

CYP2J2 (h2): 293T Lysate: sc-174594

BACKGROUND

The cytochrome P450 proteins are monooxygenases that catalyze many reactions involved in drug metabolism and synthesis of cholesterol, steroids and other lipids. CYP2J2 (cytochrome P450 2J2), also known as CPJ2, is a member of the cytochrome P450 protein superfamily. Localized to the ER (endoplasmic reticulum) and microsomal membranes, CYP2J2 is one of three cytochrome P450 enzymes that are responsible for metabolizing arachidonic acid to epoxyeicosatrienoic acids. Functioning via an NADPH-dependent olefin epoxidation, CYP2J2 epoxidizes endogenous cardiac arachidonic acid pools to four different isoforms of epoxyeicosatrienoic acid, all of which are important regulators of cardiovascular homeostasis and vascular tone. CYP2J2 is highly expressed in the heart with low levels of expression found in the liver, colon and kidneys. Up-regulation of CYP2J2 by a c-Jun responsive pathway is thought to promote the neoplastic phenotype of certain carcinoma cells, implicating CYP2J2 in carcinogenesis.

REFERENCES

1. Ma, J., Ramachandran, S. and Zeldin, D.C. 1998. Mapping of the CYP2J cytochrome P450 genes to human chromosome 1 and mouse chromosome 4. *Genomics* 49: 152-155.
2. King, L.M., Ma, J., Srettabunjong, S., Graves, J., Bradbury, J.A., Li, L., Spiecker, M., Liao, J.K., Mohrenweiser, H. and Zeldin, D.C. 2002. Cloning of CYP2J2 gene and identification of functional polymorphisms. *Mol. Pharmacol.* 61: 840-852.
3. Jiang, J.G., Chen, C.L., Card, J.W., Yang, S., Chen, J.X., Fu, X.N., Ning, Y.G., Xiao, X., Zeldin, D.C. and Wang, D.W. 2005. Cytochrome P450 2J2 promotes the neoplastic phenotype of carcinoma cells and is upregulated in human tumors. *Cancer Res.* 65: 4707-4715.
4. Marden, N.Y. and Murray, M. 2005. Characterization of a c-Jun-responsive module in the 5'-flank of the human CYP2J2 gene that regulates trans-activation. *Biochem. J.* 391: 631-640.
5. Dreisbach, A.W., Japa, S., Sigel, A., Parenti, M.B., Hess, A.E., Srinouanprachanh, S.L., Rettie, A.E., Kim, H., Farin, F.M., Hamm, L.L. and Lertora, J.J. 2005. The Prevalence of CYP2C8, 2C9, 2J2, and soluble epoxide hydrolase polymorphisms in African Americans with hypertension. *Am. J. Hypertens.* 18: 1276-1281.
6. Gaedigk, A., Baker, D.W., Totah, R.A., Gaedigk, R., Pearce, R.E., Vyhldal, C.A., Zeldin, D.C. and Leeder, J.S. 2006. Variability of CYP2J2 expression in human fetal tissues. *J. Pharmacol. Exp. Ther.* 319: 523-532.
7. Delozier, T.C., Kissling, G.E., Coulter, S.J., Dai, D., Foley, J.F., Bradbury, J.A., Murphy, E., Steenbergen, C., Zeldin, D.C. and Goldstein, J.A. 2007. Detection of human CYP2C8, CYP2C9, and CYP2J2 in cardiovascular tissues. *Drug Metab. Dispos.* 35: 682-688.
8. Wu, S.N., Zhang, Y., Gardner, C.O., Chen, Q., Li, Y., Wang, G.L., Gao, P.J. and Zhu, D.L. 2007. Evidence for association of polymorphisms in CYP2J2 and susceptibility to essential hypertension. *Ann. Hum. Genet.* 71: 519-525.
9. Lafite, P., André, F., Zeldin, D.C., Dansette, P.M. and Mansuy, D. 2007. Unusual regioselectivity and active site topology of human cytochrome P450 2J2. *Biochemistry* 46: 10237-10247.

CHROMOSOMAL LOCATION

Genetic locus: CYP2J2 (human) mapping to 1p32.1.

PRODUCT

CYP2J2 (h2): 293T Lysate represents a lysate of human CYP2J2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

CYP2J2 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive CYP2J2 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.

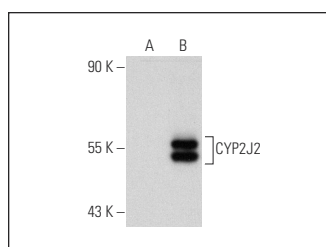
CYP2J2 (D-6): sc-137127 is recommended as a positive control antibody for Western Blot analysis of enhanced human CYP2J2 expression in CYP2J2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

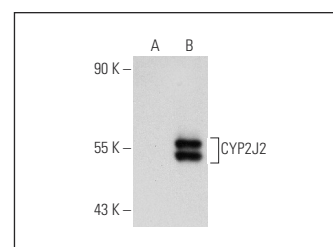
To ensure optimal results, the following support reagents are recommended:

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.

DATA



CYP2J2 (D-6): sc-137127. Western blot analysis of CYP2J2 expression in non-transfected: sc-117752 (A) and human CYP2J2 transfected: sc-174594 (B) 293T whole cell lysates.



CYP2J2 (E-6): sc-137100. Western blot analysis of CYP2J2 expression in non-transfected: sc-117752 (A) and human CYP2J2 transfected: sc-174594 (B) 293T whole cell lysates.

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.