

## Product datasheet for **RG200415**

### Sorbitol Dehydrogenase (SORD) (NM\_003104) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Sorbitol Dehydrogenase (SORD) (NM_003104) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Sorbitol Dehydrogenase
Synonyms:	HEL-S-95n; RDH; SDH; SORD1; SORDD; XDH
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG200415 representing NM_003104 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGCGCGGGCCCAAGCCCAACAACCTTCCCTGGTGGTGCACGGACCGGGGACTTGCGCCTGGAGA  
ACTATCCTATCCCTGAACCAGGCCCAAATGAGGTCTTGTCTGAGGATGCATTCTGTTGGAATCTGTGGCTC  
AGATGTCCACTACTGGGAGTATGGTGAATTGGGAATTTATTGTGAAAAAGCCCATGGTCTGGGACAT  
GAAGCTTCGGGAACAGTCGAAAAAGTGGGATCATCGGTAAGCACCTAAAACCAGGTGATCGTGTGCCA  
TCGAGCCTGGTGTCTCCCGAGAAAATGATGAATCTGCAAGATGGGCCGATACAATCTGTCACCTCCAT  
CTTCTTCTGTGCCAGCCCCCGATGACGGGAACCTCTGCCGGTTCTATAAGCACAAATGCAGCCTTTTGT  
TACAAGCTTCTGACAATGTCACCTTTGAGGAAGGCGCCCTGATCGAGCCACTTTCTGTGGGGATCCATG  
CCTGCAGGAGAGGCGGAGTTACCCTGGGACACAAGGTCCTTGTGTGGAGCTGGGCCAATCGGGATGGT  
CACTTTGCTCGTGGCCAAAGCAATGGGAGCAGCTCAAGTAGTGGTACTGATCTGTCTGCTACCCGATTG  
TCCAAAGCCAAGGAGATTGGGGCTGATTTAGTCTCCAGATCTCCAAGGAGAGCCCTCAGGAAATCGCCA  
GGAAAGTAGAAGGTCAGCTGGGTGCAAGCCGGAAGTACCATCGAGTGCACGGGGCAGAGGCCTCCAT  
CCAGGCGGGCATCTACGCCACTCGCTCTGGTGGGACCTCGTCTTGTGGGCTGGGCTGAGATGACC  
ACCGTACCCCTACTGCATGCAGCCATCCGGGAGGTGGATATCAAGGGCGTGTTCGATCTGCAACACGT  
GGCCAGTGGCGATTTTCGATGCTTGCCTCAAGTCTGTGAATGTAACCCTCGTCAACCCATAGGTTTCC  
TCTGGAGAAAGCTCTGGAGGCCTTTGAAACATTTAAAAGGGATTGGGGTTGAAAATCATGCTCAAGTGT  
GACCCAGTGACCAGAATCCC

**ACGGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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**Protein Sequence:** >RG200415 representing NM\_003104  
 Red=Cloning site Green=Tags(s)

MAAAAKPNNLSLVVHGPGDLRLENYPIPEPGPNEVLLRMHSVGICGSDVHYWEYGRIGNFIVKKPMVLGH  
 EASGTVEKVGSSVKHLKPGDRVAIEPGAPRENDEFCKMGRYNLSPSIFFCATPPDDGNLCRFYKHNA AFC  
 YKLPDNTFEEGALIEPLSVGIHACRRGGVTLGHKVLVCGAGPIGMVTLVAKAMGAAQVVVTDLSATRL  
 SKAKEIGADLVLQISKESPQEIARKVEGQLGCKPEVTIECTGAEASIQAGIYATRSGGTLVLVGLGSEMT  
 TVPLLHAAIREVDIKGVFRYCNTPWVAISMLASKSVNVKPLVTHRFPLEKALEAFETFKKGLGLKIMLKC  
 DPSDQNP

TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_003104

**ORF Size:** 1071 bp

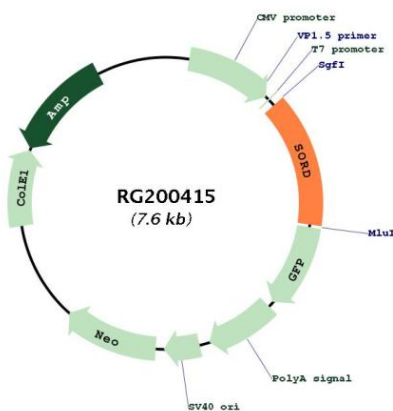
**OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone 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).

<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_003104.3</a> , <a href="#">NP_003095.1</a>
<b>RefSeq Size:</b>	2628 bp
<b>RefSeq ORF:</b>	1074 bp
<b>Locus ID:</b>	6652
<b>UniProt ID:</b>	<a href="#">Q00796</a>
<b>Cytogenetics:</b>	15q21.1
<b>Domains:</b>	ADH_zinc_N
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Fructose and mannose metabolism, Metabolic pathways
<b>Gene Summary:</b>	Sorbitol dehydrogenase (SORD; EC 1.1.1.14) catalyzes the interconversion of polyols and their corresponding ketoses, and together with aldose reductase (ALDR1; MIM 103880), makes up the sorbitol pathway that is believed to play an important role in the development of diabetic complications (summarized by Carr and Markham, 1995 [PubMed 8535074]). The first reaction of the pathway (also called the polyol pathway) is the reduction of glucose to sorbitol by ALDR1 with NADPH as the cofactor. SORD then oxidizes the sorbitol to fructose using NAD(+) cofactor.[supplied by OMIM, Jul 2010]

## Product images:



Circular map for RG200415