SANTA CRUZ BIOTECHNOLOGY, INC.

AKR1B10 (m2): 293T Lysate: sc-118307

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 aldo-keto 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 aldo-keto reductases with retinoids. Biochem. J. 399: 101-109.
5. Martin, H.J., et al. 2006. Purification and characterization of AKR1B10 from human liver: role in carbonyl reduction of xenobiotics. Drug Metab. Dispos. 34: 464-470.
6. Mashkova, T.D., et al. 2006. Transcription TIMP3, DAPk1 and AKR1B10 genes in squamous cell lung cancer. Mol. Biol. 40: 1047-1054.
7. Yan, R., et al. 2007. Aldo-keto reductase family 1 B10 gene silencing results in growth inhibition of colorectal cancer cells: implication for cancer intervention. Int. J. Cancer 121: 2301-2306.
8. Zu, X., et al. 2007. Reduced 293T cell susceptibility to acrolein due to aldose reductase-like-1 protein expression. Toxicol. Sci. 97: 562-568.
9. Yoshitake, H., et al. 2007. Aldo-keto reductase family 1, member B10 in uterine carcinomas: a potential risk factor of recurrence after surgical therapy in cervical cancer. Int. J. Gynecol. Cancer 17: 1300-1306.

CHROMOSOMAL LOCATION

Genetic locus: Akr1b10 (mouse) mapping to 6 B1.

PRODUCT

AKR1B10 (m2): 293T Lysate represents a lysate of mouse AKR1B10 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

AKR1B10 (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive AKR1B10 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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