

Aldose Reductase (h6): 293T Lysate: sc-158264

BACKGROUND

Aldose reductase (also designated AKR1B1, ALDR1, ALR2 or AR) is member of the monomeric NADPH-dependent aldo-ketoreductase 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.

REFERENCES

1. Bohren, K.M., Bullock, B., Wermuth, B. and Gabbay, K.H. 1989. The aldo-keto reductase superfamily. cDNAs and deduced amino acid sequences of human aldehyde and Aldose Reductases. *J. Biol. Chem.* 264: 9547-9551.
2. Chung, S. and LaMendola, J. 1989. Cloning and sequence determination of human placental Aldose Reductase gene. *J. Biol. Chem.* 264: 14775-14777.
3. Nishimura, C., Matsuura, Y., Kokai, Y., Akera, T., Carper, D., Morjana, N., Lyons, C. and Flynn, T.G. 1990. Cloning and expression of human Aldose Reductase. *J. Biol. Chem.* 265: 9788-9792.
4. Graham, A., Heath, P., Morten, J.E. and Markham, A.F. 1991. The human Aldose Reductase gene maps to chromosome region 7q35. *Hum. Genet.* 86: 509-514.
5. LocusLink Report (LocusID: 231). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: AKR1B1 (human) mapping to 7q33.

PRODUCT

Aldose Reductase (h6): 293T Lysate represents a lysate of human Aldose Reductase transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

Aldose Reductase (h6): 293T Lysate is suitable as a Western Blotting positive control for human reactive Aldose Reductase antibodies. Recommended use: 10-20 µl per lane.

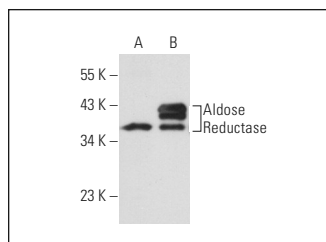
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Aldose Reductase (H-6): sc-166918 is recommended as a positive control antibody for Western Blot analysis of enhanced human Aldose Reductase expression in Aldose Reductase transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

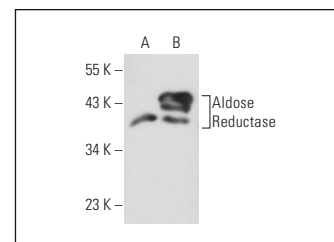
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



Aldose Reductase (H-6): sc-166918. Western blot analysis of Aldose Reductase expression in non-transfected: sc-117752 (A) and human Aldose Reductase transfected: sc-158264 (B) 293T whole cell lysates.



Aldose Reductase (C-1): sc-271007. Western blot analysis of Aldose Reductase expression in non-transfected: sc-117752 (A) and human Aldose Reductase transfected: sc-158264 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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