



# Irinotecan (Camptosar) Toxicity

## UGT1A1\*28 Genetic Testing

**IN JULY 2005,  
THE FDA  
APPROVED  
REVISIONS TO  
THE SAFETY  
LABELING FOR  
IRINOTECAN-  
HCL INJECTION,**

**to recommend reduced dosing in patients who are homozygous for the UDP-glucuronosyltransferase 1A1 (UGT1A1)\*28 allele.**

UGT1A1 conjugates the active metabolite of irinotecan, S-38 to a glucuronide metabolite. Its activity is reduced in patients with the variant allele UGT1A1\*28. Homozygosity of this allele is found in 10% of the population.

In a number of studies, patients treated with irinotecan who were homozygous UGT1A1\*28 were found to be at an increased risk of neutropenia and other toxicities related to increased blood levels.

A reduced initial dose should be considered for patients found to be homozygous for the variant allele. Although heterozygous patients may be at increased risk for neutropenia, clinical results have been variable.

Healthscope Advanced Pathology offers genetic testing for the UGT1A1\*28 allele.

### **SPECIMEN REQUIREMENTS**

**Test Name:**  
UGTA

**Sample Type:**  
4mL EDTA Whole Blood  
(Mauve Tube)

**Sample Transport:**  
Ambient Temperature

**Frequency:**  
Twice Weekly

**Medicare Rebate:**  
None

### **REFERENCES**

Innocenti F et al. 'Genetic Variants In The UDP-Glucuronosyltransferase 1A1 Gene Predict The Risk Of Severe Neutropenia Of Irinotecan'. J Clin Oncol 2004 22;1382-8.

Marcuello E et al. UGT1A1 'Gene Variations And Irinotecan Treatment In Patients With Metastatic Colorectal Cancer'. Br J Cancer 2004 91;678-82.

Routis E et al. 'Relevance of Different UGT1A1 Polymorphisms In Irinotecan-Induced Toxicity: A Molecular And Clinical Study Of 75 Patients'. Clin Cancer Res 2004 10; 5151-9

All pharmacogenetic test results are interpreted and reported by clinical geneticists at GenesFX Health. The GenesFX Health scientific advisory board comprises clinicians, geneticists, pharmacists and clinical pharmacologists.

More information can be found at [www.genesfx.com.au](http://www.genesfx.com.au)

If you have any questions or require further information, please contact our Customer Service Centre.

**1300 453 688**

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Clinical Laboratories Pty Ltd ABN 62 006 823 089