

## Product datasheet for **RG215144**

### **PRODH2 (NM\_021232) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	PRODH2 (NM_021232) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	PRODH2
Synonyms:	HSPOX1; HYPDH
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG215144 representing NM\_021232  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGTCGCCAGGGTAGTCTCAAACCTCTCGGTCTTGGCCTCCCAAAGTGTGGGATTACAAACGTGAGAA  
 CCGTATTTTCAAATGTATTCAATAACACTACAGGTTTCCAATTTAAGAGGAAGCAATTGCCACAAAAT  
 CACTGCCCTGGTCTGGGCAAGGGGAGTTGGTAACTTCTGCTGCCAGAGAACCTTCCCTGGTGTGGA  
 GGCAGCCAGGGACCCAGGATGCTCCGGACCTGTTACGTGCTCTGTTCCCAAGCTGGTCCCCCTCCAGGG  
 GCTGGCAGTCCCTGAGCTTTGATGGCGGGCCTCCACCTAAGGGCACAGGAGAGCTGACACGGGCCTT  
 GCTGGTCTCCGGCTGTGTGCCTGGCCCCACTCGTCACTCACGGGCTGTTGCTCCAGGCTGGTCTCGG  
 CGACTCTGGGCTCCCGCTCTCAGGCGCATTTCTCCGAGCATCCGTCTATGGGCAGTTTGTGGCTGGT  
 AGACAGCAGAGGAGGTGAAGGGCTGCGTGCAGCAGCTCCGACCCCTCAGCCTCCGACCACTGCTGGCAGT  
 GCCCACTGAGGAGGAGCCGACTCTGCTGCCAAGAGTGGTGGGCGTGGTATGAGGGGAACCTCGGTGCT  
 ATGCTGCGGTGTGTGGACCTGTACAGGGGCTCCTGGAGCCCCAGCCTGGCTGAGGCCAGCCTCATGC  
 AGCTGAAGGTGACGGCGCTGACCAGTACTCGGCTCTGTAAAGGAGCTAGCCTCGTGGGTGAGAAGGCCGGG  
 AGCCTCCTTGAGCTGAGCCCCGAGAGGCTGGCTGAAGCTATGGACTCTGGGCAGAACCTCCAGGTCTCC  
 TGCTCAATGCTGAGCAGAACAGCACCTCCGGGCTCCTCAGCCGCTGCATCGGGTGGCACAGTATG  
 CCCGGGCCAGCAGTGGGCTCCTGGTGGATGCGGAGTACACCTCACTGAACCTGCGCTCTCGTGTCT  
 GGTGGCTGCCCTGGTGTGCGCTGGAACAGCCGGGTGAAGGCGGGCCCTGGGTGGAACACCTACCAG  
 GCCTGTCTAAAGGACACATTCGAGCGGCTGGGGAGGATGCAGAGGCTGCGCACAGGGCCGGCCTGGCCT  
 TCGGAGTAAGCTGGTACGAGGTGCATATCTGGACAAGGAGAGAGCGGTGGCCAGCTCCATGGGATGGA  
 AGACCCCACTCAGCCTGACTATGAGGCCACCAAGTACAGATTACAGCCGCTGCTGGAACCTGATGCTGACG  
 CACGTGGCCCGCATGGCCCATGTGCCACCTCATGGTGGCTTCCACAATGAGGAATCTGTTCCGACAGG  
 CAACCAAGCGCATGTGGGAGCTGGGCATTCCTCTGGATGGGACTGTCTGTTTCGGACAACCTCTGGGCAT  
 GTGTGACCACGTCTCTAGCACTGGGGCAGGCCGGCTATGTAGTGTATAAGTCCATTCCCTATGGCTCC  
 TTGGAGGAGGTAATCCCCTACCTGATCCGGAGGGCCAGGAGAACCGGAGCGTCTCAGGGTCCCCGCA  
 GGAACAGGAGCTGCTCAGCCAAGAACTGTGGCGGGCTGCTGCCAGGATGCCGAAGGATACCCAC

**ACGCGTACGCGGCCGCTCGAG** – GFP Tag – GTTTAA

**Protein Sequence:**

>RG215144 representing NM\_021232  
 Red=Cloning site Green=Tags(s)

MSPRVVSNSVLSQSVGITNVRTVFSNVFNNTTAFPILRGNSCHKITAPGLGKQQLVNLLPPENLPWCG  
 GSQGRMLRRTCYVLC SQAGPPSRGWQSL SFDGGAFHLKGTGEL TRALLVLR LCAWPPLVTHGLLLQAWSR  
 RLLGSRLSGAFLRASVYQFVAGETAEEVKGCVQQLRTL SLRPLLAVPTEEPD SAAKSGEAWYEGNLGA  
 MLRCVDLSRGLLEPPSLAEASLMQLKVTALTSTR LCKELASWVRRPGASLELSPERLAEAMDSGQNLQVS  
 CLNAEQNHLRASLSRLHRVAQYARAQHVRLLVDAEYTS LNPALSLLVAALAVRWNSPGEPPWVWNTYQ  
 ACLKDTFERLGRDAEAAHRAGLAFGVKLVRGAYL DKERAVAQLHGMEPTQPDYEATSQSYSRCLMLT  
 HVARHGMCHLMVASHNEESVRQATKRMWELGIPLDGT VCFGQLLGMCDHVSLALQAGYVVYKSIPIYGS  
 LEEVIPYLIRRAQENRSVLQGARREQELLSQELWRRL LPGCRRIPH

**TRTRPLE** – GFP Tag – V

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_021232

**ORF Size:** 1608 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\\_021232.1](#), [NP\\_067055.1](#)

RefSeq Size: 1677 bp

RefSeq ORF: 1383 bp

Locus ID: 58510

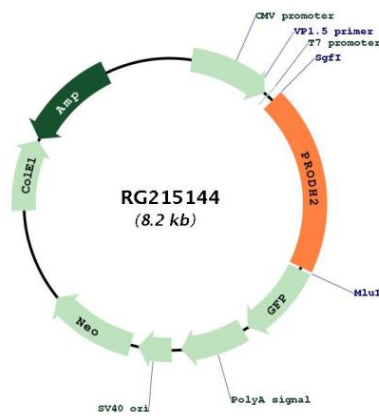
UniProt ID: [Q9UF12](#)

Cytogenetics: 19q13.12

Protein Pathways: Arginine and proline metabolism, Metabolic pathways

**Gene Summary:** The protein encoded by this gene catalyzes the first step in the catabolism of trans-4-hydroxy-L-proline, an amino acid derivative obtained through food intake and collagen turnover. One of the downstream products of this catabolism is glyoxylate, which in people with disorders of glyoxalate metabolism can lead to an increase in oxalate levels and the formation of calcium-oxalate kidney stones. Therefore, this gene may serve as a therapeutic target against primary hyperoxalurias (PH). This gene is similar to proline dehydrogenase (oxidase) 1, a mitochondrial enzyme that catalyzes the first step in proline catabolism. [provided by RefSeq, Jan 2017]

**Product images:**



Circular map for RG215144