SANTA CRUZ BIOTECHNOLOGY, INC.

CYP3A (I-16): sc-30617

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CYP3A genes encode monooxygenases, enzymes which catalyze drug metabolism and the synthesis of cholesterol, steroids and other lipids. CYP3A (cytochrome P450, family 3, subfamily A), the most abundant p450 enzyme in human liver, is responsible for the metabolism of more than 50% of all clinical drugs. CYP3A members localize in organs that associate with drug disposition, including the liver, gastrointestinal tract and kidney. The CYP3A cluster consists of four genes: CYP3A43, CYP3A4, CYP3A7 and CYP3A5, and two pseudogenes: CYP3A5P1 and CYP3A5P2. The CYP3A cluster maps to gene locus 7q22.1.

REFERENCES

1. Paulussen, A., et al. 2000. Two linked mutations in transcriptional regulatory elements of the CYP3A5 gene constitute the major genetic determinant of polymorphic activity in humans. Pharmacogenetics 10: 415-424.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606534. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Williams, P.A., et al. 2004. Crystal structures of human cytochrome P450 3A4 bound to metyrapone and progesterone. Science 305: 683-686.
4. Stedman, C., et al. 2004. Feed-forward regulation of bile acid detoxification by CYP3A4: studies in humanized transgenic mice. J. Biol. Chem. 279: 11336-11343.
5. Persson, K.P., et al. 2005. Evaluation of human liver slices and reporter gene assays as systems for predicting the cytochrome P450 induction potential of drugs *in vivo* in humans. Pharm. Res. 56-69.
6. Hidaka, M., et al. 2005. Transient inhibition of CYP3A in rats by star fruit juice. Drug Metab. Dispos. 34: 343-345.
7. Mueller, S.C., et al. 2006. The extent of induction of CYP3A by St. John's wort varies among products and is linked to hyperforin dose. Eur. J. Clin. Pharmacol. 62: 29-36.
8. LocusLink Report (LocusID: 1574). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: CYP3A43 (human) mapping to 7q22.1.

SOURCE

CYP3A (I-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CYP3A43 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-30617 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

CYP3A (I-16) is recommended for detection of CYP3A43 isoforms 1, 2, and 3 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

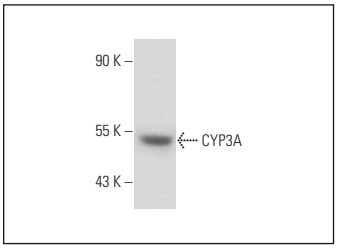
Molecular Weight of CYP3A: 52-55 kDa.

Positive Controls: LNCaP cell lysate: sc-2231.

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.

DATA



CYP3A (I-16): sc-30617. Western blot analysis of CYP3A expression in LNCaP whole cell lysate.

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.