


Mutation analysis: DPD for 5-fluorouracil toxicity

Synonyms	DYPD, dihydropyrimidine dehydrogenase deficiency (DPD), 5-fluorouracil therapy, capecitabine therapy
Clinical Indication	<p>Patients with complete or partial dihydropyrimidine dehydrogenase (DPD) deficiency are at increased risk of severe and fatal toxicity during treatment with fluoropyrimidines. Fluoropyrimidines are a group of anti-cancer medicines which include 5-fluorouracil and its prodrugs capecitabine and tegafur. Complete DPD deficiency is rare but partial DPD deficiency is estimated to affect 3-9% of Caucasian people.</p> <p>A European safety review has recommended that all patients should undergo testing for DPD deficiency prior to the initiation of these treatments.</p>
Part of Profile / See Also	
Request Form	Combined Pathology manual Blood form, Medway Order Comms or ICE request
Availability / Frequency of Analysis	Referred test: Analysed at the Royal Marsden Hospital 8097
Turnaround Time	5 days.
Patient Preparation	
Sample Requirements	
Specimen Type	Whole blood (EDTA)
Volume	3ml
Container	 Pink/purple top (EDTA) tube
Reference Range & Units	The report will state the genotype (wildtype or heterozygous) with associated explanatory comment and suggestions for treatment regime.
Interferences	
Interpretation & Clinical	Patients with complete DPD deficiency are at high risk of life-threatening or fatal toxicity and must not be treated systemically with fluoropyrimidines.
Decision Value (if applicable)	Patients with partial DPD deficiency are at increased risk of severe and potentially life-threatening toxicity. A reduced starting dose should be considered to limit the risk of severe toxicity. DPD deficiency should be considered as a parameter to be taken into account in conjunction with other routine measures for dose reduction. Initial dose reduction may impact the efficacy of treatment and so, in the absence of serious toxicity, subsequent doses may be increased with careful monitoring.

Despite negative test results for DPD deficiency, severe toxicity may still occur and patients should be counselled on the benefits and risks of their cancer treatments and provided with the patient information leaflet.

References

- https://www.gov.uk/drug-safety-update/5-fluorouracil-intravenous-capecitabine-tegafur-dpd-testing-recommended-before-initiation-to-identify-patients-at-increased-risk-of-severe-and-fatal-toxicity?utm_source=e-shot&utm_medium=email&utm_campaign=DSU_October2020Main1#review-of-dpd-testing-prior-to-treatment

Test code

DPD

Lab Handling

Store the whole blood (EDTA) in the referrals rack at 4°C. Sent daily by courier to Royal Marsden Hospital.



8097
Accredited to
ISO 15189:2012