

CYPOR (H-300): sc-13984

BACKGROUND

P450 enzymes constitute a family of monooxygenase enzymes that are involved in the metabolism of a wide array of endogenous and xenobiotic compounds. Several P450 enzymes have been classified by sequence similarities as members of the CYP1A and CYP2A subfamilies. CYPOR, also known as cytochrome P450 reductase and NADPH cytochrome P450 reductase, is a microsomal enzyme responsible for the transfer of electrons from NADPH to cytochrome P450 enzymes during the P450 catalytic cycle. CYPOR is localized to the endoplasmic reticulum, where it is also able to transfer electrons to heme oxygenase and cytochrome b5. CYPOR is structurally related to two separate flavoprotein families, ferredoxin nucleotide reductase (FNR) and flavodoxin. Electron transfer of CYPOR requires the binding of two flavin cofactors, FAD and FMN, to the FNR and flavodoxin domains, respectively.

REFERENCES

- Vermilion, J.L., et al. 1978. Purified liver microsomal NADPH-cytochrome P-450 reductase. Spectral characterization of oxidation-reduction states. *J. Biol. Chem.* 253: 2694-2704.
- Haniu, M., et al. 1989. Structural and functional analysis of NADPH cytochrome P450 reductase from human liver: complete sequence of human enzyme and NADPH-binding sites. *Biochemistry* 28: 8639-8645.

CHROMOSOMAL LOCATION

Genetic locus: POR (human) mapping to 7q11.23; Por (mouse) mapping to 5 G2.

SOURCE

CYPOR (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 of CYPOR 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

CYPOR (H-300) is recommended for detection of CYPOR of mouse, rat and human 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).

CYPOR (H-300) is also recommended for detection of CYPOR in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for CYPOR siRNA (h): sc-35147, CYPOR siRNA (m): sc-35148, CYPOR shRNA Plasmid (h): sc-35147-SH, CYPOR shRNA Plasmid (m): sc-35148-SH, CYPOR shRNA (h) Lentiviral Particles: sc-35147-V and CYPOR shRNA (m) Lentiviral Particles: sc-35148-V.

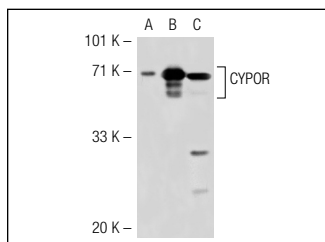
Molecular Weight of CYPOR: 76 kDa.

Positive Controls: CYPOR (h): 293T Lysate: sc-113650.

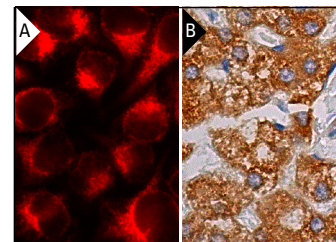
RECOMMENDED SECONDARY REAGENTS

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™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 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™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



CYPOR (H-300): sc-13984. Western blot analysis of CYPOR expression in non-transfected 293T: sc-117752 (A), human CYPOR transfected 293T: sc-113650 (B) and A-431 (C) whole cell lysates.



CYPOR (H-300): sc-13984. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes (B).

SELECT PRODUCT CITATIONS

- Landsiedel, R., et al. 2011. Chemical toxicity testing *in vitro* using cytochrome P450-expressing cell lines, such as human CYP1B1. *Nat. Protoc.* 6: 677-687.

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 or our catalog for detailed protocols and support products.



Try **CYPOR (F-10): sc-25270** or **CYPOR (F-2): sc-55477**, our highly recommended monoclonal alternatives to CYPOR (H-300).