

AKR7A (H-300): sc-32944

BACKGROUND

The aldo-keto reductase 7 (AKR7) family includes AKR7A2, AKR7A3 and AKR7A4 in human, AKR7A5 in mouse and AKR7A2 in rat, all of which function in the metabolism of Aflatoxin B1 and other dicarbonyl-containing compounds. More specifically, AKR7A proteins are involved in the metabolism of compounds with ketone groups on adjacent carbon atoms in a broad range of tissues, notably the liver. The human AKR7A2 gene maps to human chromosome 1p36.13, a region frequently deleted in sporadic colorectal cancer. The functional significance of this correlation lies in the constitutive expression of AKR7A2 in human liver to eliminate Aflatoxin (an environmental carcinogen), thus acting as an endogenous chemo-preventative agent. AKR7A3 is believed to be a homodimer expressed in kidney, colon, pancreas, endometrium and adenocarcinoma.

CHROMOSOMAL LOCATION

Genetic locus: AKR7A2/AKR7A3/AKR7L (human) mapping to 1p36.13; *Akr7a5* (mouse) mapping to 4 D3.

SOURCE

AKR7A (H-300) is a rabbit polyclonal antibody raised against amino acids 63-359 mapping at the C-terminus of AKR7A2 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.

APPLICATIONS

AKR7A (H-300) is recommended for detection of AKR7A2, AKR7A3 and AKR7A4 of human origin, AKR7A5 of mouse origin and AKR7A2 of rat 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), 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).

AKR7A (H-300) is also recommended for detection of AKR7A2, AKR7A3 and AKR7A4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for AKR7A5 siRNA (m): sc-140994, AKR7A5 shRNA Plasmid (m): sc-140994-SH and AKR7A5 shRNA (m) Lentiviral Particles: sc-140994-V.

Molecular Weight of AKR7A2/AKR7A5: 40 kDa.

Molecular Weight of AKR7A3/AKR7A4: 37 kDa.

Positive Controls: AKR7A3 (h2): 293T Lysate: sc-114111, HL-60 whole cell lysate: sc-2209 or HeLa whole cell lysate: sc-2200.

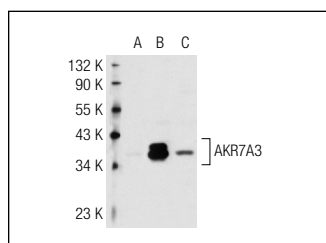
STORAGE

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

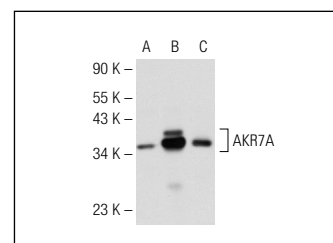
RESEARCH USE

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

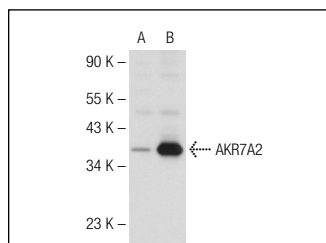
DATA



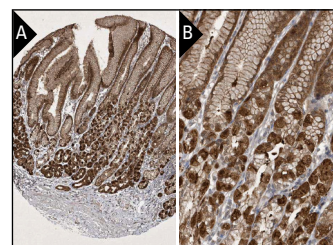
AKR7A (H-300): sc-32944. Western blot analysis of AKR7A3 expression in non-transfected 293T: sc-117752 (A), human AKR7A3 transfected 293T: sc-114111 (B) and HeLa (C) whole cell lysates.



AKR7A (H-300): sc-32944. Western blot analysis of AKR7A expression in non-transfected 293T: sc-117752 (A), human AKR7 transfected 293T: sc-173942 (B) and HL-60 (C) whole cell lysates.



AKR7A (H-300): sc-32944. Western blot analysis of AKR7A2 expression in non-transfected: sc-110760 (A) and human AKR7A2 transfected: sc-111315 (B) 293 whole cell lysates.



AKR7A (H-300): sc-32944. Immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach tissue showing cytoplasmic and nuclear staining of glandular cells in low (A) and high (B) resolution. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

1. Dewa, Y., et al. 2009. Molecular expression analysis of β -naphthoflavone-induced hepatocellular tumors in rats. *Toxicol Pathol.* 37: 446-455.

PROTOCOLS

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

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Try **AKR7A (F-8): sc-137186** or **AKR7A (E-9): sc-137187**, our highly recommended monoclonal alternatives to AKR7A (H-300).