

## Product datasheet for **RG223973**

### 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:	TurboGFP
Symbol:	RDH16
Synonyms:	hRDH-E; RODH-4; SDR9C8
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG223973 representing NM_003708 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGTGGCTCTACCTGGCGGTTTTCTGTGGCCTGTACTACCTTCTGCACTGGTACCGGGAGAGGCAGGTGC  
TGAGCCACCTGAGAGATAAGTATGTGTTTCATCACGGGCTGTGACTCTGGCTTCGGGAACTGCTGGCCAG  
ACAGCTGGATGCACGAGGCTTGC GGCTGTGGCTGCATGTCTGACGGAGAAAGGAGCCGAGCAGCTGAGG  
GGCCAGACTTCAGACAGGCTGGAGACGGTGACCCTGGATGTTACCAAGACAGAGAGCGTTGCTGCAGCCC  
CCCAGTGGGTGAAGGAGTGCGTGAGAGACAAAGGACTCTGGGCCTGGTGAATAATGCTGGCATCTCCTT  
GCCACCGCTCCAATGAGTTGCTCACCAAGCAGGACTTGTGACCATACTGGACGTGAACCTGTTGGGG  
GTGATTGATGTGACTCTGAACCTGCTGCCCTTAGTGAGGAGGGCCAGGGCCGTGTGGTCAACGTCTTCA  
GTGTCATGGGCCGGGTGTCACTTTTTGGTGGAGGCTACTGCATCTCCAAGTATGGCGTGGAGCCTTCTC  
TGACTCCCTCAGGAGGGAACCTCCTACTTTGGGGTGAAGGTGGCTATGATTGAACCTGGCTATTCAAG  
ACTGCTGTGACCAGTAAGGAGAGATTCTTAAAGAGCTTCTGGAGATTTGGGACCGGTCCAGTCCAGAGG  
TCAAGGAGGCCTATGGCGAGAAGTTTGTGCAGACTATAAGAAATCAGCTGAACAAATGGAGCAGAAGTG  
CACACAGGATCTGTCGTTGGTGACCAACTGCATGGAGCATGCGCTGATTGCCACCCCGTACTCGC  
TACTCAGCTGGCTGGGATGCCAAGCTTCTACCTCCCATGAGCTACATGCCACCTTCTGGTGGATG  
CCATTATGTA CTGGTCTCTCCAAGCCCGCCAAGGCTCTA

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA



[View online »](#)

**Protein Sequence:** >RG223973 representing NM\_003708  
 Red=Cloning site Green=Tags(s)

MWLYLAVFVGLYYLLHWYRERQVLSHLRDKYVFITGCDSGFGKLLARQLDARGLRVLAACLTEKGAEQLR  
 GQTSDRLETVTLDVTKTESVAAAAQWVKECVRDKGLWGLVNNAGISLPTAPNELLTKQDLLTILDVNLG  
 VIDVTLNLLPLVRRARGRVVNVFSVMGRVSLFGGGYCIISKYGVFAFSDSLRRELSYFGVKVAMIEPGYFK  
 TAVTSKERFLKSFLEIWDRSSPEVKEAYGEKFFVADYKKSAEQMEQKCTQDLSLVTNCMEHALIACHPRTR  
 YSAGWDAKLLYLPMSYMPFLVDAIMYWVSPSPAKAL

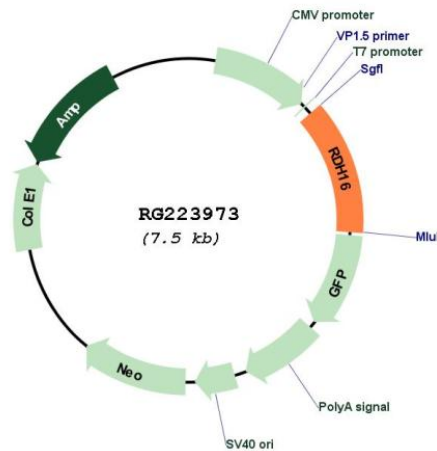
TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**Plasmid Map:**



**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](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.

**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

**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 androstenediol and androsterone to dihydrotestosterone and androstenedione. Can also catalyze the reverse reaction (PubMed:10329026, PubMed:9677409, PubMed:29541409). [UniProtKB/Swiss-Prot Function]