BACKGROUND
Aldose Reductase (also designated ALR2) is a member of the monomeric NADPH-dependent aldoketoreductase family. Aldose Reductase catalyzes the reduction of various aldehydes and has been implicated in the development of diabetic complications by catalyzing the reduction of the aldehyde form of glucose, to the corresponding sugar alcohol, sorbitol. This pathway plays a minor role in glucose metabolism in most tissues, however in diabetic hyperglycemia, cells undergoing Insulin-independent uptake of glucose accumulate significant quantities of sorbitol. The resulting hypertonic stress to cells may be a cause of diabetic complications such as neuropathy, retinopathy, and cataracts. Aldose Reductase is very similar to human aldehyde reductase (designated ALR1), bovine prostaglandin F synthase and to the European common frog protein, p-crystallin.

CHROMOSOMAL LOCATION
Genetic locus: AKR1B1 (human) mapping to 7q33; Akr1b3 (mouse) mapping to 6B1.

SOURCE
Aldose Reductase (C-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 115-140 within an internal region of Aldose Reductase of mouse origin.

PRODUCT
Each vial contains 200 µg IgG1 kappa light chain in 1.0 ml of PBS with <0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271007 P, [100 µg peptide in 0.5 ml PBS containing <0.1% sodium azide and 0.2% stabilizer protein].

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

APPLICATIONS
Aldose Reductase (C-1) is recommended for detection of Aldose Reductase of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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). Suitable for use as control antibody for Aldose Reductase siRNA (h): sc-37119, Aldose Reductase siRNA (m): sc-29670, Aldose Reductase shRNA Plasmid (h): sc-37119-SH, Aldose Reductase shRNA Plasmid (m): sc-29670-SH, Aldose Reductase shRNA (h) Lentiviral Particles: sc-37119-V and Aldose Reductase shRNA (m) Lentiviral Particles: sc-29670-V.

Molecular Weight of Aldose Reductase: 37 kDa.

Positive Controls: A-10 cell lysate: sc-3806, L6 whole cell lysate: sc-364196 or C2C12 whole cell lysate: sc-364188.

SELECT PRODUCT CITATIONS

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

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