SANTA CRUZ BIOTECHNOLOGY, INC.

# Sorbitol Dehydrogenase (E-19): sc-69329

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## 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 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. Ii, 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 (E-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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-69329 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 (E-19) 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).

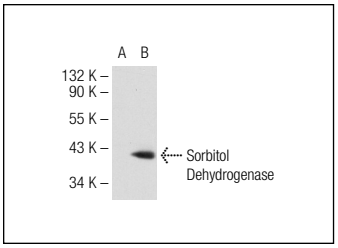
Sorbitol Dehydrogenase (E-19) is also recommended for detection of Sorbitol Dehydrogenase in additional species, including equine, canine, bovine, porcine and avian.

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.

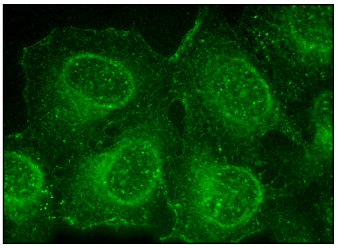
Molecular Weight of Sorbitol Dehydrogenase: 38 kDa.

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

## DATA




Sorbitol Dehydrogenase (E-19): sc-69329. 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.



Sorbitol Dehydrogenase (E-19): sc-69329. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane and cytoplasmic localization.

## 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.