SANTA CRUZ BIOTECHNOLOGY, INC.

UGT1A (H-300): sc-25847

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Glucuronidation, an important bile acid detoxification pathway, is catalyzed by enzymes belonging to the UDP-glucuronosyltransferase (UGT) superfamily. UGT genes are classified into the UGT1A and UGT2B subfamilies. Although each subfamily and each isoform shows tissue-specific patterns of distribution, the underlying mechanisms for this tissue specificity have not been fully elucidated. The human UDP-glucuronosyltransferase 1 (UGT1) locus encodes at least ten UGT1A proteins (UGT1A1-UGT1A10) that play a prominent role in drug and xenobiotic metabolism. Research indicates that nuclear receptors such as pregnane X receptor (PXR), constitutive androstane receptor (CAR) and peroxisome proliferator-activated receptor (PPAR) can regulate UGTs, which may contribute to the tissue-specific expression pattern of UGTs. Deficiency in the expression and/or activity of UGTs may lead to genetic and acquired diseases such as Crigler-Najjar syndrome and Gilbert syndrome. Based on their ability to catalyze the glucuronidation of xenobiotics and endobiotics, UGTs play a critical role in hormonal homeostasis, energy metabolism, bilirubin clearance and xenobiotic detoxification.

SOURCE

UGT1A (H-300) is a rabbit polyclonal antibody raised against amino acids 234-533 mapping at the C-terminus of UGT1A1 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.

APPLICATIONS

UGT1A (H-300) is recommended for detection of UGT1A family members of mouse, rat and 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), 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).

UGT1A (H-300) is also recommended for detection of UGT1A family members in additional species, including equine and porcine.

Suitable for use as control antibody for UGT1A siRNA (h): sc-44538, UGT1A siRNA (m): sc-77352, UGT1A shRNA Plasmid (h): sc-44538-SH, UGT1A shRNA Plasmid (m): sc-77352-SH, UGT1A shRNA (h) Lentiviral Particles: sc-44538-V and UGT1A shRNA (m) Lentiviral Particles: sc-77352-V.

Molecular Weight of UGT1A: 64 kDa.

Positive Controls: rat pituitary gland extract: sc-364807, rat liver extract: sc-2395 or mouse small intestine extract: sc-364252.

RESEARCH USE

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

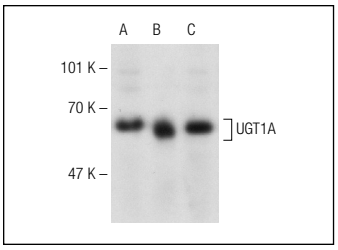
PROTOCOLS

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

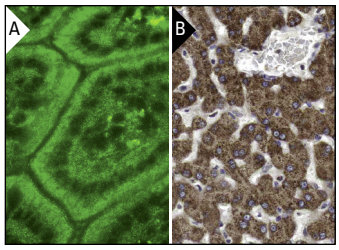
STORAGE

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

DATA



UGT1A (H-300): sc-25847. Western blot analysis of UGT1A expression in rat pituitary (**A**), mouse small intestine (**B**) and rat liver (**C**) tissue extracts.



UGT1A (H-300)): sc-25847. Immunofluorescence staining of normal mouse intestine frozen section showing cytoplasmic staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Carvey, P.M., et al. 1990. Clozapine fails to prevent the development of haloperidol-induced behavioral hypersensitivity in a cotreatment paradigm. Eur. J. Pharmacol. 184: 43-53.
2. Meissonnier, G.M., et al. 2007. Selective impairment of drug-metabolizing enzymes in pig liver during subchronic dietary exposure to aflatoxin B1. Food Chem. Toxicol. 45: 2145-2154.
3. Wang, S.W., et al. 2009. Disposition of flavonoids via enteric recycling: UDP-glucuronosyltransferase (UGT) 1As deficiency in Gunn rats is compensated by increases in UGT2Bs activities. J. Pharmacol. Exp. Ther. 329: 1023-1031.
4. Hamada, M., et al. 2010. Metabolites of galangin by 2,3,7,8-tetrachlorodibenzo-p-dioxin-inducible cytochrome P450 1A1 in human intestinal epithelial Caco-2 cells and their antagonistic activity toward aryl hydrocarbon receptor. J. Agric. Food Chem. 58: 8111-8118.
5. Wang, H., et al. 2011. Characterizing the effect of UDP-glucuronosyltransferase (UGT) 2B7 and UGT1A9 genetic polymorphisms on enantioselective glucuronidation of flurbiprofen. Biochem. Pharmacol. 82: 1757-1763.
6. Zhou, J., et al. 2011. Functional analysis of UGT1A4(P24T) and UGT1A4(L48V) variant enzymes. Pharmacogenomics 12: 1671-1679.
7. Bortolussi, G., et al. 2012. Rescue of bilirubin-induced neonatal lethality in a mouse model of Crigler-Najjar syndrome type I by AAV9-mediated gene transfer. FASEB J. 26: 1052-1063.