SANTA CRUZ BIOTECHNOLOGY, INC.

CYP3A (L-14): sc-30621

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.

SOURCE

CYP3A (L-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of CYP3A41 of mouse 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-30621 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 (L-14) is recommended for detection of CYP3A11, CYP3A16, CYP3A41, CYP3A44, and to a lesser extent, CYP3A25 of mouse origin; CYP3A1, CYP3A3, CYP3A23, and to a lesser extent, CYP3A18 of rat origin; and CYP3A5, CYP3A7, and to a lesser extent, CYP3A3 and CYP3A4 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).

CYP3A (L-14) is also recommended for detection of CYP3A5, CYP3A7, and to a lesser extent, CYP3A3 and CYP3A4 in additional species, including canine.

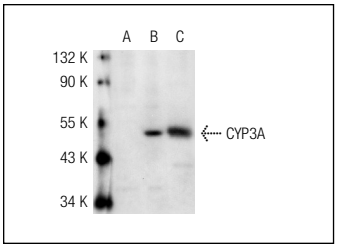
Molecular Weight of CYP3A: 52-55 kDa.

Positive Controls: CYP3A (m): 293T Lysate: sc-119596, LNCaP cell lysate: sc-2231 or mouse liver extract: sc-2256.

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 (L-14): sc-30621. Western blot analysis of CYP3A expression in non-transfected: sc-117752 (**A**) and mouse CYP3A transfected: sc-119596 (**B**) 293T whole cell lysates and mouse liver tissue extract (**C**).

SELECT PRODUCT CITATIONS

1. Meyer, R.P., et al. 2009. Concordant up-regulation of cytochrome P450 Cyp3a11, testosterone oxidation and androgen receptor expression in mouse brain after xenobiotic treatment. J. Neurochem. 109: 670-681.
2. Sáenz Robles, M.T., et al. 2011. The retinoblastoma tumor suppressor regulates a xenobiotic detoxification pathway. PLoS ONE 6: e26019.
3. Kakuni, M., et al. 2012. Chimeric mice with a humanized liver as an animal model of troglitazone-induced liver injury. Toxicol. Lett. 214: 9-18.
4. Cotton, R.B., et al. 2013. Cimetidine-associated patent ductus arteriosus is mediated via a cytochrome P450 mechanism independent of H2 receptor antagonism. J. Mol. Cell. Cardiol. 59: 86-94.
5. Jiang, Y., et al. 2015. Schisandrol B protects against acetaminophen-induced hepatotoxicity by inhibition of CYP-mediated bioactivation and regulation of liver regeneration. Toxicol. Sci. 143: 107-115.

RESEARCH USE

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