

# CYP4A14 (Q-15): sc-46087

## BACKGROUND

Cytochrome p450 proteins are heme-thiolate monooxygenases that mediate NADPH-dependent electron transport and oxidize a variety of structurally unrelated compounds, including steroids, fatty acids and xenobiotics. Cytochrome P450s metabolize arachidonic acid to hydroxyeicosate-traenoic acids and epoxyeicosatrienoic acids. In the kidney of female mice, CYP4A isoforms CYP4A10 and CYP4A14 are present in proximal tubules. Mouse CYP4A14 has a GC rich sequence immediately 5' of the transcription start site, and is similar to the rat CYP4A2 and CYP4A3 genes. The mouse CYP4A14 gene spans approximately 13 kb, and contains 12 exons; sequence similarity to the rat CYP4A2 gene sequence falls off 300 bp upstream from the start site.

## REFERENCES

- Heng, Y.M., et al. 1997. A novel murine P-450 gene, CYP4A14, is part of a cluster of CYP4A and CYP4B, but not of CYP4F, genes in mouse and humans. *Biochem. J.* 325: 741-749.
- Westlind, A., et al. 2001. Cloning and tissue distribution of a novel human cytochrome p450 of the CYP3A subfamily, CYP3A43. *Biochem. Biophys. Res. Commun.* 281: 1349-1355.
- Davis, B.K., et al. 2002. Hyperconservation of the putative antigen recognition site of the MHC class I-b molecule TL in the subfamily Murinae: evidence that thymus leukemia antigen is an ancient mammalian gene. *J. Immunol.* 169: 6890-6899.
- Choudhary, D., et al. 2003. Comparative expression profiling of 40 mouse cytochrome P450 genes in embryonic and adult tissues. *Arch. Biochem. Biophys.* 414: 91-100.
- Hercule, H.C., et al. 2003. Contribution of cytochrome P450 4A isoforms to renal functional response to inhibition of nitric oxide production in the rat. *J. Physiol.* 551: 971-979.

## CHROMOSOMAL LOCATION

Genetic locus: *Cyp4a32* (mouse) mapping to 4 D1.

## SOURCE

CYP4A14 (Q-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CYP4A14 of mouse origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-46087 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

CYP4A14 (Q-15) is recommended for detection of a broad range of CYP4A family members of 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).

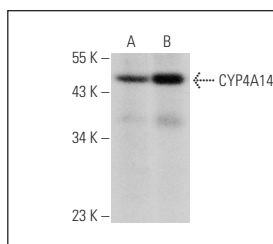
Suitable for use as control antibody for CYP4A14 siRNA (m): sc-142723, CYP4A14 shRNA Plasmid (m): sc-142723-SH and CYP4A14 shRNA (m) Lentiviral Particles: sc-142723-V.

Positive Controls: mouse kidney extract: sc-2255 or rat liver extract: sc-2395.

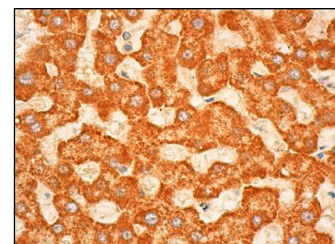
## RECOMMENDED SECONDARY REAGENTS

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



CYP4A14 (Q-15): sc-46087. Western blot analysis of CYP4A14 expression in mouse kidney (A) and rat liver (B) tissue extracts.



CYP4A14 (Q-15): sc-46087. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes.

## SELECT PRODUCT CITATIONS

- Eldasher, L.M., et al. 2013. Hepatic and renal Bcrp transporter expression in mice treated with perfluorooctanoic acid. *Toxicology* 306: 108-113.
- Wen, X., et al. 2013. Regulation of hepatic phase II metabolism in pregnant mice. *J. Pharmacol. Exp. Ther.* 344: 244-252.

## RESEARCH USE

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