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UGT1A1 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP13949a

Product Information

Application	WB, IF, IHC-P, E
Primary Accession	P22309
Other Accession	NP_000454.1
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB22607
Calculated MW	59591
Antigen Region	65-90

Additional Information

Gene ID	54658
Other Names	UDP-glucuronosyltransferase 1-1, UDPGT 1-1, UGT1*1, UGT1-01, UGT11, Bilirubin-specific UDPGT isozyme 1, hUG-BR1, UDP-glucuronosyltransferase 1-A, UGT-1A, UGT1A, UDP-glucuronosyltransferase 1A1, UGT1A1, GNT1, UGT1
Target/Specificity	This UGT1A1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 65-90 amino acids from the N-terminal region of human UGT1A1.
Dilution	WB~~1:1000 IF~~1:10~50 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	UGT1A1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	UGT1A1 (HGNC:12530)
Synonyms	GNT1, UGT1

Function	[Isoform 1]: UDP-glucuronosyltransferase (UGT) that catalyzes phase II biotransformation reactions in which lipophilic substrates are conjugated with glucuronic acid to increase the metabolite's water solubility, thereby facilitating excretion into either the urine or bile (PubMed:12181437, PubMed:15472229, PubMed:18004206, PubMed:18004212, PubMed:18719240, PubMed:19830808, PubMed:23288867, PubMed:15231852, PubMed:21422672, PubMed:38211441). Essential for the elimination and detoxification of drugs, xenobiotics and endogenous compounds (PubMed:12181437, PubMed:18004206, PubMed:18004212). Catalyzes the glucuronidation of endogenous estrogen hormones such as estradiol, estrone and estriol (PubMed:15472229, PubMed:18719240, PubMed:23288867). Involved in the glucuronidation of bilirubin, a degradation product occurring in the normal catabolic pathway that breaks down heme in vertebrates (PubMed:17187418, PubMed:18004206, PubMed:19830808, PubMed:24525562). Involved in the glucuronidation of arachidonic acid (AA) and AA-derived eicosanoids including 15-HETE, 20-HETE, PGB1 and F2-isoprostane (8-iso-PGF2alpha) (PubMed:15231852, PubMed:38211441). Involved in the glucuronidation of the phytochemical ferulic acid at the phenolic or the carboxylic acid group (PubMed:21422672). Also catalyzes the glucuronidation the isoflavones genistein, daidzein, glycitein, formononetin, biochanin A and prunetin, which are phytoestrogens with anticancer and cardiovascular properties (PubMed:18052087, PubMed:19545173). Involved in the glucuronidation of the AGTR1 angiotensin receptor antagonist losartan, a drug which can inhibit the effect of angiotensin II (PubMed:18674515). Involved in the biotransformation of 7-ethyl-10-hydroxycamptothecin (SN-38), the pharmacologically active metabolite of the anticancer drug irinotecan (PubMed:12181437, PubMed:18004212, PubMed:20610558).
Cellular Location	Endoplasmic reticulum membrane; Single-pass membrane protein. Cytoplasm, perinuclear region
Tissue Location	[Isoform 1]: Expressed in liver, colon and small intestine. Not expressed in kidney, esophagus and skin

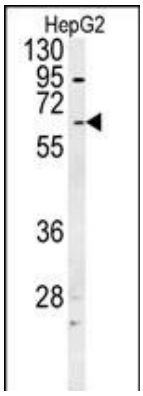
Background

This gene encodes a UDP-glucuronosyltransferase, an enzyme of the glucuronidation pathway that transforms small lipophilic molecules, such as steroids, bilirubin, hormones, and drugs, into water-soluble, excretable metabolites. This gene is part of a complex locus that encodes several UDP-glucuronosyltransferases. The locus includes thirteen unique alternate first exons followed by four common exons. Four of the alternate first exons are considered pseudogenes. Each of the remaining nine 5' exons may be spliced to the four common exons, resulting in nine proteins with different N-termini and identical C-termini. Each first exon encodes the substrate binding site, and is regulated by its own promoter. The preferred substrate of this enzyme is bilirubin, although it also has moderate activity with simple phenols, flavones, and C18 steroids. Mutations in this gene result in Crigler-Najjar syndromes types I and II and in Gilbert syndrome.

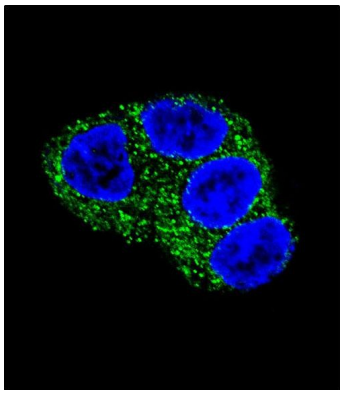
References

Italia, K.Y., et al. Clin. Biochem. 43 (16-17), 1329-1332 (2010) :
Justenhoven, C., et al. Breast Cancer Res. Treat. 124(1):289-292(2010)
Hu, M., et al. Pharmacogenet. Genomics 20(10):634-637(2010)
Sai, K., et al. Br J Clin Pharmacol 70(2):222-233(2010)
Kilic, I., et al. Int J Clin Pharmacol Ther 48(8):504-508(2010)

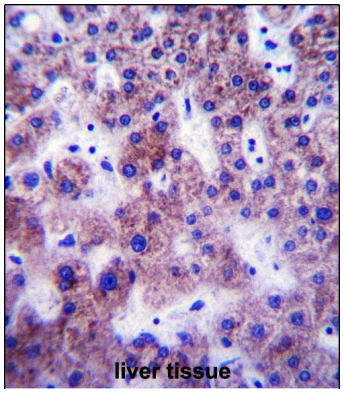
Images



UGT1A1 Antibody (N-term) (Cat. #AP13949a) western blot analysis in HepG2 cell line lysates (35ug/lane).This demonstrates the UGT1A1 antibody detected the UGT1A1 protein (arrow).



Confocal immunofluorescent analysis of UGT1A1 Antibody (N-term)(Cat#AP13949a) with HepG2 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green).DAPI was used to stain the cell nuclear (blue).



UGT1A1 Antibody (N-term) (Cat. #AP13949a)immunohistochemistry analysis in formalin fixed and paraffin embedded human liver tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of UGT1A1 Antibody (N-term) for immunohistochemistry. Clinical relevance has not been evaluated.

Citations

- Regenerative cell therapy for the treatment of hyperbilirubinemic Gunn rats with fresh and frozen human induced pluripotent stem cells-derived hepatic stem cells.

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