SANTA CRUZ BIOTECHNOLOGY, INC.

UGT2A1 (N-15): sc-244569

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

UDP-glucuronosyltransferase isoenzymes (UGTs) catalyze the glucuronidation of small lipophilic molecules, which regulates the bioactivity and metabolic fate of a wide range of endo- and xenobiotics. Glucuronidation increases the polarity of lipophilic molecules and facilitates their entry into aqueous compartments and their ultimate excretion. In essence, glucuronidation provides a protective function by terminating or attenuating the biological activity of its substrates. UGT2A1 (UDP-glucuronosyltransferase 2A1), also known as olfactory UGT, is a 527 amino acid single-pass membrane protein that is specifically expressed in olfactory tissue. UGT2A1 appears to have a broad substrate spectrum of targets to conjugate, including odorants, androgens, drugs and carcinogens. It is thought that UGT2A1 plays a role in olfactory perception and protection of the neural system against hazardous chemicals. There are three isoforms of UGT2A1 that are produced as a result of alternative splicing events.

REFERENCES

1. Jedlitschky, G., Cassidy, A.J., Sales, M., Pratt, N. and Burchell, B. 1999. Cloning and characterization of a novel human olfactory UDP-glucuronosyltransferase. Biochem. J. 340: 837-843.
2. Heydel, J., Leclerc, S., Bernard, P., Pelczar, H., Gradinaru, D., Magdalou, J., Minn, A., Artur, Y. and Goudonnet, H. 2001. Rat olfactory bulb and epithelium UDP-glucuronosyltransferase 2A1 (UGT2A1) expression: *in situ* mRNA localization and quantitative analysis. Brain Res. Mol. Brain Res. 90: 83-92.
3. Leclerc, S., Heydel, J.M., Amosse, V., Gradinaru, D., Cattarelli, M., Artur, Y., Goudonnet, H., Magdalou, J., Netter, P., Pelczar, H. and Minn, A. 2002. Glucuronidation of odorant molecules in the rat olfactory system: activity, expression and age-linked modifications of UDP-glucuronosyltransferase isoforms, UGT1A6 and UGT2A1, and relation to mitral cell activity. Brain Res. Mol. Brain Res. 107: 201-213.
4. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 604716. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Thum, T., Erpenbeck, V.J., Moeller, J., Hohlfeld, J.M., Krug, N. and Borlak, J. 2006. Expression of xenobiotic metabolizing enzymes in different lung compartments of smokers and nonsmokers. Environ. Health Perspect. 114: 1655-1661.
6. Sten, T., Bichlmaier, I., Kuuranne, T., Leinonen, A., Yli-Kauhaluoma, J. and Finel, M. 2009. UDP-glucuronosyltransferases (UGTs) 2B7 and UGT2B17 display converse specificity in testosterone and epitestosterone glucuronidation, whereas UGT2A1 conjugates both androgens similarly. Drug Metab. Dispos. 37: 417-423.
7. Sten, T., Kurkela, M., Kuuranne, T., Leinonen, A. and Finel, M. 2009. UDP-glucuronosyltransferases in conjugation of 5α- and 5β-androstane steroids. Drug Metab. Dispos. 37: 2221-2227.

CHROMOSOMAL LOCATION

Genetic locus: UGT2A1 (human) mapping to 4q13.2; Ugt2a1 (mouse) mapping to 5 E1.

SOURCE

UGT2A1 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of UGT2A1 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.

Blocking peptide available for competition studies, sc-244569 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

UGT2A1 (N-15) is recommended for detection of UGT2A1 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); non cross-reactive with UGT2A2 or UGT2A3.

UGT2A1 (N-15) is also recommended for detection of UGT2A1 in additional species, including porcine.

Suitable for use as control antibody for UGT2A1 siRNA (h): sc-89047, UGT2A1 siRNA (m): sc-154897, UGT2A1 shRNA Plasmid (h): sc-89047-SH, UGT2A1 shRNA Plasmid (m): sc-154897-SH, UGT2A1 shRNA (h) Lentiviral Particles: sc-89047-V and UGT2A1 shRNA (m) Lentiviral Particles: sc-154897-V.

Molecular Weight of UGT2A1 isoform 1/2/3: 60/61/56 kDa.

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.

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.

PROTOCOLS

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