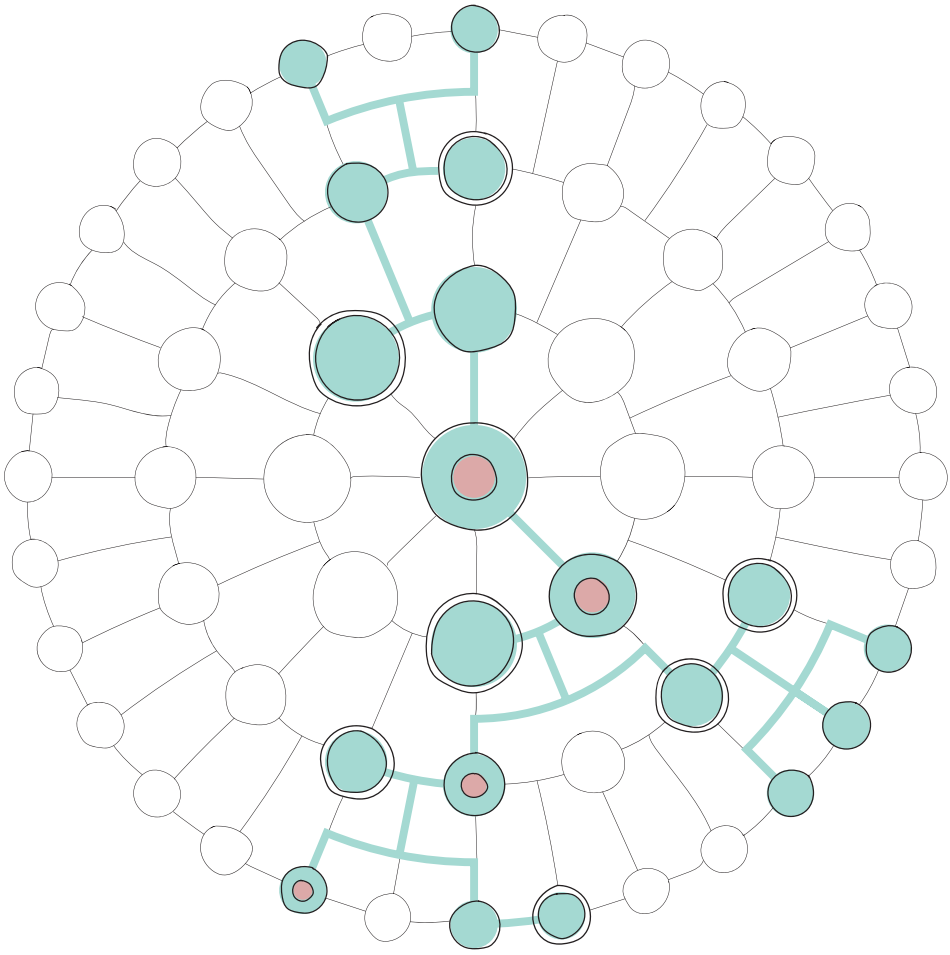
HerediGENE

Physician's booklet



Shaping Science
Improving Lives

Genekor

Committed to Biotechnological Innovation

About HerediGENE®

The HerediGENE® test is a certified (CE-IVD) diagnostic test that analyzes 83 genes (including *BRCA1 & BRCA2*) which are involved in cancer susceptibility, 17 of which are related to the Homologous Recombination (HR). The content of the analysis covers the most important genes associated with hereditary cancer predisposition, such as breast, ovarian, colorectal, prostate, pancreatic, endometrial, gastric, renal-kidney, polyposis, melanoma, pheochromocytomas, paragangliomas and other cancers.

Many individuals harboring an inherited pathogenic mutation identified from the HerediGENE® analysis will receive results that inform therapeutic decision-making and guide risk management strategies in both affected patients and their at-risk relatives according to international guidelines.

Who should be tested?

The latest guidelines from the American Society of Breast Surgeons suggest that a genetic test should be performed for each case of breast cancer.

Nevertheless, individuals who have a personal and/or family history that meet one or more of the following criteria may be considered as candidates for HerediGENE Assay:

- Early stage of onset of any type of cancer
- Individuals with multiple primary tumors
- Bilateral cancers
- Same type of cancer occurring in close relatives
- Cancer incidence in multiple generations of a family
- Rare tumor occurrence at any age

Hereditary Cancers and NCCN Guidelines

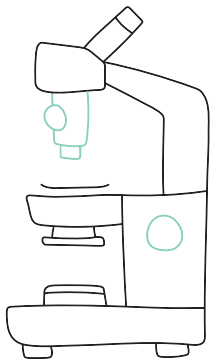
Hereditary cancers	NCCN Guidelines criteria	HerediGENE genes
Breast	Personal history of breast cancer at age ≤50 Breast cancer at any age with: Treatment indication for PARP inhibitors (e.g., metastatic setting or adjuvant olaparib for high-risk, HER2-negative cancer) Triple-negative breast cancer Multiple primary breast cancers (synchronous or metachronous) Lobular breast cancer with personal or family history of diffuse gastric cancer Male breast cancer Ashkenazi Jewish ancestry Family history	*ATM, BARD1, BRCA1, BRCA2 BRIP1* *CDH1, CHEK2, NBN, NF1* *PALB2* *PTEN, RAD50, RAD51C, RAD51D, SLX4, STK11* *TP53, XRCC2*
Ovarian	Personal history of epithelial ovarian cancer, including fallopian tube or peritoneal cancer (any age) Personal history of non-epithelial ovarian cancer, such as SCTAT or SCCOHT (any age) Family history	*ATM, BARD1, BRCA1,2, BRIP1, EPCAM, MLH1, MSH2, MSH6, PALB2, PMS2, RAD51C, RAD51D, STK11*
Pancreas	All individuals diagnosed with exocrine pancreatic cancer including acinar cell carcinoma Family history	*APC, ATM, BRCA1,2, CDKN2A, EPCAM, MLH1, MSH2, MSH6, NF1, PALB2, STK11, TP53, MLH1, MSH6, PMS2, NBN*

Prostate	Personal history of metastatic (Stage IVB), node-positive (Stage IVA), or high-/very high-risk prostate cancer Ashkenazi Jewish ancestry Family history	*ATM, BRCA1,2, CHEK2, MLH1, MSH2, MSH6, PALB2, PMS2 (PRSS1*, SPINK1*)* **PRSS1 and SPINK1 are genes associated with hereditary pancreatitis, a genetic condition characterized by recurrent inflammation of the pancreas starting at a young age. Over time, this chronic inflammation significantly increases the risk of developing pancreatic cancer, particularly in adulthood.*
Colon	Personal history of LS-related cancer (e.g., colorectal or endometrial) diagnosed before age 50, or with synchronous/metachronous LS-related cancers, or a first-/second-degree relative with LS-related cancer diagnosed before 50, or two or more first-/second-degree relatives with LS-related cancers at any age. Family history Personal history of CRC, EC, or of other tumor with MMR deficiency determined by PCR, NGS, or IHC diagnosed at any age	*APC, ATM, AXIN2, BAP1, BLM, BMPR1A, EPCAM, GREM1, KIT, MLH1, MSH2, MSH3, MSH6, MUTYH, NTHL1, PDGFRA, PMS2, POLD1, POLE, PTEN, RNF43, SMAD4, SDHA, SDHB, SDHC, SDHD, TP53, STK11*
Gastric	Suspicious of Hereditary Cancer Predisposition Syndromes Associated with an Increased Risk for Gastric Cancers (Lynch Syndrome, Juvenile Polyposis Syndrome, Peutz-Jeghers Syndrome, Familial Adenomatous Polyposis)	*APC, ATM, BAP1, BMPR1A, GREM1, KIT, NF1, PDGFRA, RNF43, SDHA, SDHB, SDHC, SDHD, SMAD4, STK11, TP53*

Melanoma	Personal history of multiple primary melanomas Family history of two or more relatives with melanoma or pancreatic cancer Personal or family history of melanoma along with other cancers associated with hereditary cancer syndromes (e.g., pancreatic cancer, breast cancer) Individuals from families with known pathogenic variants in melanoma susceptibility genes (e.g., CDKN2A, CDK4) Family history	*BAP1, BLM, BRCA2 , CDK4, CDKN2A, MITF, PTEN, TP53*
Endometrial	Diagnosis before age 50 Synchronous or metachronous Lynch syndrome-related cancers Family history of Lynch syndrome-related cancers, especially if diagnosed before age 50 or involving first- or second-degree relatives Tumors showing mismatch repair deficiency (MMR-D) or microsatellite instability (MSI)	*EPCAM, MLH1, MSH2, MSH6, NTHL1, PMS2, POLD1, POLE, PTEN, STK11*
Endocrine **Pheochromo-cytomas** **Paraga-ngliomas**	–Patients with duodenal/pancreatic neuroendocrine tumor at any age –Genetic testing may be a consideration for patients with other combinations of tumors or cancers in the patient and/or their family members	*APC, BAP1, BRCA2, CDKN1C, CTR9, FLCN, FH, EGLN1, EGLN2, EPAS1, EPCAM, KIF1B, KMT2D, MAX, MDH2, MEN1, MITF, MLH1, MSH2, MSH6, NF1, PMS2, PTEN, REST, RET,SDHA, SDHAF2, SDHB, SDHC, SDHD, TSC1/ TSC2, TMEM127, TRIM28, TTP53, VHL*

Renal Cell Carcinoma	Diagnosed at age ≤46 years Bilateral or multifocal kidney tumors At least one first- or second-degree relative with RCC Personal or family history of mesothelioma or uveal melanoma Tumor histology features suggesting hereditary RCC	*APC, BAP1, BRCA2, CDKN1C, CTR9, EGLN1, EGLN2, EPCAM, EPAS1, FLCN, FH, KIF1B, KMT2D, MAX, MDH2, MEN1, MITF, MLH1, MSH2, MSH6, NF1, PMS2, PTEN, REST, RET, SDHA, SDHAF2, SDHB, SDHC, SDHD, TMEM127, TP53, TRIM28, TSC1/ TSC2, VHL*
Rare Cancer Types		*ATRX, CDKN1C, CTR9, EXT1, EXT2, HRAS, RB1, RECQL4, REST*

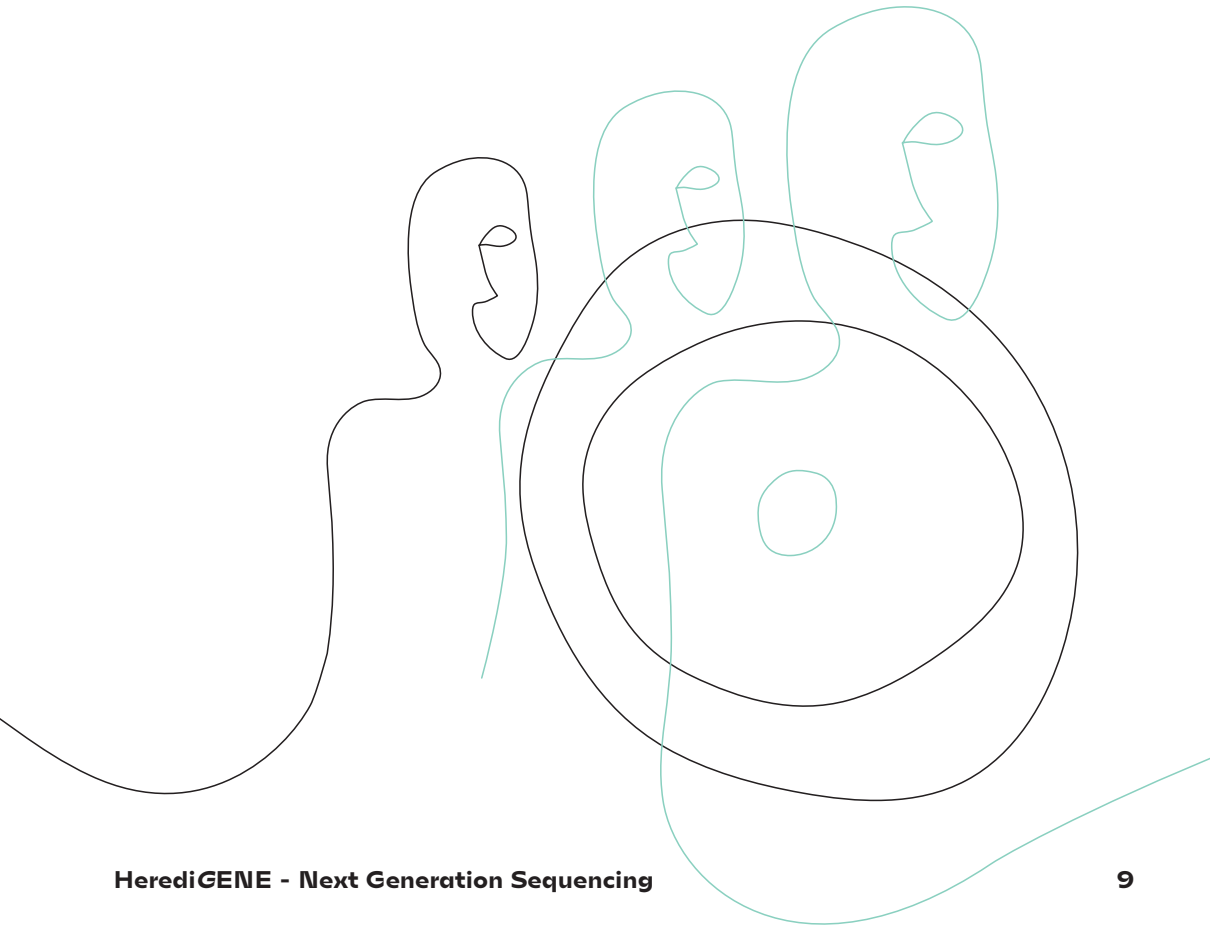
According to International Guidelines each genetic testing procedure should include pre-test counseling and post-test counseling.



Targeted Therapies based on NCCN Guidelines

Cancer types	Treatment implications based on NCCN Guidelines	Targeted therapies
Breast	Adjuvant breast cancer • TNBC -if 1) ≥pT2 or ≥pN1 disease after adjuvant chemotherapy -or 2) residual disease after preoperative chemotherapy • HR-positive, HER2-negative tumors -if 1) ≥4 positive lymph nodes after adjuvant chemotherapy (category 2A) -or 2) residual disease after preoperative therapy and a clinical stage, pathologic stage, estrogen receptor status, and tumor grade (CPS+EG) score ≥3 (category 2A). Metastatic breast cancer Assess for germline *BRCA1/2* mutations in all patients with recurrent or metastatic breast cancer to identify candidates for PARP inhibitor therapy (category 1)	Olaparib (g*BRCA*) Olaparib, Talazoparib (g*BRCA*) Olaparib (gPALB2)
Ovarian	Maintenance therapy	Olaparib, Niraparib (g/s*BRCA*) Rucaparib
Pancreas	Metastatic Disease (Maintenance Therapy) • Patients who have response or stable disease after 4–6 months of chemotherapy may undergo maintenance therapy.	Olaparib (g*BRCA*) Rucaparib (g/s *BRCA* or *PALB2*) Useful in Certain Circumstances (off-label)
Prostate	Patients with mCRPC who have an HRR mutation Patients with mCRPC who have a BRCA mutation	Olaparib, Talazoparib Niraparib, Rucaparib

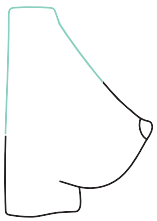
Uterine sarcoma	Consider PARP inhibitors for *BRCA2*- altered uLMS	Olaparib, Rucaparib, Niraparib Off-label
Various cancer types (HRD)	*ATM, ATRX, BAP1, BARD1, BRCA1, BRCA2, BRIP1, CHEK2, MRE11A, NBN, PALB2, RAD50, RAD51C, RAD51D*	Sensitivity to poly (ADP ribose) polymerase (PARP) inhibitors Off-label

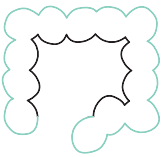


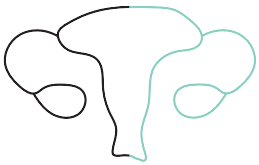
It's a family issue...

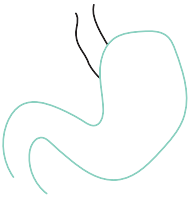
A positive finding in an individual affects the whole family.

Sharing the results with the family members is a matter of high importance. Any at-risk relative must be tested for the same alteration. The possibility that this alteration is passed in the next generation is 50%. In case of a positive result, the physician will suggest the proper management for each case specifically.







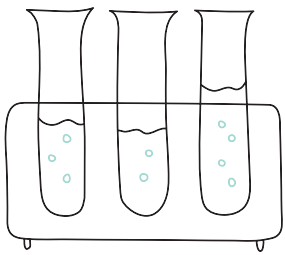


In any case, in order to reduce the likelihood of transmitting the risk of inherited cancer syndromes t o a next generation, individuals should discuss available individualized management options with their treating physician, who is now able to manage the patient based on his or her genetics' background and not exclusively from his personal or family history.

Why is HerediGENE® one of the most trusted genetic tests for hereditary cancer?

HerediGENE® Test provides you with:

- The **NGS** analysis of **83 genes**, most of which are included in **NCCN** guidelines, and 17 of them are involved in Homologous Recombination
- A **comprehensive analysis**: The assay targets all coding regions of the genes analyzed and 20 base pairs of flanking intronic sequences. Copy number variation (CNV) analysis is also included in genes *ATM, BARD1, BRCA1, BRCA2, BRIP1, CHEK2, EPCAM, MLH1, MSH2, MSH6, MUTYH, RAD50, RAD51C, RAD51D* and *TP53*. Based on the patient phenotype and the reason for referral, CNV analysis in other genes may be included (*CDKN2A, CDH1, MEN1, NF1, RET, STK11, VHL*).
- **Confirmation** of all pathogenic findings through alternative, gold-standard methodologies (Sanger Sequencing, MLPA)
- Constant **updates** and 6-month VUS reclassifications according to international guidelines from an expert scientific team
- An **experienced, dedicated team** with numerous international publications on hereditary cancer and constant participation in international oncology conferences
- The most robust and up-to-date databases curated by Genekor's bioinformatics department
- A **detailed recording** of family medical history and **genetic counseling** before, during, and after the genetic test by our experienced scientific team at no additional charge
- **State of the art equipment** for fast and reliable results



Clinical Utility

The HerediGENE® assay provides valuable information that can be used to reduce the risk of developing cancer.

» It helps physicians to individualize patients' treatment.

» It detects family members who belong to the increased risk category and who can benefit from a personalized risk reduction program.

» It identifies relatives who are not at risk in order to avoid the stress of developing cancer but also to avoid possible unwanted interventions.

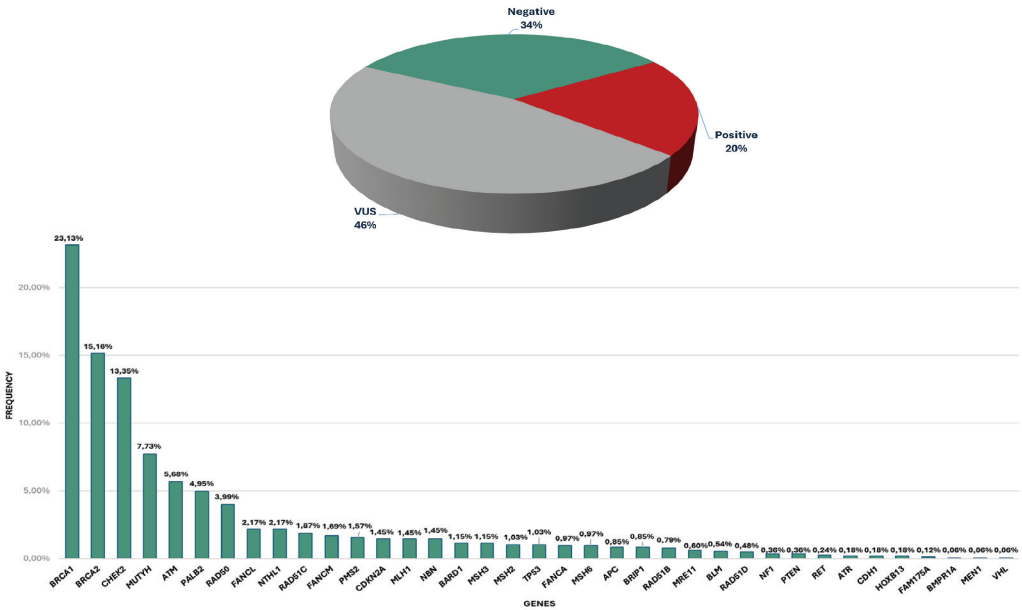


Figure. A) Results from the panel testing conducted on 8,216 individuals. Positive outcomes pertain to instances where a pathogenic variant/likely pathogenic variant was detected. VUS: Variant of unknown significance, B) Percentage of pathogenic/likely pathogenic findings identified in each gene

Publication: Tsoulos N, Agiannitopoulos K, Potska K, Katseli A, Ntogka C, Pepe G, Bouzarelou D, Papathanasiou A, Grigoriadis D, Tsaousis GN, Gogas H, Troupis T, Papazisis K, Natsiopoulos I, Venizelos V, Amarantidis K, Giassas S, Papadimitriou C, Fountzilas E, Stathoulopoulou M, Koumarianou A, Xepapadakis G, Blidaru A, Zob D, Voinea O, Özdoğan M, Ergören MÇ, Hegmane A, Papadopoulou E, Nasioulas G, Markopoulos C. **The Clinical and Genetic Landscape of Hereditary Cancer: Experience from a Single Clinical Diagnostic Laboratory**. Cancer Genomics Proteomics. 2024 Sep-Oct;21(5):448-463.

International Guidelines For Multi-Gene Testing

International Guidelines for Multigene Panels		
	Selected Patients	All Patients
NCCN®		✓
ASCO®	✓	
American Society of Breast Surgeons (ASBrS)		✓
ESMO	✓	

1. The National Comprehensive Cancer Network. Genetic/ Familiar High Risk Assessment: Breast, Ovarian and Pancreatic

2. Robson, Mark E., et al. American Society of Clinical Oncology policy statement update: genetic and genomic testing for cancer susceptibility. Journal of Clinical Oncology 3660-3667.

3. Manahan ER, et al. Consensus Guidelines on Genetic Testing for Hereditary Breast Cancer from the American Society of Breast Surgeons. Ann Surg Oncol. 3025–3031.

4. Paluch-Shimon, S., et al. Prevention and screening in BRCA mutation carriers and other breast/ovarian hereditary cancer syndromes: ESMO Clinical Practice Guidelines for cancer prevention and screening. Annals of Oncology 27.suppl_5 v103-v110.

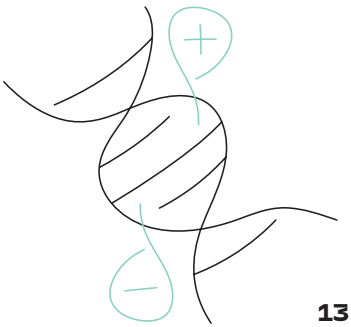
The Scientific Team of Genekor Medical S.A. consists of certified Clinical Geneticists with many years of experience in Cancer Genetics, having taken part in multiple clinical trials and having performed a large number of tests for Hereditary Cancer.

Technical Information

It utilizes next-generation sequencing (NGS) technology and sequencing is carried out in a DNBSEQ-T7 by MGI. This platform is an advanced high-throughput next-generation sequencing (NGS) platform designed to meet the demands of large-scale genomic studies. Utilizing MGI's proprietary DNBSEQ™ technology, the system offers exceptional throughput, speed, and flexibility. All detected variants are classified with the most robust and up-to-date databases curated by Genekor's bioinformatics department. Confirmation of all pathogenic findings, including SNVs and CNVs, takes place using gold standard methodologies (Sanger, MLPA).

Sample Requirement
2 Vials of peripheral blood (EDTA) or buccal Swab

Turnaround Time
15 business days (from the day sample arrives to lab)



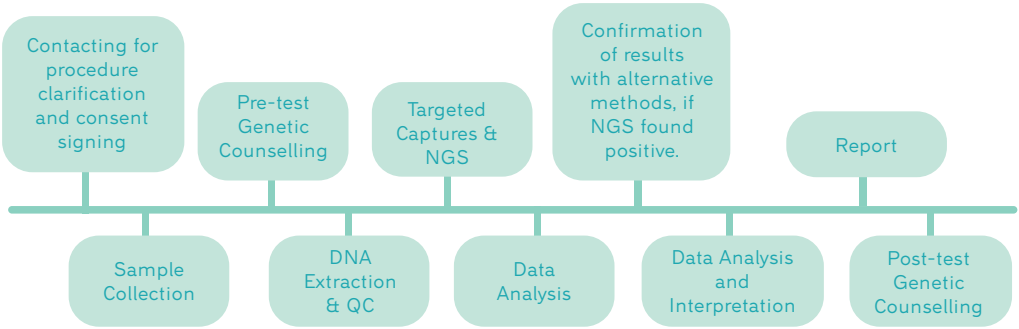
	Colon	Breast	Pancreas	Ovarian	Gastric	Melanoma	Endometrial	Endocrine	Renal
Genes									
APC	*APC*		*APC*		*APC*			*APC*	
ATM		*ATM*	*ATM*	*ATM*					
AXIN2	*AXIN2*								
ATRX									
BAP1	*BAP1*					*BAP1*		*BAP1*	
BARD1		*BARD1*		*BARD1*					
BLM	*BLM*					*BLM*			
BMPR1A	*BMPR1A*				*BMPR1A*				
BRAF									
BRCA1			*BRCA1*	*BRCA1*					
BRCA2		*BRCA2*	*BRCA2*	*BRCA2*		*BRCA2*			
BRIP1	*BRIP1*			*BRIP1*					
CDH1		*CDH1*			*CDH1*				
CDK4						*CDK4*			
CDKN1C								*CDKN1C*	*CDKN1C*
CDKN2A			*CDKN2A*			*CDKN2A*			
CHEK2		*CHEK2*							
CTR9								*CTR9*	*CTR9*
EGLN1								*EGLN1*	
EGLN2								*EGLN2*	
EPAS1								*EPAS1*	
EPCAM	*EPCAM*		*EPCAM*	*EPCAM*			*EPCAM*		
EXT1									
EXT2									
FGFR1									
FH								*FH*	*FH*
FLCN								*FLCN*	*FLCN*
GREM1	*GREM1*								
H3-3A									
HRAS									
IDH2									
KIF1B								*KIF1B*	*KIF1B*
KIT	*KIT*				*KIT*				
KMT2D								*KMT2D*	*KMT2D*
MAX								*MAX*	*MAX*
MDH2								*MDH2*	
MEN1								*MEN1*	
MERTK									
MET								*MET*	*MET*
MLH1			*MLH1*				*MLH1*		
MRE11A									
MSH2	*MSH2*		*MSH2*	*MSH2*					
MSH3	*MSH3*								

Prostate	Rare Tumors	Thyroid	HRD	
				Associated Phenotype
				Familial adenomatous polyposis
ATM			*ATM*	Breast cancer, Ataxia-Telangiectasia
				Colorectal cancer
			ATRX	***Alpha-thalassemia myelodysplasia syndrome***
			BAP1	Colorectal cancer, Uveal Melanoma
			BARD1	Breast cancer
			BLM	Bloom syndrome
				Polyposis, juvenile intestinal
				LEOPARD syndrome, Noonan syndrome
			BRCA1	Pancreatic cancer, Breast-ovarian cancer, familial, Fanconi anemia
BRCA2			*BRCA2*	Fanconi anemia, Medulloblastoma, Glioma susceptibility, Pancreatic cancer, Wilms tumor, Breast-ovarian cancer, familial
			BRIP1	Fanconi anemia, Breast cancer
				Hereditary diffuse gastric cancer
				Melanoma, cutaneous malignant
				Beckwith-Wiedemann syndrome, Wilms Tumors, Neuroblastoma, Hepatoblastoma
				Melanoma, familial, Melanoma-pancreatic cancer syndrome
CHEK2			*CHEK2*	Breast cancer
	CTR9			Myeloid Malignancies, Wilms Tumor
	EGLN1			Paraganglioma or Pheochromocytoma
	EGLN2			Paraganglioma or Pheochromocytoma
	EPAS1			Paraganglioma or Pheochromocytoma
				Colorectal cancer, hereditary nonpolyposis
	EXT1			Multiple cartilagenious exostoses 1
	EXT2			Multiple cartilagenious exostoses 2
				Hereditary leiomyomatosis and renal cell cancer
				Birt-Hogg-Dube syndrome,
				Hereditary mixed polyposis syndrome
	HRAS			Costello syndrome
				Pheochromocytoma, Neuroblastoma
				Gastrointestinal stromal tumor
				Neuroblastoma, Wilms Tumor
				Pheochromocytoma
				Paraganglioma or Pheochromocytoma
		MEN1		Hyperparathyroidism, Multiple endocrine neoplasia
				Renal cell carcinoma
MLH1				Lynch Syndrome
			MRE11A	Ataxia-telangiectasia-like disorder-1
				Lynch Syndrome
				Colorectal adenomatous polyposis

	Colon	Breast	Pancreas	Ovarian	Gastric	Melanoma	Endometrial	Endocrine	Renal
Genes									
MSH6	*MSH6*		*MSH6*	*MSH6*			*MSH6*		
MTAP									
MUTYH	*MUTYH*								
NBN		*NBN*							
NF1		*NF1*	*NF1*		*NF1*			*NF1*	*NF1*
NF2								*NF2*	
NTHL1	*NTHL1*						*NTHL1*		
PALB2		*PALB2*	*PALB2*						
PDGFRA	*PDGFRA*				*PDGFRA*				
PMS2			*PMS2*				*PMS2*		
POLD1	*POLD1*						*POLD1*		
POLE	*POLE*						*POLE*		
PRSS1			*PRSS1*						
PTEN	*PTEN*	*PTEN*				*PTEN*	*PTEN*	*PTEN*	*PTEN*
RAD50		*RAD50*							
RAD51C		*RAD51C*							
RAD51D		*RAD51D*							
RB1									
RECQL4									
REST								*REST*	*REST*
RET								*RET*	*RET*
RNF43	*RNF43*								
SDHA	*SDHA*				*SDHA*			*SDHA*	*SDHA*
SDHAF2								*SDHAF2*	*SDHAF2*
SDHB	*SDHB*				*SDHB*			*SDHB*	*SDHB*
SDHC					*SDHC*			*SDHC*	*SDHC*
SDHD	*SDHD*				*SDHD*			*SDHD*	*SDHD*
SLX4									
SMAD4	*SMAD4*				*SMAD4*				
SPINK1			*SPINK1*						
SQSTM1									
STK11	*STK11*	*STK11*	*STK11*				*STK11*		
TMEM127								*TMEM127*	*TMEM127*
TP53	*TP53*	*TP53*	*TP53*		*TP53*	*TP53*		*TP53*	*TP53*
TRIM28								*TRIM28*	*TRIM28*
TSC1								*TSC1*	*TSC1*
TSC2								*TSC2*	*TSC2*
VHL								*VHL*	*VHL*
WT1								*WT1*	*WT1*
XRCC2		*XRCC2*							

Prostate	Rare Tumors	Thyroid	HRD	
				Associated Phenotype
MSH6				Lynch Syndrome
				Familial adenomatous polyposis, Colorectal adenomatous polyposis
			NBN	Breast cancer, Nijmegen breakage syndrome
				Neurofibromatosis, Neurofibromatosis-Noonan syndrome
				Neurofibromatosis
				Familial adenomatous polyposis 3
			PALB2	Fanconi anemia, Pancreatic cancer, Breast cancer
				Gastrointestinal stromal tumor
PMS2				Lynch Syndrome
				Colorectal cancer
				Colorectal cancer
				Hereditary Pancreatitis
				Cowden syndrome
			RAD50	Nijmegen breakage syndrome-like disorder
			RAD51C	Fanconi anemia, Breast-ovarian cancer
			RAD51D	Breast-ovarian cancer
	RB1			Retinoblastoma
	RECQL4		*RECQL4*	Skin Cancer, Osteosarcoma
				Fibromatosis, Wilms tumor
	RET	*RET*		Pheochromocytoma, Medullary thyroid carcinoma, Multiple endocrine neoplasia
				Polyposis cancer syndrome
				Gastrointestinal stromal tumor, Paragangliomas
				Paragangliomas
				Paraganglioma and gastric stromal sarcoma, Pheochromocytoma, Gastrointestinal stromal tumor, Paragangliomas, Cowden-like syndrome
				Paraganglioma and gastric stromal sarcoma, Gastrointestinal stromal tumor, Paragangliomas
				Paraganglioma and gastric stromal sarcoma, Pheochromocytoma, Paragangliomas, Carcinoid tumors, intestinal, Cowden syndrome
	SLX4			Fanconi anemia
				Juvenile polyposis
				Hereditary Pancreatitis
				Peutz-Jeghers syndrome
				Pheochromocytoma
TP53	*TP53*			Colorectal cancer, Li-Fraumeni syndrome, Ependymoma, intracranial, Choroid plexus papilloma, Breast cancer, familial, Adrenocortical carcinoma, Osteogenic sarcoma, Hepatoblastoma, Non-Hodgkin lymphoma
				Wilms Tumor
	TSC1			Tuberous sclerosis
	TSC2			Tuberous sclerosis
				Pheochromocytoma, Von Hippel-Lindau disease
				Wilms tumor
			XRCC2	Fanconi anemia, Breast cancer

Workflow



Genekor's Validation Studies

» Tsoulos N, Agiannitopoulos K, Potska K, Katseli A, Ntogka C, Pepe G, Bouzarelou D, Papathanasiou A, Grigoriadis D, Tsaousis GN, Gogas H, Troupis T, Papazisis K, Natsiopoulos I, Venizelos V, Amarantidis K, Giassas S, Papadimitriou C, Fountzilas E, Stathoulopoulou M, Koumarianou A, Xepapadakis G, Blidaru A, Zob D, Voinea O, Özdoğan M, Ergören MÇ, Hegmane A, Papadopoulou E, Nasioulas G, Markopoulos C. **The Clinical and Genetic Landscape of Hereditary Cancer: Experience from a Single Clinical Diagnostic Laboratory.** Cancer Genomics Proteomics. 2024 Sep-Oct;21(5):448-463.

» Apessos A, Agiannitopoulos K, Pepe G, Tsaousis GN, [...], Papadopoulou E, Nasioulas G, Georgoulias V. (2022). **Genetic Predisposition to Male Breast Cancer: A Case Series**. In Anticancer Res. 2022 Dec;42(12):5795-5801. doi: 10.21873/anticanres.16086. PMID: 36456130

» Agiannitopoulos K, Potska K, Katseli A, Ntogka C, Tsaousis GN, Pepe G, Bouzarelou D, Tsoulos N, Papathanasiou A, Ziogas D, Venizelos V, Markopoulos C, Iosifidou R, Karageorgopoulou S, Giassas S, Natsiopoulos I, Papazisis K, Vasilaki-Antonatou M, Psyrri A, Koumarianou A, Matthaios D, Zairi E, Blidaru A, Banu E, Jinga DC, Laçin Ş, Özdoğan M, Papadopoulou E, Nasioulas G. **Only 32.3% of Breast Cancer Families with Pathogenic Variants in Cancer Genes Utilized Cascade Genetic Testing**. Cancers (Basel). 2023 Oct 30;15(21):5218.

» Agiannitopoulos K, Pepe G, Tsaousis GN, Potska K, Bouzarelou D, Katseli A, Ntogka C, Meintani A, Tsoulos N, Giassas S, Venizelos V, Markopoulos C, Iosifidou R, Karageorgopoulou S, Christodoulou C, Natsiopoulos I, Papazisis K, Vasilaki-Antonatou M, Kabletsas E, Psyrri A, Ziogas D, Lalla E, Koumarianou A, Anastasakou K, Papadimitriou C, Ozmen V, Tansan S, Kaban K, Ozatli T, Eniu DT, Chiorean A, Blidaru A, Rinsma M, Papadopoulou E, Nasioulas G. **Copy Number Variations (CNVs) Account for 10.8% of Pathogenic Variants in Patients Referred for Hereditary Cancer Testing**. Cancer Genomics Proteomics. 2023 Sep-Oct;20(5):448-455.

» Apostolopoulou, D., Özdoğan, M., Agiannitopoulos, K., Pepe, G., Potska, K., Tsaousis, G. N., ... Nasioulas, G. (2023). **CNV and RNA analysis reveal a germline pathogenic duplication of MSH2 exon 15 in a family with Lynch syndrome: A case report**. Journal of Clinical Images and Medical Case Reports, 4(2), 2289

» Ozmen V, Caglayan AO, Yararbas K, Ordu C, Aktepe F, Ozmen T, Ilgun AS, Soybir G, Alco G, Tsaousis GN, Papadopoulou E, Agiannitopoulos K, Pepe G, Kampouri S, Nasioulas G, Sezgin E, Soran A. **Importance of multigene panel test in patients with consanguineous marriage and family history of breast cancer**. Oncol Lett. 2022 Apr;23(4):118. doi: 10.3892/ol.2022.13238. Epub 2022 Feb. PMID: 35261632

» Tsaousis GN, Papadopoulou E, Agiannitopoulos K, Pepe G, Tsoulos N, [...] Nasioulas G (2022). **Revisiting the Implications of Positive Germline Testing Results Using Multi-gene Panels in Breast Cancer Patients**. In Cancer Genomics Proteomics. 2022 Jan-Feb;19(1):60-78.

» Agiannitopoulos K, Pepe G, Papadopoulou E, Tsaousis GN, Kampouri S, [...] Nasioulas G (2021). **Clinical Utility of Functional RNA Analysis for the Reclassification of Splicing Gene Variants in Hereditary Cancer**. In Cancer Genomics Proteomics. 2021 May-Jun;18(3):285-294.

» Agiannitopoulos K, Papadopoulou E, Tsaousis GN, Pepe G, Kampouri S, [...] Nasioulas G. (2020) **Report of a germline double heterozygote in MSH2 and PALB2**. In Mol Genet Genomic Med. 2020 Oct;8(10):e1242.

» Agiannitopoulos K., Pepe G., Papadopoulou E., Tsaousis G., [...]Nasioulas G. (2020). **Splicing variants in hereditary cancer genes: clinical utility of functional RNA analysis**. In EUROPEAN JOURNAL OF HUMAN GENETICS Conference 2020. EUROPEAN JOURNAL OF HUMAN GENETICS 28 (SUPPL 1), 538-539.

» Agiannitopoulos K., Papadopoulou E., Tsaousis G.N., Pepe G, Kambouri S, Kocdor M.A., Nasioulas G. (2019) **Characterization of the c.793-1G>A splicing variant in CHEK2 gene as pathogenic: a case reportof report BMC Medical Genetics 20**, Article number: 131

» Tsaousis GN, Tsoulos, E. Papadopoulou, K. Agiannitopoulos, G. Pepe, [...] G. Nasioulas. (2019) **Multigene panel testing results for hereditary breast cancer in 1325 individuals: implications for gene selection and considerations for guidelines.** In: ESMO 2019 Congress: Annals of Oncology (2019) 30 (suppl_5): v25-v54.

» Tsoulos N, Apessos A, Agiannitopoulos K, Pepe G, Tsaousis, G., Kambouri S, [...] Nasioulas G. (2017) **Analysis of hereditary cancer syndromes by use of a panel of genes: More answers than questions. In: 40th San Antonio Breast Cancer Symposium (SABCS), San Antonio, Texas, USA. AACR**; Cancer Res 2018;78(4 Suppl):Abstract nr P3-03-03.

» Tsaousis G.N., Papadopoulou E, Apessos A, Agiannitopoulos K, Pepe G, Kambouri S, [...] Nasioulas G. (2019) **Analysis of hereditary cancer syndromes by using a panel of genes: Novel and multiple pathogenic mutations. BMC Cancer**. 2019 Jun 3;19(1):535.

» Tsoulos N, Tsaousis GN, Papadopoulou E, Agiannitopoulos K, Pepe G, Kambouri S, Apessos A, [...] Nasioulas G. (2018) **Analysis of hereditary cancer syndromes by using a panel of genes: Novel and multiple pathogenic mutations.** In: 41th San Antonio Breast Cancer Symposium (SABCS), San Antonio, Texas, USA. AACR; Cancer Res 2019;79(4 Suppl):Abstract nr P4-03-07

Accreditations & Certifications

Clinical Reliability: ISO 15189:2022 (Cert. No. 822)* & **CAP Accredited Laboratory.**

Data Security: Certified according to **ISO/IEC 7001:2022** for Information Security Management.

Quality Management: **ISO 9001:2015** Certified Quality Management System.

Method Reliability: HerediGENE® is performed using **CE-IVD** marked reagents/software, in compliance with IVDR.

** Within the official scope of accreditation.*

Genekor Medical S.A.

info@genekor.com | **genekor.com**

6/2026