

CYP2A (h): 293T Lysate: sc-128391

BACKGROUND

The cytochrome P450 proteins (CYPs) are monooxygenases that catalyze many reactions involved in drug metabolism and synthesis of cholesterol, steroids and other lipids. P450 enzymes are classified into subfamilies based on their sequence similarities. CYP2A6 is a liver enzyme that metabolizes a number of drugs and a variety of procarcinogens, though it is primarily responsible for the metabolism of nicotine, the major addictive agent in tobacco. CYP2A6 inactivates nicotine to cotinine, and then cotinine to 3-hydroxycotinine. Differences in CYP2A6 genotypes are related to nicotine dependence, and may influence smoking habits and withdrawal symptoms in individuals that are quitting smoking. This suggests that an individualized smoking cessation program may be designed based on CYP2A6 genotypes.

REFERENCES

1. Nakajima, M., et al. 2004. Novel human CYP2A6 alleles confound gene deletion analysis. *FEBS Lett.* 569: 75-81.
2. Kimura, M., et al. 2005. CYP2A6 is a principal enzyme involved in hydroxylation of 1,7-dimethylxanthine, a main caffeine metabolite, in humans. *Drug Metab. Dispos.* 33: 1361-1366.
3. Kumarakulasingham, M., et al. 2005. Cytochrome P450 profile of colorectal cancer: identification of markers of prognosis. *Clin. Cancer Res.* 11: 3758-3765.
4. Swan, G.E., et al. 2005. Nicotine metabolism: the impact of CYP2A6 on estimates of additive genetic influence. *Pharmacogenet. Genomics* 15: 115-125.
5. von Weyarn, L.B., et al. 2005. Inactivation of CYP2A6 and CYP2A13 during nicotine metabolism. *J. Pharmacol. Exp. Ther.* 316: 295-303.

CHROMOSOMAL LOCATION

Genetic locus: CYP2A6 (human) mapping to 19q13.2.

PRODUCT

CYP2A (h): 293T Lysate represents a lysate of human CYP2A transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

CYP2A (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive CYP2A 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.

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.