

CYP4X1 (h2): 293T Lysate: sc-174962

BACKGROUND

Cytochrome P450 proteins are heme-thiolate monooxygenases that mediate NADPH-dependent electron transport and function to oxidize a variety of structurally unrelated compounds, including steroids, fatty acids and xenobiotics. Specifically, Cytochrome P450s are responsible for metabolizing arachidonic acid to hydroxyeicosatetraenoic acid (a regulator of blood pressure) and epoxygenic acid (a molecule involved in signaling events). CYP4X1 (cytochrome P450, family 4, subfamily X, polypeptide 1) is a 509 amino acid peripheral membrane protein of the microsome and endoplasmic reticulum. Expressed in brain, aorta and trachea, CYP4X1 may play a role in neurovascular function and is encoded by a gene that maps to human chromosome 1p33. Chromosome 1 spans 260 million base pairs, contains over 3,000 genes, and houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease and Gaucher disease.

REFERENCES

1. Bowling, E.L., Brown, M.D. and Trundle, T.V. 2000. The Stickler syndrome: case reports and literature review. *Optometry* 71: 177-182.
2. Ito, O., Omata, K., Ito, S., Hoagland, K.M. and Roman, R.J. 2001. Effects of converting enzyme inhibitors on renal P450 metabolism of arachidonic acid. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* 280: R822-R830.
3. Bylund, J., Zhang, C. and Harder, D.R. 2002. Identification of a novel cytochrome P450, CYP4X1, with unique localization specific to the brain. *Biochem. Biophys. Res. Commun.* 296: 677-684.
4. Plasilova, M., Russell, A.M., Wanner, A., Wolf, A., Dobbie, Z., Müller, H.J. and Heinemann, K. 2004. Exclusion of an extracolonic disease modifier locus on chromosome 1p33-36 in a large Swiss familial adenomatous polyposis kindred. *Eur. J. Hum. Genet.* 12: 365-371.
5. Nelson, D.R., Zeldin, D.C., Hoffman, S.M., Maltais, L.J., Wain, H.M. and Nebert, D.W. 2004. Comparison of cytochrome P450 (CYP) genes from the mouse and human genomes, including nomenclature recommendations for genes, pseudogenes and alternative-splice variants. *Pharmacogenetics* 14: 1-18.
6. Savas, U., Hsu, M.H., Griffin, K.J., Bell, D.R. and Johnson, E.F. 2005. Conditional regulation of the human CYP4X1 and CYP4Z1 genes. *Arch. Biochem. Biophys.* 436: 377-385.
7. Sue Masters, B. and Marohnic, C.C. 2006. Cytochromes P450—a family of proteins and scientists-understanding their relationships. *Drug Metab. Rev.* 38: 209-225.
8. Munro, A.W., Girvan, H.M. and McLean, K.J. 2007. Cytochrome P450—redox partner fusion enzymes. *Biochim. Biophys. Acta* 1770: 345-359.

CHROMOSOMAL LOCATION

Genetic locus: CYP4X1 (human) mapping to 1p33.

PRODUCT

CYP4X1 (h2): 293T Lysate represents a lysate of human CYP4X1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

CYP4X1 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive CYP4X1 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 for detailed protocols and support products.