



Next Generation Oncology Screening

Liquid biopsy for detection of somatic mutations in circulating cell-free tumor DNA (ctDNA) from a blood sample



Personalized Cancer Testing

Genetiks Genetic Diseases Diagnostic Center is authorized and licensed by Turkish Republic Ministry of Health. Genetiks highly recommends that all genetic tests, their requests and monitoring of the results are performed in a genetic diagnosis center, under the supervision of medical genetics experts.

Analysis of circulating tumor DNA (ctDNA) for
detection and monitoring of cancer

OnkoGenetiks™ Liquid: ADVANCED MOLECULAR DIAGNOSTICS SOLUTIONS USING CUTTING-EDGE TECHNOLOGIES



Tests performed in **Turkey**



Fast Turn-around time: **14-21 days**



More than **15 years** experience in
the field of molecular diagnostics



Personalized genetic counseling
with experts in discussing genetic
test results and familial risks



Certified and accredited
laboratories with the latest
technology equipment



Test available **worldwide**



Over **25.000** genetic tests/year



Dedicated scientific team and
continuous support in R&D
investments

WHY LIQUID BIOPSY?

“Liquid biopsy” is a safe, non-invasive, highly sensitive and cost effective method of analyzing circulating tumor DNA (ctDNA) from the plasma of patients diagnosed with cancer or from individuals who may have cancer.

By analyzing ctDNA isolated from a patient’s blood, we can identify clinically relevant genomic alterations in ctDNA and match these alterations to targeted therapies and clinical trials.

TISSUE BIOPSY	LIQUID BIOPSY
Invasive and expensive	Non-invasive with a good benefit/cost ratio.
Strongly dependent on tumor position	Less dependent on original tumor site since tumor from both primary and metastatic sites release DNA into the bloodstream
Limited representativeness of genomic heterogeneity	Better represents tumor heterogeneity
Difficult or impossible to perform tissue biopsy in some organs	Blood sampling is simple and always accessible
Not applicable if primary tumor has been removed or if the tumor cannot be easily visualized via imaging studies	Can be used after surgery for evaluation in the absence of detectable primary tumor or metastases
Insufficient amount of tissue may be obtained for immunohistochemical and genomic analysis	A few copies of mutant ctDNA are sufficient for analysis
Serial biopsies are difficult to tolerate	Patient can tolerate serial blood draws for evaluation; may lead to greater compliance
It often needs preparation, long waiting times and specialized surgery area	Fast turnaround times and sampling is always performable without any surgery
	Useful tool for dynamic monitoring of the therapeutic response and resistance development

Identification of somatic mutations on circulating tumor DNA (ctDNA) for cancer monitoring or for early detection of cancer. OnkoGENETIKS™ Liquid Biopsy test is intended for patients who have been diagnosed with cancer or individuals with high risk for a suspected cancer.

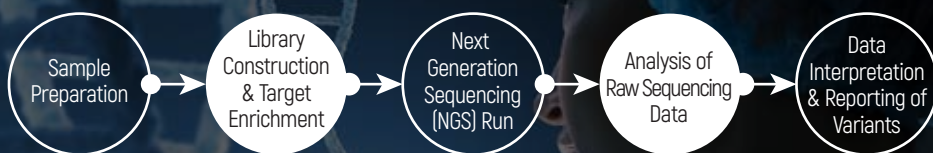
MONITOR & SCAN

PATIENTS DIAGNOSED WITH CANCER

- Provide tumor profiling for precision medicine
- Monitor treatment efficacy and resistance
- Monitor disease progression and tumor evolution
- Monitor disease recurrence
- Help physician consider other treatment options when the patient is resistant to current therapies

PATIENTS WITH A SUSPECTED CANCER

- Analysis of potential somatic mutations in genes known to be altered in cancer
- In the case of familial predisposition to cancer, relevant cancer genes are investigated for the presence of somatic mutations in order to detect early disease

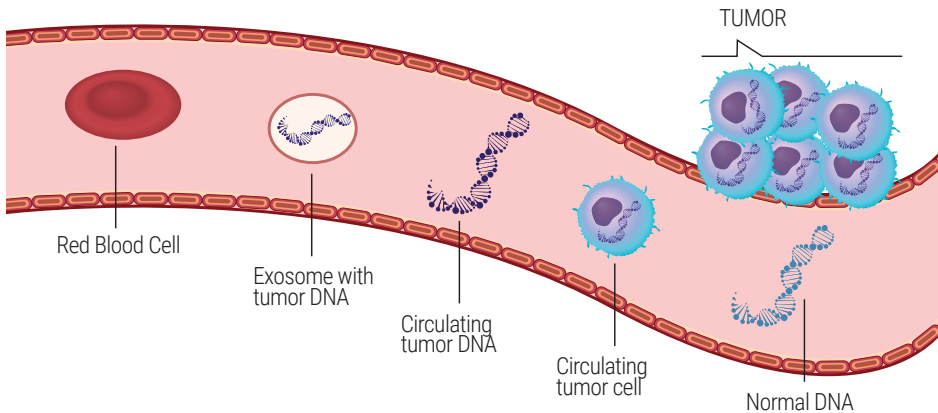


Overview of the general workflow for OnkoGenetiks™ Liquid Biopsy Analysis

The overall procedure starts with DNA isolation from blood samples obtained in PAXgene Blood ccfDNA Tubes. After library construction (using OnkoGenetiks™ designed gene panel) and target enrichment steps, NGS is performed by using Illumina NextSeq 550Dx sequencing platform. Analysis of raw sequencing data is carried out and detected variants can be interpreted with the Ingenuity®Variant Analysis (IVA) or QIAGEN Clinical Insight (QCI™) tools.

MONITOR TREATMENT EFFECTIVENESS

As healthy and diseased tissue interact with the bloodstream, they release both cellular and genetic material into the circulation. These materials are referred to as “cell-free” DNA (cfDNA), and circulating tumor cells (CTCs). Tumor DNA from these circulating tumor cells is termed as circulating tumor DNA (ctDNA).



OnkoGENETIKS™ Liquid Biopsy gene panel covers a broad spectrum of high priority genes which are known to be most involved in cancer progression. The genes are stated as the following:

(Hotspot regions are being analyzed for certain genes)

ABL1	AKT1	ALK	APC	AR	ATM	BRAF	BTK	CDH1
CDKN2A	CSF1R	CTNNB1	DDR2	DNMT3A	EGFR	ERBB2	ERBB4	ESR1
EZH2	FBXW7	FGFR1	FGFR2	FGFR3	FLT3	FOXL2	GNA11	GNAQ
GNAS	HNF1A	HRAS	IDH1	IDH2	JAK2	JAK3	KDR	KIT
KRAS	MAP2K1	MAP2K2	MET	MLH1	MPL	MSH6	MTOR	NOTCH1
NPM1	NRAS	PDGFRA	PIK3CA	PTEN	PTPN11	RAF1	RB1	RET
ROS1	SMAD4	SMARCB1	SMO	SRC	STK11	TP53	TSC1	VHL



Genetiks is one of the leading genetic diagnostics service providers in the Turkish marketplace.

- Genetiks was established in 2006 in Istanbul to provide genetics based testing services to its patients.
- The Company aims to provide qualified and reliable services for prenatal and postnatal testing by its professional staff, with significant experience in preimplantation genetic diagnosis, oncology, and pharmacogenetic tests.
- Currently, the Company operates a diagnosis center in Fulya, Istanbul with a closed area of 1,250 m²
- The Center is licensed by the Turkish Ministry of Health in line with Genetic Disease Diagnosis Center Regulations and has been qualified to work on the fields of Cytogenetics, Molecular Cytogenetics and Molecular Genetics with permanent license.

More than 15 years of experience in the field of
molecular diagnostics and oncology

Over **25.000** genetic tests/year

Certified and accredited laboratories
with the latest technology equipment

Fast Turn-around time: **14 - 21 days**

Personalized genetic counseling with experts in
discussing genetic test results and familial risks

Service available **worldwide**

Whole Genome & Exome Sequencing (WGS & WES)

A comprehensive, low-cost and unique solution in genetic diagnosis

Exome Sequencing is the leading diagnostic technique for genetic diseases, and cost efficiently analyzes nearly 20.000 gene loci, not one by one but altogether and at once. It provides an economic and rapid procedure for the determination of several hereditary diseases, including the rare diseases that are problematic for diagnosis.

Preimplantation Genetic Testing (PGT)

Genetic diagnosis tests give rise to healthy offspring.

You can easily find out whether your baby -yet in embryo stage- has a genetic disease or not, by means of "genetic diagnosis in embryo", in other words Preimplantation Genetic Diagnosis (PGD) tests. Thus, you can obtain more efficient results in terms of having a baby.

Non-invasive prenatal test (NIPT)

You can ensure a healthy future for your baby, without causing any harm.

NIPT is a genetic diagnosis test which is performed by obtaining a small blood sample only from the mother prior to birth. The test informs about possible genetic diseases in your baby with 99% accuracy. It secures a healthier future without harming the mother or the baby.

Genetic panels

R&D support is essential for genetic "improvement".

The decrease of dependency on foreign countries in terms of genetic tests and panels, has great importance for the patients and their relatives. It is crucial to obtain fast and reliable results for the tests, however, longer amount of time is needed when they are sent abroad. This means loss of valuable time in terms of disease treatment.

Cancer Genetics

Gene analyses: Our most powerful weapon in the fight against cancer.

Cancer Genetics, as being the most improved branch of genetic science, helps us to find out the answers to a variety of questions, such as the possibility of contracting cancer, the source of an existing cancer case, cancer predispositions in your family and the types of cancer that have the probability to be transmitted to next generations.

Nutrigenetics

Eat gene specifically, lower your risks of disease.

Your genes for muscle structure and cardiovascular (heart and vessels) capacity, may determine your sports career. You can change your life by means of Sports Genetics tests, which enable you to predetermine your sports performance and the sports branches that you have tendency for.

Sports Genetics

A successful athlete is evident from his/her genes.

Your genes for muscle structure and cardiovascular (heart and vessels) capacity, may determine your sports career. You can change your life by means of Sports Genetics tests, which enable you to predetermine your sports performance and the sports branches that you have tendency for.

Pharmacogenetics

The era of "personalized" medical treatments: Pharmacogenetics

The genetic changes in the molecular mechanisms that play role in drug absorption system, also determines the therapeutic effects and the side effects of the medications to our body. In other words, a medication which can provide an effective treatment for you regarding your genetic structure, may not have the same effectiveness in another person.

Genetic Counseling

Obtain the correct information from its expert.

You may want to access reliable information on an important issue, such as figuring out the likelihood of a hereditary disease in your family to be contracted by another family member or by a newborn baby in the family. In this case, it is very important to obtain the necessary information from the right sources. Please keep in mind that the information is strictly personal and confidential to the family.

HOW TO ORDER A TEST



Order the OnkoGenetiks™ Liquid test shipping kit from GENETIKS Inc.



Schedule a patient blood draw.
Fasting is not required prior to a Liquid Biopsy test



Draw 10 ml of blood sample to a
PAXgene Blood ccfDNA Tube



Fill in all required information and enclose
the informed consent signed by the patient



Prepare and transport the sample
to GENETIKS for analysis.



Interpretive test report is delivered
to the physician within 14-21 days

GENETiKS®

THE CODE OF LIFE

GENETIKS Genetic Diagnosis Center
Teşvikiye Mah. Hakkı Yeten Cad.
Terrace Fulya Center 2 No:13 Kat 4,
Şişli, 34365 İstanbul / Türkiye

☎ +90 (212) 275 70 20

☎ +90 (212) 275 70 08

✉ info@genetiks.com.tr

CALL CENTER ☎ 09:00 - 18:30

0090(850)210 49 73

www.genetiks.com.tr