SANTA CRUZ BIOTECHNOLOGY, INC.

UGT1A6 (D-20): sc-27434

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-glucuronosyltransferase genes (UGT1A-subfamily). Ann. 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 down-regulation of the UDP-glucuronosyltransferase 1A locus is an early event in human liver and biliary cancer. Cancer Res. 57: 2979-2985.
5. Thomas, S.S., et al. 2006. Genetic variability, haplotypes, and htSNPs for exons 1 at the human UGT1A locus. Hum. Mutat. 27: 717.

CHROMOSOMAL LOCATION

Genetic locus: Ugt1a6 (mouse) mapping to 1 D.

SOURCE

UGT1A6 (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of UGT1A6 of rat 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-27434 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

UGT1A6 (D-20) is recommended for detection of UGT1A6 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).

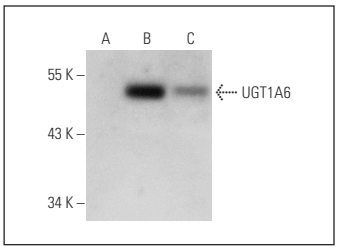
UGT1A6 (D-20) is also recommended for detection of UGT1A6 in additional species, including porcine.

Suitable for use as control antibody for UGT1A6 siRNA (m): sc-44884, UGT1A6 shRNA Plasmid (m): sc-44884-SH and UGT1A6 shRNA (m) Lentiviral Particles: sc-44884-V.

Molecular Weight of UGT1A6: 54 kDa.

Positive Controls: UGT1A6 (m2): 293T Lysate: sc-124448 or NBT-II whole cell lysate.

DATA



UGT1A6 (D-20): sc-27434. Western blot analysis of UGT1A6 expression in non-transfected 293T: sc-117752 (**A**), mouse UGT1A6 transfected 293T: sc-124448 (**B**) and NBT-II (**C**) 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. Roos, R., et al. 2011. Hepatic effects of a highly purified 2,2',3,4,4',5,5'-heptachlorbiphenyl (PCB 180) in male and female rats. Toxicology 284: 42-53.
3. Togna, A.R., et al. 2013. *In vitro* morphine metabolism by rat microglia. Neuropharmacology 75: 391-398.
4. 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.

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.