

# CYP20A1 (P-12): sc-137414

## BACKGROUND

Cytochrome P450 proteins are heme-thiolate monooxygenases that mediate NADPH-dependent electron transport and function to oxidize a variety of structurally unrelated compounds, including steroids, fatty acids and xenobiotics. Specifically, Cytochrome P450s are responsible for metabolizing arachidonic acid to hydroxyeicosatetraenoic acid (a regulator of blood pressure) and epoxyeicosatrienoic acid (a molecule involved in signaling events). CYP20A1 (cytochrome P450, family 20, subfamily A, polypeptide 1), also known as CYP-M, is a 462 amino acid single-pass membrane protein that belongs to the cytochrome P450 family. CYP20A1 is thought to carry its own oxygen as it lacks a conserved I-helix motif and one amino acid of its conserved heme binding site.

## REFERENCES

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- Jiang, J.H., et al. 2004. Expression of cytochrome P450 enzymes in human nasopharyngeal carcinoma and non-cancerous nasopharynx tissue. *Ai Zheng* 23: 672-677.
- Barbosa-Sicard, E., et al. 2005. Eicosapentaenoic acid metabolism by cytochrome P450 enzymes of the CYP2C subfamily. *Biochem. Biophys. Res. Commun.* 329: 1275-1281.
- Sue Masters, B. and Marohnic, C.C. 2006. Cytochromes P450-a family of proteins and scientists-understanding their relationships. *Drug Metab. Rev.* 38: 209-225.
- Inui, H., et al. 2007. Molecular characterization of specifically active recombinant fused enzymes consisting of CYP3A4, NADPH-cytochrome P450 oxidoreductase, and cytochrome b5. *Biochemistry* 46: 10213-10221.
- Munro, A.W., et al. 2007. Cytochrome P450-redox partner fusion enzymes. *Biochim. Biophys. Acta* 1770: 345-359.
- Schmidt, K., et al. 2009. Cholesterol metabolism: the main pathway acting downstream of cytochrome P450 oxidoreductase in skeletal development of the limb. *Mol. Cell. Biol.* 29: 2716-2729.

## CHROMOSOMAL LOCATION

Genetic locus: CYP20A1 (human) mapping to 2q33.2; Cyp20a1 (mouse) mapping to 1 C2.

## SOURCE

CYP20A1 (P-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CYP20A1 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-137414 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CYP20A1 (P-12) is recommended for detection of CYP20A1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

CYP20A1 (P-12) is also recommended for detection of CYP20A1 in additional species, including equine.

Suitable for use as control antibody for CYP20A1 siRNA (h): sc-94544, CYP20A1 siRNA (m): sc-142663, CYP20A1 shRNA Plasmid (h): sc-94544-SH, CYP20A1 shRNA Plasmid (m): sc-142663-SH, CYP20A1 shRNA (h) Lentiviral Particles: sc-94544-V and CYP20A1 shRNA (m) Lentiviral Particles: sc-142663-V.

Molecular Weight of (predicted) CYP20A1: 52 kDa.

Molecular Weight of (observed) CYP20A1: 45-50 kDa.

Positive Controls: HEL 92.1.7 cell lysate: sc-2270, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

## 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) 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.

## 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.