SANTA CRUZ BIOTECHNOLOGY, INC.

CYP2J2 (D-6): sc-137127

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.

CHROMOSOMAL LOCATION

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

SOURCE

CYP2J2 (D-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.

CYP2J2 (D-6) is available conjugated to agarose (sc-137127 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-137127 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137127 PE), fluorescein (sc-137127 FITC), Alexa Fluor® 488 (sc-137127 AF488), Alexa Fluor® 546 (sc-137127 AF546), Alexa Fluor® 594 (sc-137127 AF594) or Alexa Fluor® 647 (sc-137127 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-137127 AF680) or Alexa Fluor® 790 (sc-137127 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

CYP2J2 (D-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.

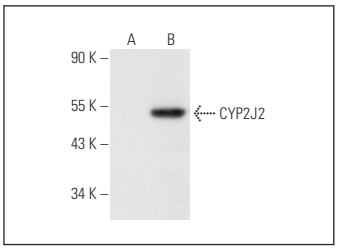
Molecular Weight of CYP2J2: 57 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or CYP2J2 (h): 293T Lysate: sc-115223.

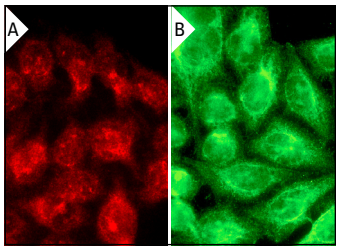
RECOMMENDED SUPPORT REAGENTS

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 (D-6): sc-137127. Western blot analysis of CYP2J2 expression in non-transfected: sc-117752 (**A**) and human CYP2J2 transfected: sc-115223 (**B**) 293T whole cell lysates.



CYP2J2 (D-6): sc-137127. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization (**A**,**B**).

SELECT PRODUCT CITATIONS

1. Zhang, J., et al. 2021. Cytochrome P450 2J2 inhibits the proliferation and angiogenesis of retinal vascular endothelial cells by regulating the Notch signaling pathway in a hypoxia-induced retinopathy model. Bioengineered 12: 10878-10890.
2. Castro, I., et al. 2023. Establishing and characterizing a novel doxorubicin-resistant acute myeloid leukaemia cell line. J. Chemother. 35: 307-321.
3. Lim, H.M., et al. 2024. Acetylshikonin, a novel CYP2J2 inhibitor, induces apoptosis in RCC cells via FOXO3 activation and ROS elevation. Oxid. Med. Cell. Longev. 2022: 9139338.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.