SANTA CRUZ BIOTECHNOLOGY, INC.

AKR1D1 (C-2): sc-365932

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

AKR1D1 (aldo-keto reductase family 1 member D1), also known as Δ^4-3-oxosteroid 5-β-reductase (3o5bred) or steroid 5-β-reductase (SRD5B1), is responsible for catalyzing bile acid intermediates and steroid hormones possessing a Δ^4-3-one structure to 5-β reduced metabolites. The AKR family of proteins are soluble NADPH oxidoreductases. They play important roles in the metabolism of drugs, carcinogens and reactive aldehydes. AKR1D1 is highly expressed in liver, colon and testis. Substrates for AKR1D1 include testosterone, androstenedione, progesterone, 17-α-hydroxyprogesterone and the bile acid intermediates 7-α-hydroxy-4-cholesten-3-one and 7-α, 12-α-dihydroxy-4-cholesten-3-one. A deficiency in AKR1D1 may be involved in hepatic dysfunction.

REFERENCES

1. Kondo, K.H., et al. 1994. Cloning and expression of cDNA of human Δ^4-3-oxosteroid 5 β-reductase and substrate specificity of the expressed enzyme. Eur. J. Biochem. 219: 357-363.
2. Clayton, P.T., et al. 1996. Δ^4-3-oxosteroid 5 β-reductase deficiency: failure of ursodeoxycholic acid treatment and response to chenodeoxycholic acid plus cholic acid. Gut 38: 623-628.
3. Sumazaki, R., et al. 1997. Gene analysis in Δ^4-3-oxosteroid 5 β-reductase deficiency. Lancet 349: 329-329.
4. Charbonneau, A. and Luu-The,V. 1999. Assignment of steroid 5β-reductase (SRD5B1) and its pseudogene (SRD5BP1) to human chromosome bands 7q32→q33 and 1q23→q25, respectively, by *in situ* hybridization. Cytogenet. Cell Genet. 84: 105-106.

CHROMOSOMAL LOCATION

Genetic locus: AKR1D1 (human) mapping to 7q33; Akr1d1 (mouse) mapping to 6 B1.

SOURCE

AKR1D1 (C-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 13-37 at the N-terminus of AKR1D1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AKR1D1 (C-2) is available conjugated to agarose (sc-365932 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365932 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365932 PE), fluorescein (sc-365932 FITC), Alexa Fluor® 488 (sc-365932 AF488), Alexa Fluor® 546 (sc-365932 AF546), Alexa Fluor® 594 (sc-365932 AF594) or Alexa Fluor® 647 (sc-365932 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365932 AF680) or Alexa Fluor® 790 (sc-365932 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365932 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

AKR1D1 (C-2) is recommended for detection of AKR1D1 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

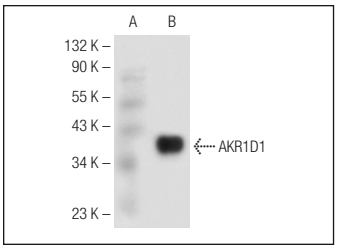
AKR1D1 (C-2) is also recommended for detection of AKR1D1 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for AKR1D1 siRNA (h): sc-61964, AKR1D1 siRNA (m): sc-61965, AKR1D1 shRNA Plasmid (h): sc-61964-SH, AKR1D1 shRNA Plasmid (m): sc-61965-SH, AKR1D1 shRNA (h) Lentiviral Particles: sc-61964-V and AKR1D1 shRNA (m) Lentiviral Particles: sc-61965-V.

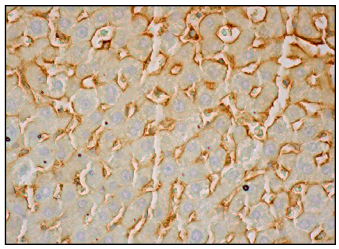
Molecular Weight of AKR1D1: 37 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, mouse liver extract: sc-2256 or AKR1D1 (m): 293T Lysate: sc-118319.

DATA



AKR1D1 (C-2): sc-365932. Western blot analysis of AKR1D1 expression in non-transfected: sc-117752 (**A**) and mouse AKR1D1 transfected: sc-118319 (**B**) 293T whole cell lysates.



AKR1D1 (C-2): sc-365932. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing membrane staining of hepatocytes and cytoplasmic and membrane staining of hepatic sinusoids.

SELECT PRODUCT CITATIONS

1. Valanejad, L., et al. 2018. Dysregulation of Δ^4-3-oxosteroid 5 β-reductase in diabetic patients: implications and mechanisms. Mol. Cell. Endocrinol. 470: 127-141.

STORAGE

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

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.