

## Product datasheet for RC200415

### 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:	Myc-DDK
Symbol:	Sorbitol Dehydrogenase
Synonyms:	HEL-S-95n; RDH; SDH; SORD1; SORDD; XDH
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC200415 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGC**C

ATGGCGCGCGGCCAAGCCCAACAACCTTCCCTGGTGGTGCACGGACCGGGGACTTGCGCCTGGAGA  
ACTATCCTATCCCTGAACCAGGCCCAAATGAGGTCTTGCTGAGGATGCATTCTGTTGGAATCTGTGGCTC  
AGATGTCCACTACTGGGAGTATGGTCGAATTGGGAATTTATTGTGAAAAGCCCATGGTGTGGGACAT  
GAAGCTTCGGGAACAGTCGAAAAAGTGGGATCATCGGTAAGCACCTAAAACCAGGTGATCGTGTGCCA  
TCGAGCCTGGTGTCTCCCGAGAAAATGATGAATCTGCAAGATGGGCCGATACAATCTGTCACCTCCAT  
CTTCTTCTGTGCCAGCCCCCGATGACGGGAACCTCTGCCGGTTCTATAAGCACAATGCAGCCTTTTGT  
TACAAGCTTCTGACAATGTCACCTTTGAGGAAGCGCCCTGATCGAGCCACTTTCTGTGGGGATCCATG  
CCTGCAGGAGAGGCGGAGTTACCCTGGGACACAAGGTCCTTGTGTGGAGCTGGGCCAATCGGGATGGT  
CACTTTGCTCGTGGCCAAAGCAATGGGAGCAGCTCAAGTAGTGGTACTGATCTGTCTGCTACCCGATTG  
TCCAAAGCCAAGGAGATTGGGGCTGATTTAGTCTCCAGATCTCCAAGGAGAGCCCTCAGGAAATCGCCA  
GGAAAGTAGAAGGTCAGCTGGGTGCAAGCCGGAAGTACCATCGAGTGCACGGGGCAGAGGCCCTCCAT  
CCAGGCGGGCATCTACGCCACTCGCTCTGGTGGGACCTCGTCTTGTGGGGCTGGGCTCGAGATGACC  
ACCGTACCCCTACTGCATGCAGCCATCCGGGAGGTGGATATCAAGGGCGTGTTCGATCTGCAACACGT  
GGCCAGTGGCGATTTTCGATGCTTGGCTCCAAGTCTGTGAATGTAACCCTCGTCAACCCATAGGTTTCC  
TCTGGAGAAAGCTCTGGAGGCCCTTTGAAACATTTAAAAGGGATTGGGGTTGAAAATCATGCTCAAGTGT  
GACCCAGTGACCAGAATCCC

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA



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**Protein Sequence:** >RC200415 protein sequence  
Red=Cloning site Green=Tags(s)

MAAAAKPNNLSLVHGPGLRLENYPIPEPGPNEVLLRMHSVIGICGSDVHYWEYGRIGNFIVKKPMVLGH  
 EASGTVEKVGSSVKHLKPGDRVAIEPGAPRENDEFCKMGRYNLSPSIFFCATPPDDGNLCRFYKHNA AFC  
 YKLPDNTFEEGALIEPLSVGIHACRRGGVTLGHKVLVCGAGPIGMVTLVAKAMGAAQVVVTDLSATRL  
 SKAKEIGADLVLQISKESPQEIARKVEGQLGCKPEVTIECTGAEASIQAGIYATRSGGTLVLVGLGSEMT  
 TVPLLHAAIREVDIKGVFRYCNTPVAISMLASKSVNVKPLVTHRFPLEKALEAFETFKKGLGLKIMLKC  
 DPSDQNP

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6051\\_c09.zip](https://cdn.origene.com/chromatograms/mk6051_c09.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



\* The last codon before the Stop codon of the ORF

**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).

**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\\_003104.3](#), [NP\\_003095.1](#)

**RefSeq Size:** 2813 bp

**RefSeq ORF:** 1074 bp

**Locus ID:** 6652

**UniProt ID:** [Q00796](#)

**Cytogenetics:** 15q21.1

**Domains:** ADH\_zinc\_N

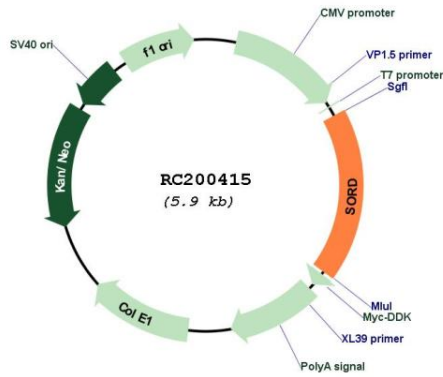
**Protein Families:** Druggable Genome

**Protein Pathways:** Fructose and mannose metabolism, Metabolic pathways

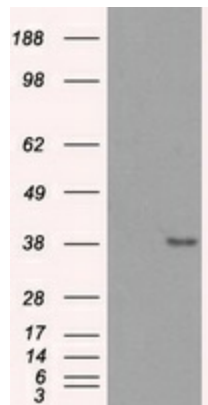
**MW:** 38.3 kDa

**Gene Summary:** 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]

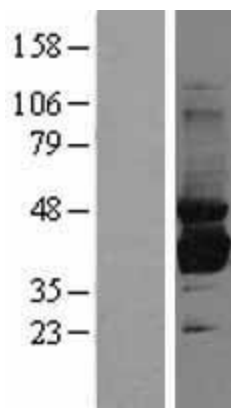
Product images:



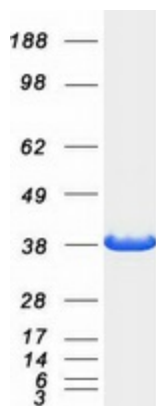
Circular map for RC200415



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY SORD (Cat# RC200415, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-SORD (Cat# [TA500701]). Positive lysates [LY401082] (100ug) and [LC401082] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY401082]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC200415 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified SORD protein (Cat# [TP300415]). The protein was produced from HEK293T cells transfected with SORD cDNA clone (Cat# RC200415) using MegaTran 2.0 (Cat# [TT210002]).