

Sorbitol Dehydrogenase (N-17): sc-69331

BACKGROUND

Sorbitol Dehydrogenase, also known as L-iditol 2-dehydrogenase, SORD or SORD1, is a 357 amino acid member of the zinc-containing alcohol dehydrogenase family. Widely expressed with highest expression in kidney and in the lens of the eye, Sorbitol Dehydrogenase enzymatically catalyzes the zinc-dependent interconversion of polyols, such as sorbitol and xylitol, to their respective ketoses. These reactions require NAD⁺ as an oxidizing agent and, together with Aldose Reductase, they comprise the Sorbitol pathway that is involved in sugar production. Sorbitol Dehydrogenase deficiency leads to defects in this pathway and a subsequent accumulation of sorbitol within the cell, a condition that may be associated with diabetic complications such as cataracts and microvascular problems.

REFERENCES

1. Iwata, T., et al. 1995. Structural organization of the human Sorbitol Dehydrogenase gene (SORD). *Genomics* 26: 55-62.
2. Carr, I.M., et al. 1998. Structural and evolutionary characterization of the human Sorbitol Dehydrogenase gene duplication. *Mamm. Genome* 9: 1042-1048.
3. Pauly, T.A., et al. 2003. X-ray crystallographic and kinetic studies of human Sorbitol Dehydrogenase. *Structure* 11: 1071-1085.
4. Li, S., et al. 2004. Redox state-dependent and sorbitol accumulation-independent diabetic albuminuria in mice with transgene-derived human aldose reductase and Sorbitol Dehydrogenase deficiency. *Diabetologia* 47: 541-548.
5. El-Kabbani, O., et al. 2004. Sorbitol Dehydrogenase: structure, function and ligand design. *Curr. Med. Chem.* 11: 465-476.
6. Schmidt, R.E., et al. 2005. A potent Sorbitol Dehydrogenase inhibitor exacerbates sympathetic autonomic neuropathy in rats with streptozotocin-induced diabetes. *Exp. Neurol.* 192: 407-419.

CHROMOSOMAL LOCATION

Genetic locus: SORD (human) mapping to 15q21.1; Sord (mouse) mapping to 2 E5.

SOURCE

Sorbitol Dehydrogenase (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Sorbitol Dehydrogenase of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-69331 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Sorbitol Dehydrogenase (N-17) is recommended for detection of Sorbitol Dehydrogenase of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

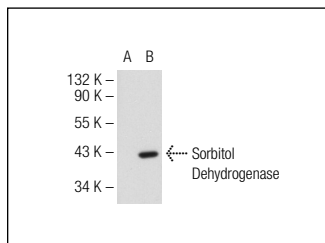
Sorbitol Dehydrogenase (N-17) is also recommended for detection of Sorbitol Dehydrogenase in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Sorbitol Dehydrogenase siRNA (h): sc-76540, Sorbitol Dehydrogenase siRNA (m): sc-76541, Sorbitol Dehydrogenase shRNA Plasmid (h): sc-76540-SH, Sorbitol Dehydrogenase shRNA Plasmid (m): sc-76541-SH, Sorbitol Dehydrogenase shRNA (h) Lentiviral Particles: sc-76540-V and Sorbitol Dehydrogenase shRNA (m) Lentiviral Particles: sc-76541-V.

Molecular Weight of Sorbitol Dehydrogenase: 38 kDa.

Positive Controls: HeLa nuclear extract: sc-2120 or Sorbitol Dehydrogenase (m2): 293T Lysate: sc-127569.

DATA



Sorbitol Dehydrogenase (N-17): sc-69331. Western blot analysis of Sorbitol Dehydrogenase expression in non-transfected: sc-117752 (A) and mouse Sorbitol Dehydrogenase transfected: sc-127569 (B) 293T whole cell lysates.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **Sorbitol Dehydrogenase (E-8): sc-377200** or **Sorbitol Dehydrogenase (E-11): sc-365760**, our highly recommended monoclonal alternatives to Sorbitol Dehydrogenase (N-17).