

Aldose Reductase (N-20): sc-17732

BACKGROUND

Aldose Reductase (also designated AKR1B1, ALDR1, ALR2 or AR) is 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 hyperosmotic 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, bovine prostaglandin F synthase and to the European common frog protein, rho-crystallin.

CHROMOSOMAL LOCATION

Genetic locus: AKR1B1 (human) mapping to 7q33; Akrlb3 (mouse) mapping to 6 B1.

SOURCE

Aldose Reductase (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Aldose Reductase 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-17732 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

Aldose Reductase (N-20) is recommended for detection of Aldose Reductase of human and, to a lesser extent, mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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.

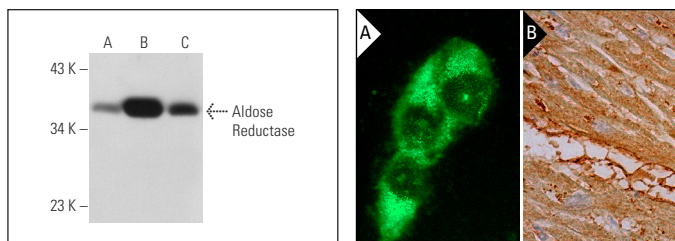
Molecular Weight of Aldose Reductase: 37 kDa.

Positive Controls: JAR cell lysate: sc-2276, HeLa whole cell lysate: sc-2200 or Aldose Reductase (m): 293T Lysate: sc-118347.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



Aldose Reductase (N-20): sc-17732. Western blot analysis of Aldose Reductase expression in non-transfected 293T: sc-117752 (A), mouse Aldose Reductase transfected 293T: sc-118347 (B) and JAR (C) whole cell lysates.

Aldose Reductase (N-20): sc-17732. Immunofluorescence staining of methanol-fixed Caki-1 cells showing cytoplasmic staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes (B).

SELECT PRODUCT CITATIONS

- D'Souza, D.R., et al. 2009. Hyperglycemia regulates RUNX2 activation and cellular wound healing through the aldose reductase polyol pathway. *J. Biol. Chem.* 284: 17947-17955.
- Tang, W.H., et al. 2011. Glucose and collagen regulate human platelet activity through aldose reductase induction of thromboxane. *J. Clin. Invest.* 121: 4462-4476.

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.

MONOS
Satisfaction
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Try **Aldose Reductase (H-6): sc-166918** or **Aldose Reductase (C-1): sc-271007**, our highly recommended monoclonal alternatives to Aldose Reductase (N-20).