

CYP4V2 (T-14): sc-104183

BACKGROUND

CYP4V2 (cytochrome P450 4V2) is a 525 amino acid protein that belongs to the cytochrome P450 family. Localized to the endoplasmic reticulum membrane, CYP4V2 is widely expressed in various tissues. Defects in CYP4V2 have been linked to Bietti crystalline corneoretinal dystrophy (BCD), an autosomal recessive retinal dystrophy characterized by multiple glistening intraretinal crystals scattered over the fundus, a characteristic degeneration of the retina and sclerosis of the choroidal vessels, ultimately resulting in progressive night blindness and constriction of the visual field. The homology of CYP4V2 to other members of the cytochrome P450 family suggests that it may play a role in fatty acid and steroid metabolism. Two isoforms of CYP4V2 exist as a result of alternative splicing events.

REFERENCES

- Jiao, X., et al. 2000. Genetic linkage of Bietti crystallin corneoretinal dystrophy to chromosome 4q35. *Am. J. Hum. Genet.* 67: 1309-1313.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608614. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Li, A., et al. 2004. Bietti crystalline corneoretinal dystrophy is caused by mutations in the novel gene CYP4V2. *Am. J. Hum. Genet.* 74: 817-826.
- Lee, K.Y., et al. 2005. Characterization of Bietti crystalline dystrophy patients with CYP4V2 mutations. *Invest. Ophthalmol. Vis. Sci.* 46: 3812-3816.
- Shan, M., et al. 2005. Novel mutations in the CYP4V2 gene associated with Bietti crystalline corneoretinal dystrophy. *Mol. Vis.* 11: 738-743.
- Thomas, R.D., et al. 2006. Cytochrome P450 expression and metabolic activation of cooked food mutagen 2-amino-1-methyl-6-phenylimidazo [4,5-b]pyridine (PhIP) in MCF10A breast epithelial cells. *Chem. Biol. Interact.* 160: 204-216.

CHROMOSOMAL LOCATION

Genetic locus: CYP4V2 (human) mapping to 4q35.2; Cyp4v3 (mouse) mapping to 8 B1.1.

SOURCE

CYP4V2 (T-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CYP4V2 of human origin.

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-104183 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

CYP4V2 (T-14) is recommended for detection of CYP4V2 in human and CYP4V3 in mouse and rat origin by Western Blotting (starting dilution 1:200, 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); non cross-reactive with other CYP4 family members.

CYP4V2 (T-14) is also recommended for detection of CYP4V2 in additional species, including equine, bovine, porcine and avian.

Suitable for use as control antibody for CYP4V2 siRNA (h): sc-89024, CYP4V3 siRNA (m): sc-105262, CYP4V2 shRNA Plasmid (h): sc-89024-SH, CYP4V3 shRNA Plasmid (m): sc-105262-SH, CYP4V2 shRNA (h) Lentiviral Particles: sc-89024-V and CYP4V3 shRNA (m) Lentiviral Particles: sc-105262-V.

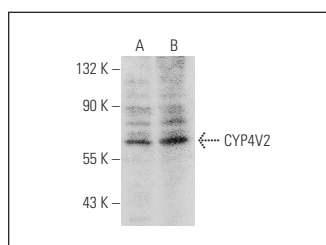
Molecular Weight of CYP4V2: 61 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or ARPE-19 whole cell lysate: sc-364357.

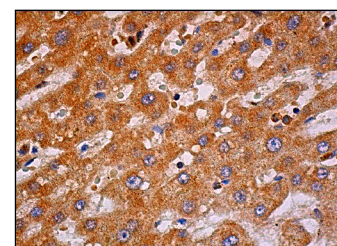
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



CYP4V2 (T-14): sc-104183. Western blot analysis of CYP4V2 expression in ARPE-19 (A) and NIH/3T3 (B) whole cell lysates.



CYP4V2 (T-14): sc-104183. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes.

RESEARCH USE

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