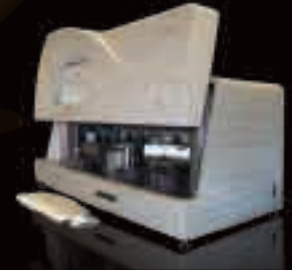


5-FU (Fluorouracil)

SPOT ON
INFINITI™
The Automated Multiplexing MDx Solution



Product Design

- ▶ The INFINITI™ 5-FU Assay is designed to identify mutations in DPYD, MTHFR, and TYMS genes on patients undergoing chemotherapy with 5-Fluorouracil (5-FU) or the oral pro-drug Capecitabine, one of the most commonly prescribed anticancer agents.
- ▶ The INFINITI 5-FU Assay utilizes the 5-FU Intellipac™, 5-FU Amp Mix and 5-FU BioFilmChip™ Microarray.
- ▶ The INFINITI 5-FU Assay is automated by the 510(k) cleared INFINITI Analyzer.
- ▶ Clinical validation is currently in progress.

Benefits

	VERSATILITY	◆	Multiplexed determination of 8 genetic variants on one BioFilmChip Microarray
	EFFICIENCY	◆	Customized reports allow for corresponding metabolic status
	AGILITY	◆	<i>Load N Go</i> automation with the INFINITI Analyzer
	INTEGRITY	◆	Replicate determinations on a single BioFilmChip Microarray ensure quality results

Genetic Variants

DPYD: 85T>C, IVS14+1 G>A, 1590T>C, 1679T>G, and 2846A>T
MTHFR: 677C>T, 1298A>C
TYMS: ins/del TTAAAG in the 3'-untranslated region

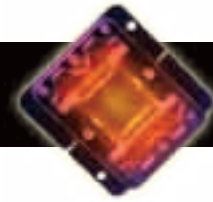
Sample Type and Volume

0.2 – 2.0 ml of peripheral whole blood in EDTA (purple-top) tube
50 ng DNA / reaction

Product Information

Product No.	Product Name	Description	Pack Size
02 108	INFINITI 5-FU BioFilmChip	12 BioFilmChips / Magazine	4 Magazines / pack
02 208	INFINITI 5-FU Intellipac	24 tests / Intellipac	2 Intellipacs / pack
02 308	INFINITI 5-FU Amp Mix	250 µl / vial	4 vials / pack

Please contact AutoGenomics to obtain product information and for product status updates.



Clinical Relevance

- ▶ 5-FU, is a chemotherapy drug that is given as a treatment for some types of cancer, including breast, gastrointestinal, head and neck, cancer.
- ▶ 500,000 Americans are treated with 5-FU a year, 30% could suffer different levels of drug toxicity.
- ▶ The following three enzymes are important factors in successful treatment of patients undergoing chemotherapy with 5-FU or the oral pro-drug, Capecitabine:
 - DPD: Dihydropyrimidine Dehydrogenase
 - MTHFR: Methylenetetrahydrofolate Reductase
 - TS:Thymidylate Synthase
- ▶ DPD catalyzes the reduction of 5-FU to an inactive metabolite, degrading up to 85% of the administered dose. Deficiency of this enzyme could lead to general toxic effects after administering a standard dose of 5-FU. ¹
- ▶ Cytotoxic activity of 5-FU is mediated primarily by the inhibition of TS. ²
- ▶ MTHFR controls the levels of 5,10 –methylene tetra hydrofolate concentrations required for optimal fluoropyrimidine efficacy. ³
- ▶ Polymorphisms in these three enzymes may determine the grade of toxicity and effectiveness after the administration of 5-Fluorouracil.

Clinical Utility

- ▶ Mutations in DPYD, MTHFR, and TYMS genes are linked with toxicity and efficacy of 5-FU.
- ▶ 5-FU related toxicity is a serious and common issue for many cancer patients. As many as 1 in 3 patients receiving 5-FU–related therapy experiences dose-limiting toxicity that is largely avoidable. Variations in DPYD, TYMS, and MTHFR are associated with up to a 60% risk of severe to life threatening toxicity. ⁴
- ▶ Testing will help physicians to determine if a patient is at risk to develop severe side effects after administration of 5-FU, and estimate efficacy of the treatment.

References

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2. Cornelia Ulrich et all , Cancer Epidemiology Biomarkers 14 (11) . November 2005.
3. Etienne MC et all, Pharmacogenetics 14 (12): 785-92.
4. Mol Cancer Ther 2006. 5(11):289-291. Pharmacogenomics J 2001.1(1): 65-70. Cancer Invest. 2006 ar;24(2):215-7.