

# CYP2R1 (H-100): sc-98919

## 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. CYP2R1 is a 501 amino acid protein which belongs to the CYP2 family of cytochrome P450 proteins. These proteins are usually involved in the metabolism of foreign compounds. CYP2R1 acts as a major vitamin D 25-hydroxylase. A homozygous mutation in the CYP2R1 gene eliminates the vitamin D3 25-hydroxylase activity of the CYP2R1 protein, causing 25-hydroxyvitamin D3 deficiency. Manifestations of 25-hydroxyvitamin D3 deficiency include abnormally low plasma levels of 25-hydroxyvitamin D3 and various symptoms of vitamin D deficiency, including skeletal abnormalities, hypophosphatemia and hypocalcemia.

## REFERENCES

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3. Cheng, J.B., Levine, M.A., Bell, N.H., Mangelsdorf, D.J. and Russell, D.W. 2004. Genetic evidence that the human CYP2R1 enzyme is a key vitamin D 25-hydroxylase. *Proc. Natl. Acad. Sci. USA* 101: 7711-7715.
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## CHROMOSOMAL LOCATION

Genetic locus: CYP2R1 (human) mapping to 11p15.2; Cyp2r1 (mouse) mapping to 7 F1.

## SOURCE

CYP2R1 (H-100) is a rabbit polyclonal antibody raised against amino acids 1-100 of CYP2R1 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.

## APPLICATIONS

CYP2R1 (H-100) is recommended for detection of CYP2R1 of human and, to a lesser extent, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

CYP2R1 (H-100) is also recommended for detection of CYP2R1 in additional species, including bovine and porcine.

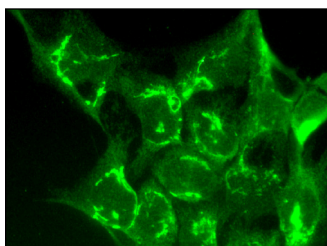
Suitable for use as control antibody for CYP2R1 siRNA (h): sc-60481, CYP2R1 siRNA (m): sc-60482, CYP2R1 shRNA Plasmid (h): sc-60481-SH, CYP2R1 shRNA Plasmid (m): sc-60482-SH, CYP2R1 shRNA (h) Lentiviral Particles: sc-60481-V and CYP2R1 shRNA (m) Lentiviral Particles: sc-60482-V.

Molecular Weight of CYP2R1: 57 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## DATA



CYP2R1 (H-100): sc-98919. Immunofluorescence staining of formalin-fixed HepG2 cells showing cytoplasmic localization.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.