SANTA CRUZ BIOTECHNOLOGY, INC.

CYP2J2 (E-6): sc-137100

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. Upregulation 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., et al. 1998. Mapping of the CYP2J cytochrome P450 genes to human chromosome 1 and mouse chromosome 4. Genomics 49: 152-155.
2. King, L.M., et al. 2002. Cloning of CYP2J2 gene and identification of functional polymorphisms. Mol. Pharmacol. 61: 840-852.
3. Jiang, J.G., et al. 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 transactivation. Biochem. J. 391: 631-640.
5. Dreisbach, A.W., et al. 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., et al. 2006. Variability of CYP2J2 expression in human fetal tissues. J. Pharmacol. Exp. Ther. 319: 523-532.
7. Delozier, T.C., et al. 2007. Detection of human CYP2C8, CYP2C9, and CYP2J2 in cardiovascular tissues. Drug Metab. Dispos. 35: 682-688.
8. Wu, S.N., et al. 2007. Evidence for association of polymorphisms in CYP2J2 and susceptibility to essential hypertension. Ann. Hum. Genet. 71: 519-525.

CHROMOSOMAL LOCATION

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

SOURCE

CYP2J2 (E-6) is a mouse monoclonal antibody raised against amino acids 243-302 mapping within an internal region of CYP2J2 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.

APPLICATIONS

CYP2J2 (E-6) is recommended for detection of CYP2J2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CYP2J2 siRNA (h): sc-62184, CYP2J2 shRNA Plasmid (h): sc-62184-SH and CYP2J2 shRNA (h) Lentiviral Particles: sc-62184-V.

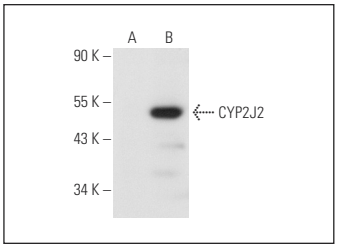
Molecular Weight of CYP2J2: 57 kDa.

Positive Controls: HISM cell lysate: sc-2229, CYP2J2 (h): 293T Lysate: sc-115223 or Hep G2 cell lysate: sc-2227.

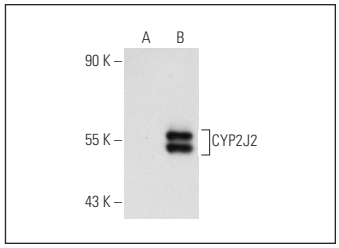
RECOMMENDED SUPPORT REAGENTS

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.

DATA



CYP2J2 (E-6): sc-137100. Western blot analysis of CYP2J2 expression in non-transfected: sc-117752 (**A**) and human CYP2J2 transfected: sc-115223 (**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.

SELECT PRODUCT CITATIONS

1. Huang, J., et al. 2019. The effects of endothelium-specific CYP2J2 overexpression on the attenuation of retinal ganglion cell apoptosis in a glaucoma rat model. FASEB J. 33: 11194-11209.

STORAGE

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

RESEARCH USE

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