SANTA CRUZ BIOTECHNOLOGY, INC.

CYP3A (B-3): sc-365415

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.

CHROMOSOMAL LOCATION

Genetic locus: CYP3A4/CYP3A5/CYP3A7 (human) mapping to 7q22.1; Cyp3a25 (mouse) mapping to 5 G3.

SOURCE

CYP3A (B-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 419-445 near the C-terminus of CYP3A7 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CYP3A (B-3) is available conjugated to agarose (sc-365415 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365415 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365415 PE), fluorescein (sc-365415 FITC), Alexa Fluor® 488 (sc-365415 AF488), Alexa Fluor® 546 (sc-365415 AF546), Alexa Fluor® 594 (sc-365415 AF594) or Alexa Fluor® 647 (sc-365415 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365415 AF680) or Alexa Fluor® 790 (sc-365415 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365415 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

CYP3A (B-3) is recommended for detection of CYP3A4, CYP3A5 and CYP3A7 of human origin and Cyp3a25 of mouse origin, and the corresponding rat homolog by Western Blotting (starting dilution 1:100, 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); may cross-react with other CYP3A family members.

Suitable for use as control antibody for Cyp3a25 siRNA (m): sc-142714, Cyp3a25 shRNA Plasmid (m): sc-142714-SH and Cyp3a25 shRNA (m) Lentiviral Particles: sc-142714-V.

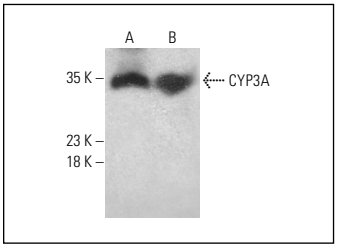
Molecular Weight of CYP3A: 52-55 kDa.

Positive Controls: mouse liver extract: sc-2256, NIH/3T3 whole cell lysate: sc-2210 or AT3B-1 whole cell lysate: sc-364372.

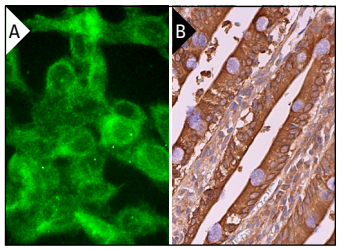
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



CYP3A (B-3) HRP: sc-365415 HRP. Direct western blot analysis of CYP3A expression in NIH/3T3 (**A**) and AT3B-1 (**B**) whole cell lysates.



CYP3A (B-3): sc-365415. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Al-Hussaini, H., et al. 2018. Effects of *trans*-resveratrol on type 1 diabetes-induced inhibition of retinoic acid metabolism pathway in retinal pigment epithelium of Dark Agouti rats. Eur. J. Pharmacol. 834: 142-151.
2. Zhou, X.Y., et al. 2019. Enzymatic activities of CYP3A4 allelic variants on quinine 3-hydroxylation *in vitro*. Front. Pharmacol. 10: 591.
3. Yu, Y., et al. 2020. Overexpression of long noncoding RNA CUDR promotes hepatic differentiation of human umbilical cord mesenchymal stem cells. Mol. Med. Rep. 21: 1051-1058.
4. Jing, L., et al. 2022. Oxidative stress and endoplasmic reticulum stress contributed to hepatotoxicity of decabromodiphenyl ethane (DBDPE) in L-02 cells. Chemosphere 286: 131550.
5. Fortin, C.L., et al. 2023. Temporal dynamics of metabolic acquisition in grafted engineered human liver tissue. Adv. Biol. 7: e2200208.
6. Castro, I., et al. 2023. Establishing and characterizing a novel doxorubicin-resistant acute myeloid leukaemia cell line. J. Chemother. 35 : 307-321.
7. Uga, M., et al. 2024. The role of intestinal cytochrome P450s in vitamin D metabolism. Biomolecules 14: 717.
8. Wang, X., et al. 2024. Jingzhi Guanxin oral liquids attenuate atherosclerotic coronary heart disease via modulating lipid metabolism and PPAR-related targets. Pharmaceuticals 17: 784.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.