SANTA CRUZ BIOTECHNOLOGY, INC.

CYP2U1 (D-4): sc-393368

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

P450 enzymes constitute a family of monooxygenase enzymes that are involved in the metabolism of a wide array of endogenous and xenobiotic compounds. There are currently 57 known active cytochrome P450 (CYP) genes and 58 known pseudogenes present in the human genome. Several P450 enzymes have been classified by sequence similarities as members of the CYP1A and CYP2A subfamilies. CYP2U1 is a 544 amino acid protein that belongs to the CYP2 family of cytochrome P450 proteins. These proteins are usually involved in the metabolism of foreign compounds. CYP2U1 metabolizes arachidonic acid, docosahexaeonic acid and other long chain fatty acids. CYP2U1 may be involved in modulating the arachidonic acid signaling pathway in the cerebellum and thymus.

REFERENCES

1. Chuang, S.S., et al. 2004. CYP2U1, a novel human thymus- and brain-specific cytochrome P450, catalyzes ω- and (ω-1)-hydroxylation of fatty acids. J. Biol. Chem. 279: 6305-6314.
2. Choudhary, D., et al. 2005. Expression patterns of mouse and human CYP orthologs (families 1-4) during development and in different adult tissues. Arch. Biochem. Biophys. 436: 50-61.
3. Ingelman-Sundberg, M. 2005. The human genome project and novel aspects of cytochrome P450 research. Toxicol. Appl. Pharmacol. 207: 52-56.
4. Karlgren, M., Miura, S. and Ingelman-Sundberg, M. 2005. Novel extrahepatic cytochrome P450s. Toxicol. Appl. Pharmacol. 207: 57-61.
5. Kumarakulasingham, M., et al. 2005. Cytochrome P450 profile of colorectal cancer: identification of markers of prognosis. Clin. Cancer Res. 11: 3758-3765.

CHROMOSOMAL LOCATION

Genetic locus: CYP2U1 (human) mapping to 4q25.

SOURCE

CYP2U1 (D-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 9-28 at the N-terminus of CYP2U1 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-393368 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

PROTOCOLS

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

APPLICATIONS

CYP2U1 (D-4) is recommended for detection of CYP2U1 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), immunohistochemistry (including paraffin-embedded sections) (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 CYP2U1 siRNA (h): sc-60485, CYP2U1 shRNA Plasmid (h): sc-60485-SH and CYP2U1 shRNA (h) Lentiviral Particles: sc-60485-V.

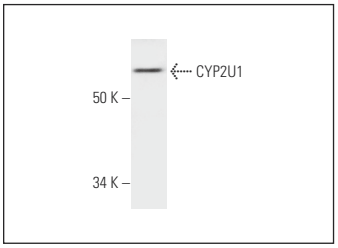
Molecular Weight of CYP2U1: 55 kDa.

Positive Controls: human heart extract: sc-363763.

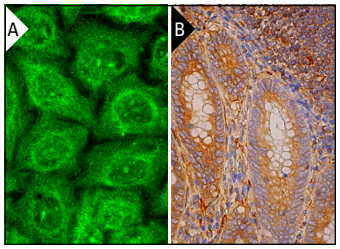
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



CYP2U1 (D-4): sc-393368. Western blot analysis of CYP2U1 expression in human heart tissue extract.



CYP2U1 (D-4): sc-393368. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic staining of glandular cells and lymphoid cells (**B**).

SELECT PRODUCT CITATIONS

1. Durand, C.M., et al. 2018. CYP2U1 activity is altered by missense mutations in hereditary spastic paraplegia 56. Hum. Mutat. 39: 140-151.

RESEARCH USE

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