UGT1A1 siRNA – UDP-Glucuronosyltransferase 1-1 (Human)

PRODUCT OVERVIEW

Product Name	UGT1A1, siRNA
Full Product Name	UGT1A1 siRNA (Human)
Product Gene Name	UGT1A1 sirna
Product Synonym Names	GNT1; UGT1; UDP-glucuronosyltransferase 1-1; UDPGT 1-1; UGT1*1; UGT1-01; UGT1.1; Bilirubin-specific UDPGT isozyme 1; hUG-BR1; UDP-glucuronosyltransferase 1-A; UGT-1A; UGT1A; UDP-glucuronosyltransferase 1A1
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	UGT1A1 siRNA (Human) is a target-specific 19-23 nt siRNA oligo duplexes designed to knock down gene expression.
Preparation and Storage	Shipped at 4 degree C. Store at -20 degree C for one year.
Molecular Weight	49,368 Da
OMIM	143500
3D Structure	ModBase 3D Structure for P22309
Negative Control	siRNA Negative Control (Catalog# MBS8241404) is a non-targeting 21 nt siRNA recommended as a negative control for experiments using targeted siRNA transfection.
Quality Control	Oligonucleotide synthesis is monitored base by base through trityl analysis to ensure appropriate coupling efficiency. The oligo is subsequently purified by affinity-solid phase extraction. The annealed RNA duplex is further analyzed by mass spectrometry to verify the exact composition of the duplex. Each lot is compared to the previous lot by mass spectrometry to ensure maximum lot-to-lot consistency.
Directions for Use	We recommends transfection with 100 nM siRNA 48 to 72 hours prior to cell lysis. Before resuspending, briefly centrifuge the tube to ensure the lyophilized siRNA is at the bottom of the tube. Resuspend the siRNA oligos to an appropriate concentration with DEPC water. For each vial, suitable for 250 transfections in 24 well plate (20 pmol for each well).
Components	We offer pre-designed sets of 3 different target-specific siRNA oligo duplexes of human UGT1A1 gene. Each vial contains 5 nmol of lyophilized siRNA. The duplexes can be transfected individually or pooled together to achieve knockdown of the target gene, which is most commonly assessed by qPCR or western blot. Our siRNA oligos are also chemically modified (2'-OMe) at no extra charge for increased stability and enhanced knockdown in vitro and in vivo.
Applications Tested/Suitable for UGT1A1 sirna	RNA Interference (RNAi)
Related Product Information for UGT1A1 sirna	MBS827885 is an siRNA targeting UGT1A1. Also known as UGT1A1 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit UGT1A1 expression using RNA interference
Other Notes	Small volumes of UGT1A1 sirna vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for UGT1A1. It may not necessarily be applicable to this product.

NCBI GI #	8850236
NCBI GeneID	54658
NCBI Accession #	NP_000454.1
UniProt Primary Accession #	P22309
UniProt Secondary Accession #	A6NJC3; B8K286
UniProt Related Accession #	P22309
GenBank Nucleotide #	NM_000463.2
NCBI Official Full Name	UDP-glucuronosyltransferase 1-1
NCBI Official Synonym Full Names	UDP glucuronosyltransferase 1 family, polypeptide A1
NCBI Official Symbol	UGT1A1
NCBI Official Synonym Symbols	GNT1; UGT1; UDPGT; UGT1A; HUG-BR1; BILIQTL1; UDPGT 1-1
UniProt Protein Name	UDP-glucuronosyltransferase 1-1
UniProt Synonym Protein Names	Bilirubin-specific UDPGT isozyme 1; hUG-BR1; UDP-glucuronosyltransferase 1-A; UGT-1A; UGT1A; UDP-glucuronosyltransferase 1A1
Protein Family	UDP-glucuronosyltransferase
UniProt Gene Name	UGT1A1
UniProt Synonym Gene Names	GNT1; UGT1; UDPGT 1-1; UGT1*1; UGT1-01; UGT1.1; hUG-BR1; UGT-1A; UGT1A
UniProt Entry Name	UD11_HUMAN
NCBI Protein Information	UDP-glucuronosyltransferase 1-1
NCBI Summary for UGT1A1	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. [provided by RefSeq, Jul 2008]

UniProt Comments for UGT1A1	UGT1A1: UDPGT is of major importance in the conjugation and subsequent elimination of potentially toxic xenobiotics and endogenous compounds. This isoform glucuronidates bilirubin IX- alpha to form both the IX-alpha-C8 and IX-alpha-C12 monoconjugates and diconjugate. Is also able to catalyze the glucuronidation of 17beta-estradiol, 17alpha-ethinylestradiol, 1-hydroxypyrene, 4- methylumbelliferone, 1-naphthol, paranitrophenol, scopoletin, and umbelliferone. Part a large chaperone multiprotein complex comprising DNAJB11, HSP90B1, HSPA5, HYOU, PDIA2, PDIA4, PDIA6, PPIB, SDF2L1, UGT1A1 and very small amounts of ERP29, but not, or at very low levels, CALR nor CANX. Expressed in liver. Not expressed in skin or kidney. Belongs to the UDP-glycosyltransferase family. 1 isoforms of the human protein are produced by alternative splicing. Protein type: Lipid Metabolism - androgen and estrogen; Membrane protein, integral; Cofactor and Vitamin Metabolism - porphyrin and chlorophyll; Xenobiotic Metabolism - drug metabolism - cytochrome P450; Carbohydrate Metabolism - starch and sucrose; Carbohydrate Metabolism - pentose and glucuronate interconversions; Xenobiotic Metabolism - drug metabolism - other enzymes; Carbohydrate Metabolism - ascorbate and aldarate; Cofactor and Vitamin Metabolism - retinol; Transferase; EC 2.4.1.17; Xenobiotic Metabolism - metabolism by cytochrome P450 Chromosomal Location of Human Ortholog: 2q37 Cellular Component: endoplasmic reticulum membrane; endoplasmic reticulum; integral to plasma membrane Molecular Function: enzyme inhibitor activity; retinoic acid binding; enzyme binding; protein homodimerization activity; glucuronosyltransferase activity; protein heterodimerization activity; steroid binding Biological Process: response to drug; steroid metabolic process; estrogen metabolic process; organ regeneration; negative regulation of steroid metabolic process; response to lipopolysaccharide; negative regulation of fatty acid metabolic process; liver development; cellular response to hormone stimulus; response to starvation; negative regulation of transferase activity; flavonoid biosynthetic process; bilirubin conjugation; heme catabolic process; xenobiotic metabolic process; digestion; negative regulation of catalytic activity; porphyrin metabolic process; flavone metabolic process; acute-phase response; retinoic acid metabolic process; heterocycle metabolic process; drug metabolic process; response to nutrient Disease: Gilbert Syndrome; Crigler-najjar Syndrome, Type I; Bilirubin, Serum Level Of, Quantitative Trait Locus 1; Crigler-najjar Syndrome, Type Ii; Hyperbilirubinemia, Transient Familial Neonatal
Research Articles on UGT1A1	**1.** Identified coding variants on UGT1A1 and UGT1A6 genes in association with serum bilirubin level and hyperbilirubinemia risk in elderly subjects.
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