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Autor(en) des Beitrags: te Morsche, RH; Drenth, JP; Truninger, K; Schulz, HU; Kage, A; Landt, O; Verlaan, M; Rosendahl, J; Macek, M; Jansen, JB; Witt, H

Titel des Beitrags: UGT1A7 polymorphisms in chronic pancreatitis: an example of genotyping pitfalls.

Abstract: UDP-glucuronosyltransferases (UGT) catalyze the glucuronidation of various compounds and thus inactivate toxic substrates. Genetic variations reducing the activity of UGT1A7 have been associated with various gastrointestinal cancers. Most recently, the UGT1A7*3 allele has been reported as a significant risk factor for pancreatic disorders, but we could not confirm these data. This study focused on the possible causes for the noted discrepancy. UGT1A7 genotypes were assessed in 37 samples, which were previously analyzed for UGT1A7 polymorphisms by others. We determined genotypes by melting curve analysis and by DNA sequencing. Additionally, we produced UGT1A7*1 and *3 constructs with or without a mutation at position -57 of UGT1A7 and analyzed various combinations of these constructs. In 14/37 samples UGT1A7 genotyping results differed. The discrepancy could be explained by polymerase chain reaction bias owing to an unbalanced allelic amplification which was caused by a -57T>G variant located within the sequence of the chosen primer template in previous studies. Our findings indicate that most of the previously reported genetic associations between UGT1A7 and gastrointestinal cancers are based on primer-dependent genotyping errors.

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