

SORD Antibody (Center)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP16049c

Specification

SORD Antibody (Center) - Product Information

Application	WB,E
Primary Accession	Q00796
Other Accession	NP_003095.2
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	38325
Antigen Region	211-239

SORD Antibody (Center) - Additional Information

Gene ID 6652

Other Names

Sorbitol dehydrogenase, L-iditol 2-dehydrogenase, SORD

Target/Specificity

This SORD antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 211-239 amino acids from the Central region of human SORD.

Dilution

WB~~1:1000

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

SORD Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

SORD Antibody (Center) - 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:[25105142](#), PubMed:[29966615](#)). 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

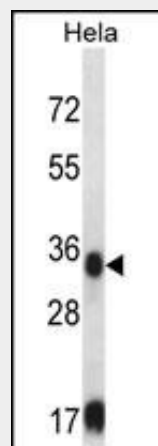
Expressed in liver (PubMed:[3365415](#)). Expressed in kidney and epithelial cells of both benign and malignant prostate tissue. Expressed in epididymis (at protein level)

SORD Antibody (Center) - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

SORD Antibody (Center) - Images



SORD Antibody (Center) (Cat. #AP16049c) western blot analysis in HeLa cell line lysates

(35ug/lane). This demonstrates the SORD antibody detected the SORD protein (arrow).

SORD Antibody (Center) - 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) - 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) :