

# AKR1E1 (D-12): sc-161331

## BACKGROUND

AKR1E1 (aldo-keto reductase family 1 member E1), also known as Akrlc12 (aldo-keto reductase family 1 member C-like protein 2), Akrlc2 (aldo-keto reductase family 1 member E2) or 1,5-anhydro-D-fructose reductase, is a 301 amino acid cytoplasmic protein that belongs to the aldo-keto reductase family. Members of the aldo-keto reductase family are involved in prereceptor or intracrine steroid modulation, and also act as bile acid-binding proteins. While it catalyzes the NADPH-dependent reduction of 1,5-anhydro-D-fructose to 1,5-anhydro-D-glucitol, AKR1E1 also catalyzes the reduction of various aldehydes and quinones. The gene that encodes AKR1E1 maps to mouse chromosome 13 A1.

## REFERENCES

1. Bohren, K.M., et al. 1997. Characterization of a novel murine aldo-keto reductase. *Adv. Exp. Med. Biol.* 414: 455-464.
2. Jez, J.M. and Penning, T.M. 2001. The aldo-keto reductase (AKR) superfamily: an update. *Chem. Biol. Interact.* 130-132: 499-525.
3. Vergnes, L., et al. 2003. A cluster of eight hydroxysteroid dehydrogenase genes belonging to the aldo-keto reductase supergene family on mouse chromosome 13. *J. Lipid Res.* 44: 503-511.
4. Azuma, Y., et al. 2004. Characterization of htAKR, a novel gene product in the aldo-keto reductase family specifically expressed in human testis. *Mol. Hum. Reprod.* 10: 527-533.
5. Sakuma, M. and Kubota, S. 2008. Mouse AKR1E1 is an ortholog of pig liver NADPH dependent 1,5-anhydro-D-fructose reductase. *Biosci. Biotechnol. Biochem.* 72: 872-876.
6. Barski, O.A., et al. 2008. The aldo-keto reductase superfamily and its role in drug metabolism and detoxification. *Drug Metab. Rev.* 40: 553-624.
7. Tu, S., et al. 2009. A new approach to monitor expression of aldo-keto reductase proteins in mouse tissues. *Proteomics* 9: 5090-5100.

## CHROMOSOMAL LOCATION

Genetic locus: Akrlc1 (mouse) mapping to 13 A1.

## SOURCE

AKR1E1 (D-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of AKR1E1 of mouse 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-161331 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

AKR1E1 (D-12) is recommended for detection of AKR1E1 of mouse and rat 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for AKR1E1 siRNA (m): sc-140993, AKR1E1 shRNA Plasmid (m): sc-140993-SH and AKR1E1 shRNA (m) Lentiviral Particles: sc-140993-V.

Molecular Weight of AKR1E1: 34 kDa.

## 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.