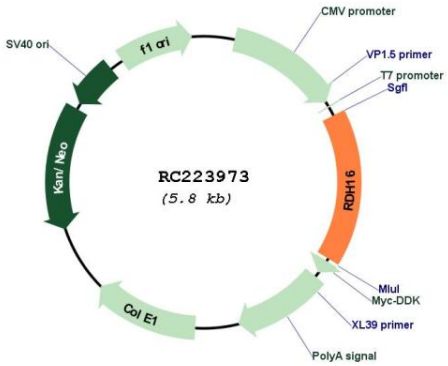
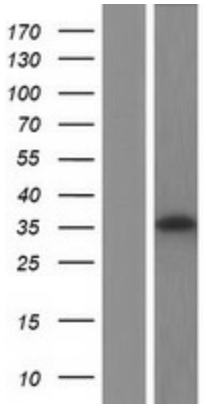
## Product images:




Circular map for RC223973




Western blot validation of overexpression lysate (Cat# [LY418488]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC223973 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).

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