SANTA CRUZ BIOTECHNOLOGY, INC.

UGT1A1 (V-19): sc-27419

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. UDP-glucuronosyltransferase 1A1 (UGT1A), also designated Bilirubin specific UDPGT isozyme 1 (HUG-BR1), is crucial in the conjugation and elimination of toxic zenobiotics and endogenous compounds. Defects in UGT1A1 may cause transient familial neonatal hyperbilirubinemia associated with breast milk, which is characterizied by excessive concentration of bilirubin in the blood, leading to jaundice.

CHROMOSOMAL LOCATION

Genetic locus: Ugt1a1 (mouse) mapping to 1 D.

SOURCE

UGT1A1 (V-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of UGT1A1 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-27419 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

UGT1A1 (V-19) is recommended for detection of UGT1A1 of mouse and rat 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).

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

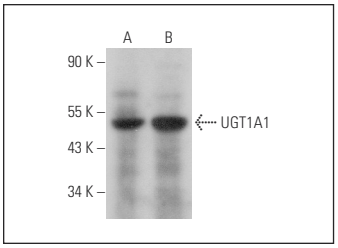
Molecular Weight of UGT1A1: 55 kDa.

Positive Controls: mouse liver extract: sc-2256, rat liver extract: sc-2395 or UGT1A1 (m): 293T Lysate: sc-124446.

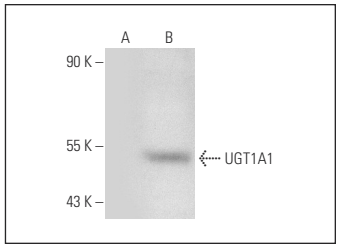
RECOMMENDED SECONDARY REAGENTS

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



UGT1A1 (V-19): sc-27419. Western blot analysis of UGT1A1 expression in rat liver (**A**) and mouse liver (**B**) tissue extracts.



UGT1A1 (V-19): sc-27419. Western blot analysis of UGT1A1 expression in non-transfected: sc-117752 (**A**) and mouse UGT1A1 transfected: sc-124446 (**B**) 293T whole cell lysates.

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.
2. Zhang, L., et al. 2013. Dysregulations of UDP-glucuronosyltransferases in rats with valproic acid and high fat diet induced fatty liver. Eur. J. Pharmacol. 721: 277-285.
3. Su, Z.Y., et al. 2014. Requirement and epigenetics reprogramming of Nrf2 in suppression of tumor promoter TPA-induced mouse skin cell transformation by sulforaphane. Cancer Prev. Res. 7: 319-329.

STORAGE

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

RESEARCH USE

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