

AKR1B10 (F-4): sc-365689

BACKGROUND

AKR1B10 (aldo-keto reductase family 1 member B10) is also known as aldose reductase-like-1 (ARL-1), small intestine reductase (SI reductase) or aldose reductase-related protein (ARP or hARP). AKR1B10 is found in many tissues but is predominantly expressed in small intestine, colon and adrenal gland. AKR1B10 is an efficient reductase for aliphatic and aromatic aldehydes. It plays a role in steroid metabolism as well as detoxification of aldehydes in digested food, and may be involved in the retinal-retinoic acid signaling pathway. AKR1B10 is prominently overexpressed in non-small cell lung carcinoma and adenocarcinoma. Cigarette smoking is an independent variable responsible for this overexpression. AKR1B10 may play a role regulating cell proliferation and cellular response to carbonyl stress.

REFERENCES

1. Donaghue, K.C., et al. 2005. The association of aldose reductase gene (AKR1B1) polymorphisms with diabetic neuropathy in adolescents. *Diabet. Med.* 22: 1315-1320.
2. Penning, T.M. 2005. AKR1B10: a new diagnostic marker of non-small cell lung carcinoma in smokers. *Clin. Cancer Res.* 11: 1687-1690.
3. Fukumoto, S., et al. 2005. Overexpression of the aldose reductase family protein AKR1B10 is highly correlated with smokers' non-small cell lung carcinomas. *Clin. Cancer Res.* 11: 1776-1785.
4. Gallego, O., et al. 2006. Comparative functional analysis of human medium-chain dehydrogenases, short-chain dehydrogenases/reductases and aldose reductases with retinoids. *Biochem. J.* 399: 101-109.

CHROMOSOMAL LOCATION

Genetic locus: AKR1B10 (human) mapping to 7q33.

SOURCE

AKR1B10 (F-4) is a mouse monoclonal antibody raised against amino acids 79-147 mapping within an internal region of AKR1B10 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AKR1B10 (F-4) is available conjugated to agarose (sc-365689 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365689 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365689 PE), fluorescein (sc-365689 FITC), Alexa Fluor[®] 488 (sc-365689 AF488), Alexa Fluor[®] 546 (sc-365689 AF546), Alexa Fluor[®] 594 (sc-365689 AF594) or Alexa Fluor[®] 647 (sc-365689 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365689 AF680) or Alexa Fluor[®] 790 (sc-365689 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

AKR1B10 (F-4) is recommended for detection of AKR1B10 of 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).

Suitable for use as control antibody for AKR1B10 siRNA (h): sc-72341, AKR1B10 shRNA Plasmid (h): sc-72341-SH and AKR1B10 shRNA (h) Lentiviral Particles: sc-72341-V.

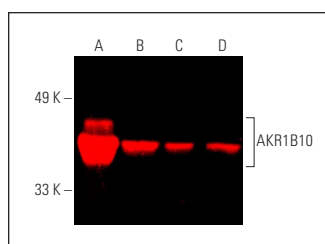
Molecular Weight of AKR1B10: 35 kDa.

Positive Controls: human stomach extract: sc-363780, Hep G2 cell lysate: sc-2227 or human small intestine extract: sc-364225.

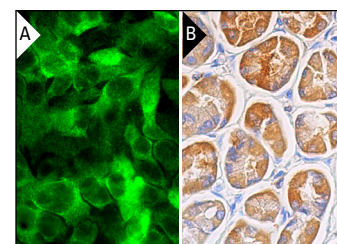
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



AKR1B10 (F-4): sc-365689. Near-Infrared western blot analysis of AKR1B10 expression in A549 (A) and Hep G2 (B) whole cell lysates and human stomach (C) and human small intestine (D) tissue extracts. Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.



AKR1B10 (F-4): sc-365689. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

1. Dai, T., et al. 2021. Regulation network and prognostic significance of aldo-keto reductase (AKR) superfamily genes in hepatocellular carcinoma. *J. Hepatocell. Carcinoma* 8: 997-1021.

RESEARCH USE

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