

## TRUPCR® DPYD Mutations Detection Kit

### NEED

Fluoropyrimidines such as 5-fluorouridine (5-FU), capecitabine and tegafur are commonly drugs for treating solid tumors. These drugs are metabolized in the liver by enzyme dihydropyrimidine dehydrogenase (DPD) and inactivate more than 80% of these drugs. Certain single point mutations in the gene encoding this enzyme, *DPYD* can result in reduced activity of the enzyme leading to toxicity. Spectrum of severity varies whereas patients with decreased DPD activity may experience diarrhea, nausea, vomiting, may require hospitalization and does reduction, patients with complete lack of DPD activity experience life threatening toxicity, and need to be removed from the therapy.

With 3–5% of the European population having a partial DPD enzyme deficiency and 0.01–0.1% having complete deficiency, *DPYD* testing prior starting 5-FU therapy drugs is now a standard of care practice in many European countries.

### SOLUTION BY TRUPCR®

The TRUPCR® *DPYD* Mutations Detection Kit is an in vitro diagnostic test intended for the qualitative detection of clinically relevant single nucleotide polymorphisms (SNPs); c.1905+1G>A (rs3918290, also IVS14+1G>A, allele 2A\*), c.1679T>G (rs55886062, allele 13\*), c.2846A>T (rs67376798) and c.1129–5923C>G (rs75017182, HapB3) in dihydropyrimidine dehydrogenase (DPD) enzyme encoding gene *DPYD* from human genomic DNA, extracted from whole blood/bone marrow.

The TRUPCR® *DPYD* Mutations Detection Kit is based on allele specific amplification and is achieved by ARMS PCR. The detection of the SNP is achieved in multiplex reactions using fluorescent probes labeled with FAM and HEX with TEXAS RED working as an internal reference. The internal reference is the part of the *DPYD* gene with no known mutation. The TRUPCR® *DPYD* Mutations Detection Kit comprises of four separate primer probe mixes, each detecting wild type or variable nucleotides

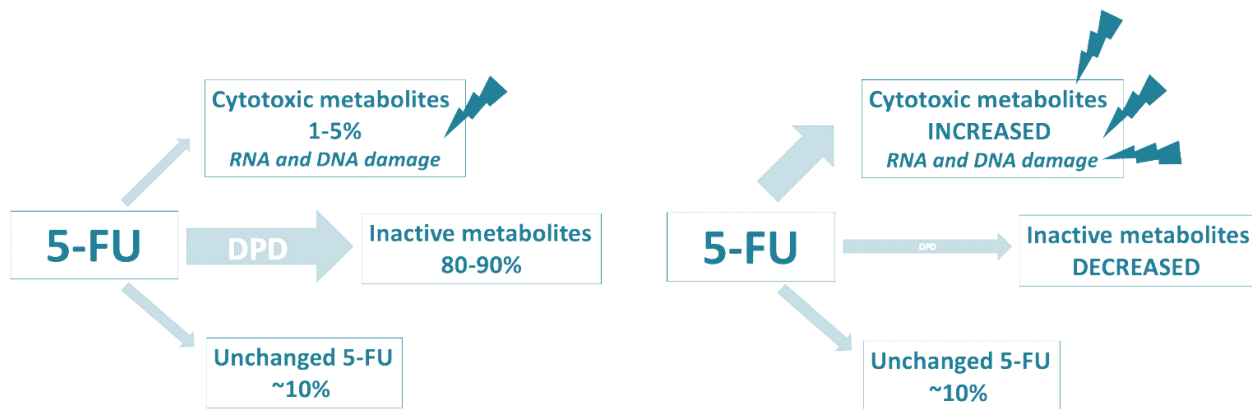


Image Source: <https://ascpt.onlinelibrary.wiley.com/doi/10.1002/cpt.2667>

### LIST OF DETECTABLE SNPs

No	Allele	rsID	Nucleotide Change	Protein Change	Enzyme function
1	2A*	rs3918290	c.1905+1G>A also IVS14 +1G>A	N/A	No function
2	13*	rs55886062	c.1679T>G	I560S	No function
3	N/A	rs67376798	c.2846A>T	D949V	Decreased
4	HapB3	rs75017182	c.1129–5923C>G	N/A	Decreased

### PRODUCT HIGHLIGHTS:

- Sample Type – Human genomic DNA, extracted from whole blood/bone marrow/FFPE tissue
- Limit of Detection - The analytical sensitivity of kit is determined as 10 ng
- Compatible Instruments – Applied Biosystems™ 7500 series / QuantStudio® series, Bio-Rad CFX96, AriaMx Real-Time PCR, Roche - LightCycler® 480 – II, Line gene K Real-Time PCR

### ORDERING INFORMATION

Cat. No.	Description	Size
3B1429	TRUPCR® <i>DPYD</i> Mutations Detection Kit	48 Reactions
3B1430	TRUPCR® <i>DPYD</i> Mutations Detection Kit	96 Reactions

