

# CYP2J2 (K-15): sc-66363

## 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. 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.
4. Marden, N.Y., et al. 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. 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.
6. Gaedigk, A., et al. 2006. Variability of CYP2J2 expression in human fetal tissues. *J. Pharmacol. Exp. Ther.* 319: 523-532.
7. Wu, S.N., et al. 2007. Evidence for association of polymorphisms in CYP2J2 and susceptibility to essential hypertension. *Ann. Hum. Genet.* 71: 519-525.
8. Lafite, P., et al. 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.

## SOURCE

CYP2J2 (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CYP2J2 of human origin.

## STORAGE

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

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-66363 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CYP2J2 (K-15) is recommended for detection of CYP2J2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

CYP2J2 (K-15) is also recommended for detection of CYP2J2 in additional species, including equine, canine, bovine and porcine.

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: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or HISM cell lysate: sc-2229.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **CYP2J2 (D-6): sc-137127** or **CYP2J2 (E-6): sc-137100**, our highly recommended monoclonal alternatives to CYP2J2 (K-15).