SANTA CRUZ BIOTECHNOLOGY, INC.

AKR1CL2 (E-15): sc-107388

BACKGROUND

Members of the aldo/keto reductase (AKR) family are soluble NADPH-dependent oxidoreductases that play important roles in the metabolism of drugs, carcinogens and reactive aldehydes and may also act as bile acid-binding proteins. AKR1CL2 (aldo-keto reductase family 1 member C-like protein 2), also known as 1,5-anhydro-D-fructose reductase, AF reductase, LoopADR or HTSP, is a 320 amino acid member of the AKR protein family. Localized to the cytoplasm, AKR1CL2 catalyzes the NADPH-dependent reduction of 1,5-anhydro-D-fructose (AF) to 1,5-anhydro-D-glucitol, as well as the reduction of various quinones and aldehydes. AKR1CL2 is specific to testis and is expressed as five isoforms produced by alternative splicing events.

REFERENCES

1. Deyashiki, Y., et al. 1995. Molecular cloning and characterization of mouse estradiol 17 β-dehydrogenase (A-specific), a member of the aldoketoreductase family. J. Biol. Chem. 270: 10461-10467.
2. Penning, T.M., et al. 2000. Human 3α-hydroxysteroid dehydrogenase isoforms (AKR1C1-AKR1C4) of the aldo-keto reductase superfamily: functional plasticity and tissue distribution reveals roles in the inactivation and formation of male and female sex hormones. Biochem. J. 351: 67-77.
3. Nishinaka, T., et al. 2003. Human testis specific protein: a new member of aldo-keto reductase superfamily. Chem. Biol. Interact. 143: 299-305.
4. 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.
5. 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.
6. Matsumoto, K., et al. 2006. Enzymatic properties of a member (AKR1C20) of the aldo-keto reductase family. Biol. Pharm. Bull. 29: 539-542.

CHROMOSOMAL LOCATION

Genetic locus: AKR1E2 (human) mapping to 10p15.1.

SOURCE

AKR1CL2 (E-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of AKR1CL2 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-107388 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

AKR1CL2 (E-15) is recommended for detection of AKR1CL2 of 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).

Suitable for use as control antibody for AKR1CL2 siRNA (h): sc-90638, AKR1CL2 shRNA Plasmid (h): sc-90638-SH and AKR1CL2 shRNA (h) Lentiviral Particles: sc-90638-V.

Molecular Weight (predicted) of AKR1CL2: 36 kDa.

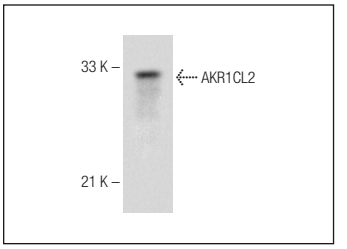
Molecular Weight (observed) of AKR1CL2: 32 kDa.

Positive Controls: A549 cell lysate: sc-2413.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



AKR1CL2 (E-15): sc-107388. Western blot analysis of AKR1CL2 expression in A549 whole cell lysate.

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.