

SORD Antibody (Center) Blocking Peptide
Synthetic peptide
Catalog # BP16049c**Specification**

SORD Antibody (Center) Blocking Peptide - Product InformationPrimary Accession [Q00796](#)**SORD Antibody (Center) Blocking Peptide - Additional Information****Gene ID** 6652**Other Names**

Sorbitol dehydrogenase, L-iditol 2-dehydrogenase, SORD

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

SORD Antibody (Center) Blocking Peptide - Protein Information**Name** SORD**Function**

Polyol dehydrogenase that catalyzes the reversible NAD(+)- dependent oxidation of various sugar alcohols. Is mostly active with D- sorbitol (D-glucitol), L-threitol, xylitol and ribitol as substrates, leading to the C2-oxidized products D-fructose, L-erythrulose, D- xylulose, and D-ribulose, respectively (PubMed:3365415). Is a key enzyme in the polyol pathway that interconverts glucose and fructose via sorbitol, which constitutes an important alternate route for glucose metabolism. The polyol pathway is believed to be involved in the etiology of diabetic complications, such as diabetic neuropathy and retinopathy, induced by hyperglycemia (PubMed:12962626, PubMed:29966615, PubMed:25105142). May play a role in sperm motility by using sorbitol as an alternative energy source for sperm motility (PubMed:16278369). May have a more general function in the metabolism of secondary alcohols since it also catalyzes the stereospecific oxidation of (2R,3R)-2,3-butanediol. To a lesser extent, can also oxidize L-arabinitol, galactitol and D-mannitol and glycerol in vitro. Oxidizes neither ethanol nor other primary alcohols. Cannot use NADP(+) as the electron acceptor (PubMed:3365415).

Cellular Location

Mitochondrion membrane {ECO:0000250|UniProtKB:Q64442}; Peripheral membrane protein {ECO:0000250|UniProtKB:Q64442}. Cell projection, cilium, flagellum {ECO:0000250|UniProtKB:Q64442}. Note=Associated with mitochondria of the midpiece and near the plasma membrane in the principal piece of the flagellum. Also found in the epididymosome, secreted by the epididymal epithelium and that transfers proteins from the epididymal fluid to the sperm surface. {ECO:0000250|UniProtKB:Q64442}

Tissue Location

Expressed in liver (PubMed:3365415). Expressed in kidney and epithelial cells of both benign and malignant prostate tissue. Expressed in epididymis (at protein level)

SORD Antibody (Center) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

SORD Antibody (Center) Blocking Peptide - Images**SORD Antibody (Center) Blocking Peptide - Background**

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.

SORD Antibody (Center) Blocking Peptide - References

Szabo, Z., et al. Oncol. Rep. 23(5):1233-1239(2010) Johnatty, S.E., et al. PLoS Genet. 6 (7), E1001016 (2010) :El-Kabbani, O., et al. Curr. Med. Chem. 11(4):465-476(2004) Pauly, T.A., et al. Structure 11(9):1071-1085(2003) Darmanin, C., et al. Acta Crystallogr. D Biol. Crystallogr. 59 (PT 3), 558-560 (2003) :