



**Oncology**

Prices of the tests are in Euro, but can be converted to your local currency with the [currency converter](#).

Pharmacogenetic tests used in oncology can be divided in 2 groups:

1. Tests determining the toxicity of chemotherapeutics such as 5-Fluorouracil, Irinotecan and Thiopurine. Such toxicity is caused by mutations in the genes encoding Dihydropyrimidine Dehydrogenase, UDP-Glycucuronosyl transferase or Thiopurine S-Methyltransferase, respectively.
2. Tests determining the response to the treatment with specific tyrosine kinase inhibitors (TKIs). Such response is determined by mutations in specific tyrosine kinase genes. Only patients with a mutation in the specific tyrosine kinase will respond to treatment with the specific TKI. Also the development of resistance against TKIs is genetically determined by mutations in the tyrosine kinase genes.

The most prominent examples of pharmacogenetic tests used in oncology are given below.

These tests require samples specified in the column: Tissue

Test	Disease	Gene	Tissue	Test Number	Price in Euro
5-FLUORO URACIL TOXICITY	VARIOUS	ALLELE 2A (IVS14+1G-A) IN DPD (DIHYDROPYRIMIDINE DEHYDROGENASE)	DNA	1	200
		ALLELES *3, *4, *5A, *7, *8, *9, *10, *12, *13, M166V, R886H, D949V IN DPD (DIHYDROPYRIMIDINE DEHYDROGENASE)	DNA	2	800
IRINOTECAN TOXICITY	VARIOUS	TA INSERTION IN PROMOTOR OF UGT1A1 (UDP-GLYCUROSOSYL TRANSFERASE)	DNA	3	195
THIOPURINE TOXICITY	VARIOUS	ALLELES 1, 2, 3A, 3C IN TMPT (THIOPURINE S-METHYLTRANSFERASE)	DNA	4	130
HERCEPTIN RESPONSIVENESS	BREAST CANCER	HER2 / NEU OVEREXPRESSION	PARAFFINISED BREAST TUMOUR TISSUE	5	380
GLEEVEC / IMATINIB RESPONSIVENESS	CHRONIC MYELOGENOUS LEUKEMIA (CML) AND ACUTE LEUKEMIA	EXONS 4-10 MUTATIONS IN ABL (INCLUDING T315I)	BLOOD OR BONE MARROW IN PAX RNA TUBES	6	440
GLEEVEC / IMATINIB RESPONSIVENESS	CHRONIC MYELOGENOUS LEUKEMIA (CML) AND ACUTE LEUKEMIA	FUSION OF ABL TO BCR	BLOOD OR BONE MARROW IN PAX RNA TUBES	7	200
GLEEVEC / IMATINIB RESPONSIVENESS	ACUTE LEUKEMIA	FUSION OF PDGFRB TO TEL/ETV6	BLOOD OR BONE MARROW IN PAX RNA TUBES	8	200
GLEEVEC / IMATINIB RESPONSIVENESS	HYPEREOSINOPHILIC SYNDROME	FUSION OF PDGFRB TO TEL/ETV6	BLOOD OR BONE MARROW IN PAX RNA TUBES	8	200
GLEEVEC / IMATINIB RESPONSIVENESS	HYPEREOSINOPHILIC SYNDROME	del(4)(q12q12) WITH FIP1L1-PDGFR A FUSION	BLOOD OR BONE MARROW IN PAX RNA TUBES	9	300
GLEEVEC / IMATINIB RESPONSIVENESS	CHRONIC EOSINOPHILIC LEUKEMIA	del(4)(q12q12) WITH FIP1L1-PDGFR A FUSION	BLOOD OR BONE MARROW IN PAX RNA TUBES	9	300
GLEEVEC / IMATINIB RESPONSIVENESS	ACUTE MYELOID LEUKEMIA	MUTATIONS IN EXONS 8, 11 AND 17 IN KIT	WHOLE BLOOD, BONE MARROW ASPIRATE OR PARAFFIN-EMBEDDED BIOPSY	10	500
GLEEVEC / IMATINIB RESPONSIVENESS	MASTOCYTOSIS	MUTATIONS IN EXON 17 IN KIT	PARAFFINISED TUMOUR TISSUE	11	300
GLEEVEC / IMATINIB RESPONSIVENESS	MAST CELL LEUKEMIA	MUTATIONS IN EXON 17 IN KIT	WHOLE BLOOD, BONE MARROW ASPIRATE OR PARAFFIN-EMBEDDED BIOPSY	11	300
GLEEVEC / IMATINIB RESPONSIVENESS	GASTROINTESTINAL STROMAL TUMOR, GIST	MUTATIONS IN EXONS 9, 11, 13 AND 17 IN KIT	PARAFFINISED TUMOUR TISSUE	12	600
GLEEVEC / IMATINIB RESPONSIVENESS	GASTROINTESTINAL STROMAL TUMOR, GIST	MUTATIONS IN EXONS 12 AND 18 IN PDGFRA	PARAFFINISED TUMOUR TISSUE	13	400

<b>IRESSA / GEFITINIB RESPONSIVENESS</b>	NON SMALL CELL LUNG CANCER (NSCLC)	EXON 18-21 MUTATIONS IN EGFR (EPIDERMAL GROWTH FACTOR RECEPTOR)	FRESH TISSUE (ETHANOL-FIXED TISSUE)	14	630
<b>VARIOUS FLT3 INHIBITORS</b>	ACUTE MYELOID LEUKEMIA	ACTIVATING MUTATION (INTERNAL TANDEM DUPLICATION) IN FLT3 (RECEPTOR TYROSINE KINASE)	BLOOD OR BONE MARROW	15	300
<b>VARIOUS FLT3 INHIBITORS</b>	ACUTE MYELOID LEUKEMIA	ACTIVATING MUTATIONS IN EXON 14 IN FLT3 (RECEPTOR TYROSINE KINASE)	BLOOD OR BONE MARROW	16	200
<b>BETA2-AGONISTS RESPONSE</b>	VARIOUS	R16G AND Q27E MUTATIONS IN ADRB2	DNA	18	310
<b>ABACAVIR TOXICITY</b>	VARIOUS	HLA-B*5701	DNA	19	220

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