SANTA CRUZ BIOTECHNOLOGY, INC.

# UGT1A (C-19): sc-27418

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.

## REFERENCES


1. Moghrabi, N., et al. 1992. Chromosomal assignment of human phenol and bilirubin UDP-glucuronosyl-transferase genes (UGT1A-subfamily). Annu. Hum. Genet. 56: 81-91.
2. Owens, I.S., et al. 1996. The novel UGT1 gene complex links bilirubin, xenobiotics, and therapeutic drug metabolism by encoding UDP-glucuronosyltransferase isozymes with a common carboxyl terminus. J. Pharmacokinet. Biopharm. 24: 491-508.
3. Ciotti, M., et al. 1997. Genetic defects at the UGT1 locus associated with Crigler-Najjar type I disease, including a prenatal diagnosis. Am. J. Med. Genet. 68: 173-178.
4. Strassburg, C.P., et al. 1997. Differential downregulation of the UDP-glucuronosyltransferase 1A locus is an early event in human liver and biliary cancer. Cancer Res. 57: 2979-2985.
5. Maruo, Y., et al. 2000. Prolonged unconjugated hyperbilirubinemia associated with breast milk and mutations of the bilirubin uridine diphosphate-glucuronosyltransferase gene. Pediatrics 106: E59.
6. Ohnishi, A., et al. 2003. Rapid proteasomal degradation of translocation-deficient UDP-glucuronosyltransferase 1A1 proteins in patients with Crigler-Najjar type II. Biochem. Biophys. Res. Commun. 310: 735-741.
7. Thomas, S.S., et al. 2006. Genetic variability, haplotypes, and htSNPs for exons 1 at the human UGT1A locus. Hum. Mutat. 27: 717.


## 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-27418 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

UGT1A (C-19) is recommended for detection of UGT1A family members 1-10 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).

UGT1A (C-19) is also recommended for detection of UGT1A family members 1-10 in additional species, including equine, bovine 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 liver extract: sc-2395 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) 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.

## SELECT PRODUCT CITATIONS


1. Bolling, B.W., et al. 2011. Microsomal quercetin glucuronidation in rat small intestine depends on age and segment. Drug Metab. Dispos. 39: 1406-1414.


## STORAGE

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

## SOURCE

UGT1A (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of UGT1A1 of human origin.

## PROTOCOLS

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