



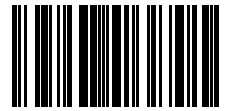
FuIDNA



HEALTH

PANEL

ONCOLOGIC



WARNING

The values of the results of genetic tests are not diagnostic, but show trends that are influenced by physiological, pathological conditions, use of medications and other personal conditions of the examinee.

Only your clinician is able to correctly interpret these results and to prescribe the most appropriate treatment for you, and the laboratory is not responsible for any treatment based on the results.

If necessary, this laboratory has scientific advice to discuss these results with your attending clinician.

The genetic test

The genetic examination is the most current and advanced technological leap in the health area, mainly for the clinical area because DNA is the true Instruction Manual for the individual.

The exam shows conditions, determined by genetics, that may or may not develop at some point in life, as in DNA, all individual needs, susceptibilities and psycho-behavioral and structural characteristics are determined with high precision. , functional and reactive that an individual has and will have throughout his life.

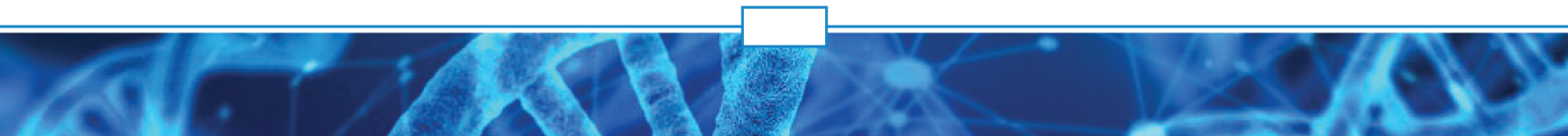
Today science considers Epigenetics, a term that encompasses countless factors such as the state and emotional relationships, nutrition, physical activity and environmental factors, among others, as of fundamental value for development (expression), or not (silencing), of these conditions.

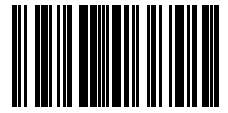
Hence the importance of genetic examination. It allows each person to know what their tendencies are and thus be able to work epigenetically to prevent them from developing (genetic silencing), thus maintaining their Health, Vitality, Beauty and Longevity.

>

The information found in the DNA, which determines the individual differences and the conditions analyzed in the exams, are called Polymorphisms (SNPs). In each condition our exam can find and analyze up to several dozen polymorphisms.

The current level of our technology, developed in Israel, allows the high level of precision and reliability of our exams in the fundamental aspects for a genetic exam.





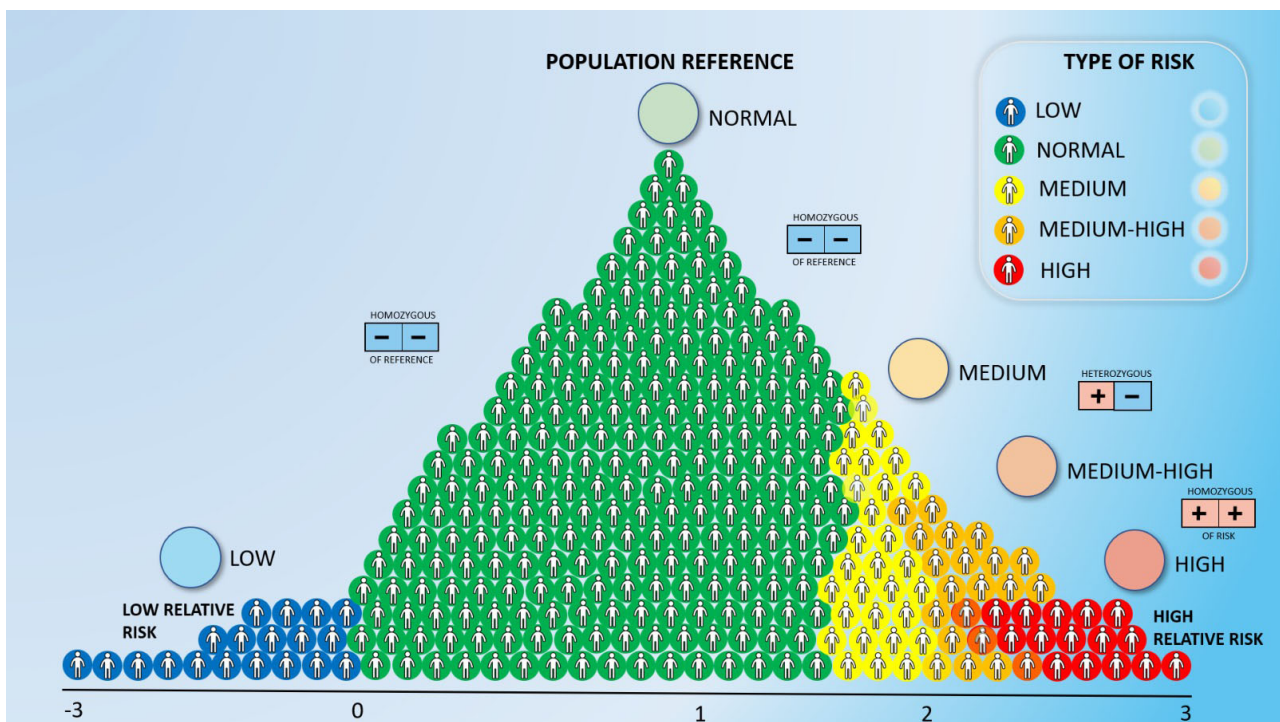
How to interpret the exam:

FIRST PART

The analyzed genetic CONDITIONS are grouped into CATEGORIES.

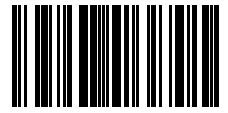
Each CONDITION is presented according to its MAGNITUDE. That is, what is the genetic susceptibility (intensity or possibility) of the analyzed condition to express itself (happen).

- If the susceptibility is TOO HIGH, a RED dot will appear
- If the susceptibility is HIGH, an ORANGE ball will appear
- If the susceptibility is AVERAGE, a YELLOW ball will appear
- If the susceptibility is NORMAL a GREEN ball will appear
- If the susceptibility is LOW, a BLUE ball will appear
- If the condition is not identified GRAY ball



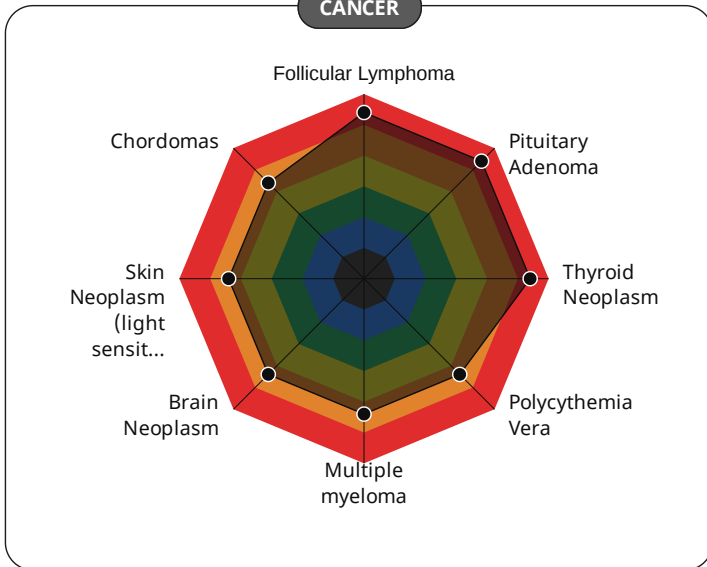
PART TWO

In the second part the CATEGORIES and CONDITIONS are shown again in more detail and presenting the analyzed genes

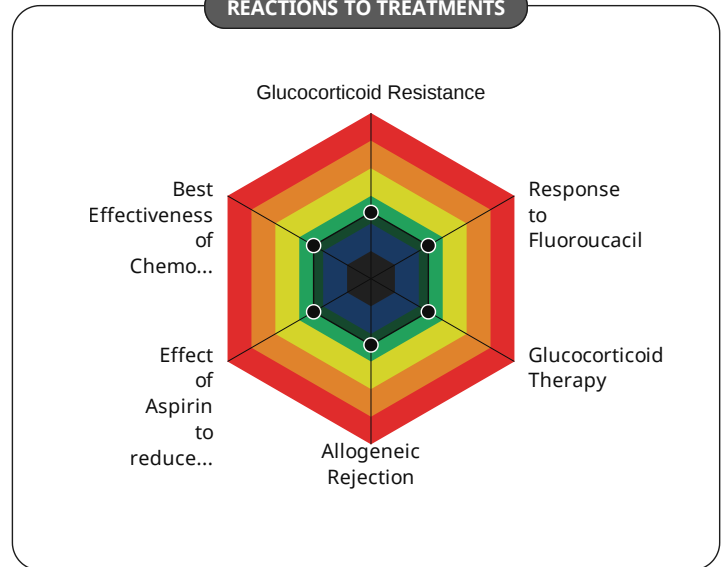


MOST RELEVANT CONDITIONS BY CATEGORY

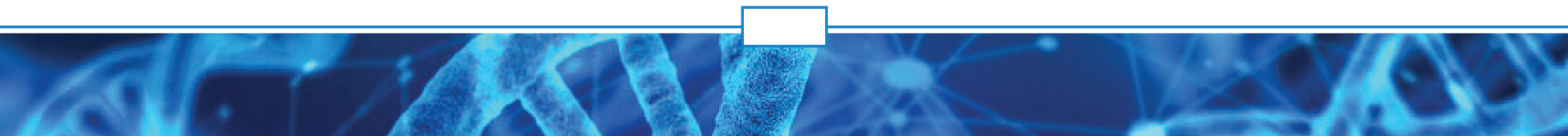
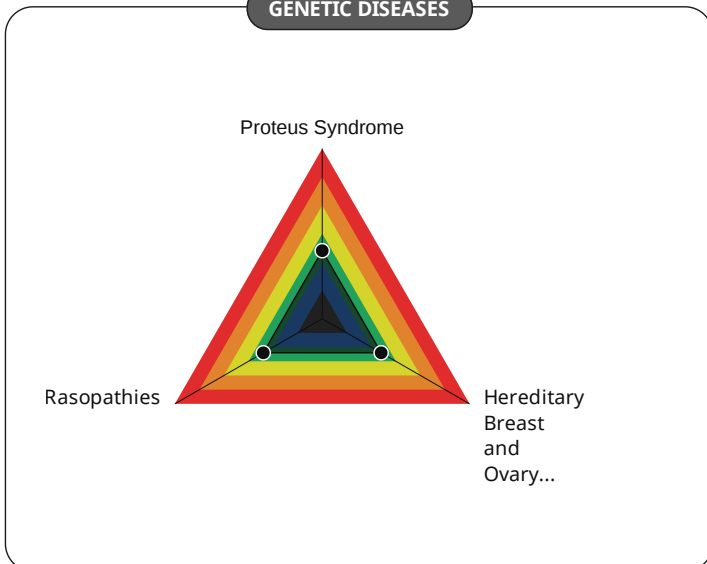
CANCER

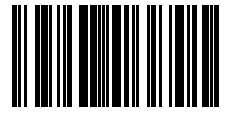


REACTIONS TO TREATMENTS



GENETIC DISEASES

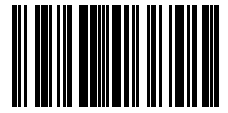




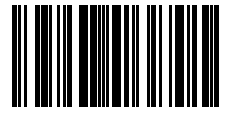
SUMMARY OF RESULTS

Cancer

Follicular Lymphoma	0	-	-	1	+	-	0	+	+	● HIGH
Pituitary Adenoma	0	-	-	0	+	-	1	+	+	● HIGH
Thyroid Neoplasm	3	-	-	2	+	-	1	+	+	● HIGH
Polycythemia Vera	8	-	-	0	+	-	2	+	+	● MEDIUM-HIGH
Multiple myeloma	3	-	-	1	+	-	2	+	+	● MEDIUM-HIGH
Brain Neoplasm	0	-	-	2	+	-	0	+	+	● MEDIUM-HIGH
Skin Neoplasm (light sensitivity)	0	-	-	2	+	-	0	+	+	● MEDIUM-HIGH
Chordomas	0	-	-	0	+	-	1	+	+	● MEDIUM-HIGH
Colorectal Neoplasm	6	-	-	3	+	-	4	+	+	● MEDIUM-HIGH
Neuroblastoma	1	-	-	0	+	-	3	+	+	● MEDIUM-HIGH
Metastasis	1	-	-	1	+	-	0	+	+	● MEDIUM-HIGH
Nasopharyngeal Neoplasm	2	-	-	2	+	-	1	+	+	● MEDIUM-HIGH
Astrocytoma	2	-	-	0	+	-	1	+	+	● MEDIUM-HIGH
Bladder Neoplasm	2	-	-	2	+	-	1	+	+	● MEDIUM-HIGH
Neoplasms (General Risk)	13	-	-	11	+	-	5	+	+	● MEDIUM-HIGH
Neoplasm: Leukemia (Blood)	1	-	-	1	+	-	1	+	+	● MEDIUM-HIGH
Gastrointestinal Stromal Tumor	2	-	-	3	+	-	0	+	+	● MEDIUM-HIGH
Glioma	4	-	-	2	+	-	1	+	+	● MEDIUM-HIGH
Cervical Neoplasm	0	-	-	0	+	-	1	+	+	● MEDIUM-HIGH
Skin Neoplasm (Basic Cell Carcinoma - BCC)	2	-	-	0	+	-	1	+	+	● MEDIUM-HIGH
Stomach Neoplasm	4	-	-	2	+	-	0	+	+	● MEDIUM-HIGH
Colorectal Neoplasm (Meat Consumption)	4	-	-	4	+	-	0	+	+	● MEDIUM-HIGH



Lung Neoplasm	15	-	-	10	+	-	1	+	+	● MEDIUM
Diffuse large B-cell lymphoma	0	-	-	1	+	-	0	+	+	● MEDIUM
Liver Neoplasm	2	-	-	2	+	-	0	+	+	● MEDIUM
Meningioma	1	-	-	1	+	-	1	+	+	● MEDIUM
Acute Lymphoblastic Leukemia (ALL)	5	-	-	2	+	-	0	+	+	● MEDIUM
Breast neoplasm	49	-	-	10	+	-	1	+	+	● MEDIUM
Ovary Neoplasm	17	-	-	1	+	-	1	+	+	● MEDIUM
Breast Neoplasm (Family)	12	-	-	1	+	-	0	+	+	● NORMAL
Hereditary Cancer Predisposition Syndrome	20	-	-	1	+	-	0	+	+	● NORMAL
Tumor calcinosis	2	-	-	0	+	-	0	+	+	● NORMAL
Myeloproliferative Disorder	6	-	-	0	+	-	0	+	+	● NORMAL
Tumor Necrosis Factor Alpha	1	-	-	0	+	-	0	+	+	● NORMAL
Non-Hodgkin's Lymphoma	6	-	-	1	+	-	0	+	+	● NORMAL
Peripheral T cell lymphoma	1	-	-	0	+	-	0	+	+	● NORMAL
Medulloblastoma	6	-	-	0	+	-	0	+	+	● NORMAL
Oral Cavity and Laryngeal Neoplasm	1	-	-	0	+	-	0	+	+	● NORMAL
Skin Neoplasm (in redheads)	3	-	-	0	+	-	0	+	+	● NORMAL
Li-Fraumeni Syndrome	15	-	-	0	+	-	0	+	+	● NORMAL
Lynch Syndrome	3	-	-	0	+	-	0	+	+	● NORMAL
Hereditary Tyrosinemia Type 1	5	-	-	0	+	-	0	+	+	● NORMAL
Wilms' Tumor	2	-	-	0	+	-	0	+	+	● NORMAL
Hereditary Nonpolyposis Colorectal Neoplasm	1	-	-	0	+	-	0	+	+	● NORMAL
Multiple Endocrine Neoplasm	3	-	-	1	+	-	0	+	+	● NORMAL
Pancreas Neoplasm	5	-	-	0	+	-	0	+	+	● NORMAL
Malignant Pleural Mesothelioma	1	-	-	0	+	-	0	+	+	● NORMAL
Retinoblastoma	9	-	-	0	+	-	0	+	+	● NORMAL
Myelodysplastic Syndrome	3	-	-	0	+	-	0	+	+	● NORMAL
Lung adenocarcinoma	1	-	-	0	+	-	0	+	+	● NORMAL
JAK2 V617F mutation	1	-	-	0	+	-	0	+	+	● NORMAL
Schwannoma	1	-	-	0	+	-	0	+	+	● NORMAL
Skin Neoplasm (Melanoma)	9	-	-	1	+	-	0	+	+	● LOW
Endometrial Neoplasm	5	-	-	1	+	-	0	+	+	● LOW
Osteosarcoma	1	-	-	0	+	-	0	+	+	● LOW



Digestive system

Bowel polyps	2	-	-	0	+	-	0	+	+		NORMAL
Juvenile Polyposis Syndrome	6	-	-	0	+	-	0	+	+		NORMAL




General

Hepatocellular Carcinoma (HCC)	3	-	-	1	+	-	0	+	+		NORMAL
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Genes

GSTT1	1	-	-	0	+	-	0	+	+		NORMAL
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Genetic diseases

Proteus Syndrome	1	-	-	0	+	-	0	+	+		NORMAL
Hereditary Breast and Ovary Cancer Syndrome	10	-	-	1	+	-	0	+	+		NORMAL
Rasopathies	1	-	-	0	+	-	0	+	+		NORMAL

Hematologic system

Idiopathic Hypereosinophilic Syndrome	1	-	-	0	+	-	0	+	+		NORMAL
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Immune system

Neurofibromatosis	10	-	-	0	+	-	0	+	+		NORMAL
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Neurodegenerative diseases

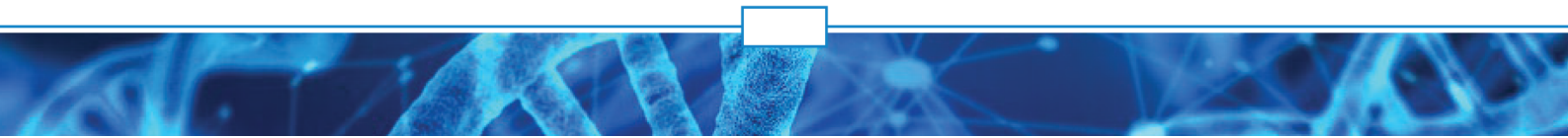
Louis-Bar Syndrome (Ataxia Telangiectasia)	4	-	-	0	+	-	0	+	+		NORMAL
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Oncologic

Cervical Cancer	2	-	-	0	+	-	0	+	+		NORMAL
BRAF V600E mutation	1	-	-	0	+	-	0	+	+		NORMAL

Reactions to Treatments

Glucocorticoid Resistance	1	-	-	0	+	-	0	+	+		NORMAL
Response to Fluorouacil	1	-	-	0	+	-	0	+	+		NORMAL
Glucocorticoid Therapy	0	-	-	1	+	-	0	+	+		NORMAL
Allogeneic Rejection	1	-	-	0	+	-	0	+	+		NORMAL



Name: Sample

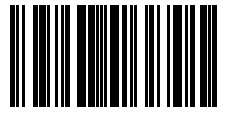
Age:

Gender: F

Report Date: 15/11/2021

Prescriber:

Health Insurance:



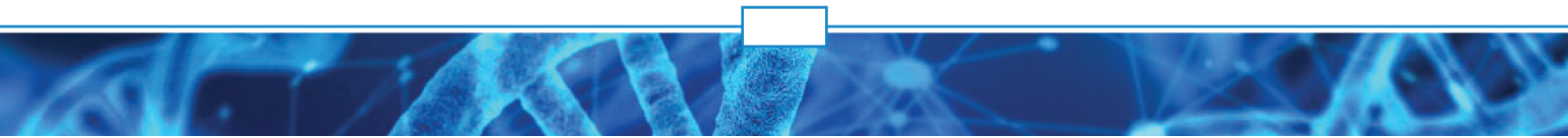
Sample

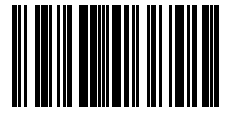
Effect of Aspirin to reduce risk of colorectal neoplasia

1 - - 0 + - 0 + + ● NORMAL

Best Effectiveness of Chemotherapy

1 - - 0 + - 0 + + ● NORMAL







Cancer

Follicular Lymphoma

 HIGH



Follicular lymphoma (FL) is a type of non-Hodgkin lymphoma. FL develops when B cells become abnormal (cancerous). B-cells are white blood cells that normally help fight infection. They are sometimes called B-lymphocytes.

Gene	Genotype	Minor Allele	Alteration	Result
INTERGENIC	GT+	G		

Pituitary Adenoma

 HIGH












Pituitary adenoma, also known as pituitary adenoma, is a type of benign pituitary tumor, which is a gland located in the brain and is responsible for controlling the production of hormones such as cortisol, prolactin, growth hormone and hormones that stimulate functioning ovaries and testicles, for example. This type of tumor is rare and, because it is benign, does not put life at risk, however it can cause symptoms that decrease the quality of life such as infertility, decreased libido, milk production or neurological symptoms such as headache or partial loss of vision.

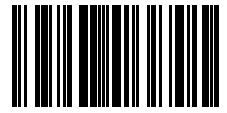
Gene	Genotype	Minor Allele	Alteration	Result
TP53	GG-	C,T		

Thyroid Neoplasm

 HIGH

Thyroid neoplasm is a malignant tumor of the thyroid gland that is located in the neck. It is the fifth most common type of cancer in women and the seventeenth most prevalent in men. Its clinical course is indolent, it has a good evolution and satisfactory response to treatment in most cases.

Gene	Genotype	Minor Allele	Alteration	Result
CASC8	GG+	T		
DIRC3	CT+	G,T		
HABP2	GG+	A		
INTERGENIC	CT+	T		
INTERGENIC	GG+	G,T		
RET	TT+	C		



Polycythemia Vera

 MEDIUM-HIGH

Polycythemia vera (PV) is a disorder of the blood-producing cells of the bone marrow that results in overproduction of red blood cells, increased hematocrit. There may also be an increase in platelets and white blood cells.

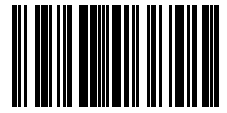
Gene	Genotype	Minor Allele	Alteration	Result
FGFR3	AA+	G	- -	●
JAK2	CC+	C	+ +	●
JAK2	GG+	A,T	- -	●
MPL	GG+	A	- -	●
MPL	GG+	A,C	- -	●
MPL	CC+	T	- -	●
MPL	TT+	A	- -	●
MPL	CC+	T	- -	●
NOG	TT+	G	- -	●
SH2B3	TT+	A,C,G	+ +	●

Multiple myeloma

 MEDIUM-HIGH

Cancer of plasma cells.





Gene	Genotype	Minor Allele	Alteration	Result
BRAF	AA-	C	- -	●
DTNB	TT+	T	+ +	●
HRAS	GG-	A,C,T	- -	●
LIG4	CT-	A	+ -	●
SP3	TT+	C	+ +	●
TP53	GG-	A,G,T	- -	●



Brain Neoplasm







A brain tumor is characterized by the presence and proliferation of abnormal cells in the brain or meninges, which can happen due to genetic mutations or due to metastasis of cancer from other parts of the body. Typically, brain tumors can be classified into 4 grades according to their rate of growth: Brain tumor grade 1 and 2: Slow-growing brain tumor that rarely spreads to other regions of the brain. These are usually benign brain tumors such as glioblastoma or meningioma; Grade 3 and 4 brain tumor: Usually a malignant brain tumor that grows rapidly. The brain tumor rarely metastasizes, that is, it spreads to other parts of the body. Normally, malignant cells develop and proliferate in the brain itself. Most brain tumors are benign and have well-defined limits, that is, they are curable and can be easily treated with chemotherapy, radiotherapy or surgical removal.

Gene	Genotype	Minor Allele	Alteration	Result
MTHFR	AG-	G,T		
MTHFR	CT-	A		

Skin Neoplasm (light sensitivity)





Exposure to light increasing the risk of Skin Cancer, taking into account the incidence of UV (ultraviolet) rays

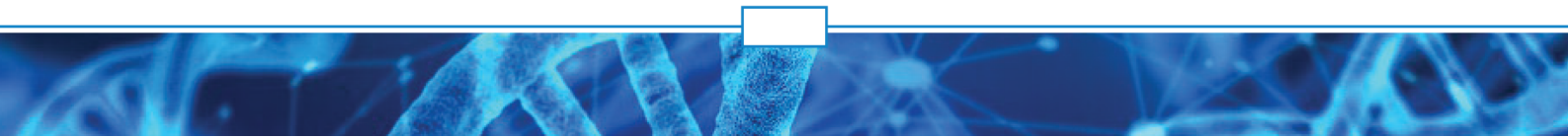
Gene	Genotype	Minor Allele	Alteration	Result
ASIP	AG-	T		
ASIP	GT+	G		

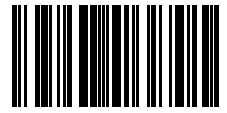
Chordomas



Chordomas are slow-growing malignant tumors that form as remnants of the notochord. One third forms at the base of the skull, and may also form in the lumbosacral region. Histologically, they are benign, but present malignant behavior because they are invasive and due to their capacity to metastasize.

Gene	Genotype	Minor Allele	Alteration	Result
TBXT	TT+	T		































Colorectal Neoplasm

 MEDIUM-HIGH









Colorectal neoplasia is the development of cancer in the colon or rectum, two segments of the large intestine.

Gene	Genotype	Minor Allele	Alteration	Result
CASC8	GG+	T		
CHEK2	TT-	C,G		
COLCA1	AA+	A		
EIF3H	AC+	C		
GATA3	GT+	G		
INTERGENIC	CC+	C		
INTERGENIC	AC+	C		
MGMT	AA+	G		
MSH6	TT+	C,G		
MTHFD1	CC-	A		
SMAD7	CC+	C		
SMAD7	TT+	A,C		
TCF7L2	CC+	G,T		

Neuroblastoma

 MEDIUM-HIGH





Cancer that is commonly found in the adrenal (adrenal) glands, located one over each kidney.

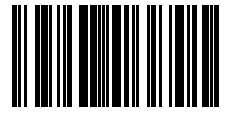
Gene	Genotype	Minor Allele	Alteration	Result
BARD1	TT+	G		
CASC15	CC+	C,G		
CASC15	GG+	G		
CASC15	AA+	A		

Metastasis

 MEDIUM-HIGH

Metastasis is the formation of a new tumor lesion from another. It can be considered the fact that a tumor has spread to other cells and organs.

Gene	Genotype	Minor Allele	Alteration	Result
FGFR4	CT-	A		
PDK1	CC+	T		



Nasopharyngeal Neoplasm



Most patients with nasopharyngeal cancer complain of a lump or mass in the neck. This is caused by the spread of the disease to the lymph nodes in the region, which increases in size.

Gene	Genotype	Minor Allele	Alteration	Result
GABBR1	AG-	T	+ -	●
GABBR1	CT-	C,G	+ -	●
HCG9	AA+	G	- -	●
HCG9	GG-	C	+ +	●
INTERGENIC	TT+	C	- -	●

Astrocytoma



Astrocytoma is a type of cancer that can occur in the brain or spinal cord. It begins in cells called astrocytes that support nerve cells. Some astrocytomas grow very slowly and others can be aggressive cancers that grow quickly. Astrocytoma is a type of cancer that can form in the brain or spinal cord.

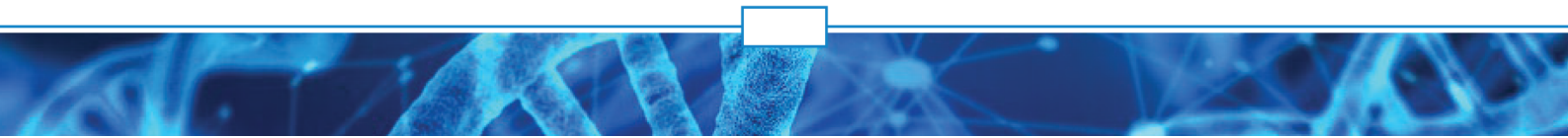
Gene	Genotype	Minor Allele	Alteration	Result
KDR	CC-	G	+ +	●
KDR	CC+	T	- -	●
VEGFR2	TT+	A	- -	●

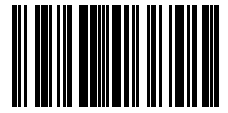
Bladder Neoplasm



Bladder neoplasia is a malignant formation that settles in the cells that cover the inner walls of the bladder, a hollow and elastic muscular organ whose function is to store urine from the kidneys and then eliminate it through the urethra.

Gene	Genotype	Minor Allele	Alteration	Result
CASC11	GG+	A,T	- -	●
PTGS2	CT-	G,T	+ -	●
TP63	AA-	C	+ +	●
XPC	CC-	A	- -	●
XRCC5	GT+	T	+ -	●



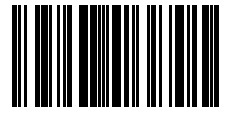


Neoplasms (General Risk)

 MEDIUM-HIGH

A disease in which abnormal cells divide uncontrollably and destroy body tissue. The graph on the right indicates the genetic predisposition to developing different types of cancer.

Gene	Genotype	Minor Allele	Alteration	Result
ABCA1	GG-	T	- -	●
ALDH2	GG+	A	+ +	●
ATM	CC-	G,T	- -	●
CCHCR1	AA-	G	- -	●
CLPTM1L	CT+	T	+ -	●
CYP1A1	TT-	G	- -	●
CYP1A1	CC-	A,T	- -	●
CYP1A1	TT-	G,T	- -	●
CYP1B1	CG-	C	+ -	●
CYP2E1	AA+	T	+ +	●
CYP3A4	AA-	T	- -	●
CYP3A5	GG-	C	+ +	●
DIRC3	CT+	G,T	+ -	●
EPHX1	CT+	C	+ -	●
EPHX1	AA+	G,T	- -	●
FASLG	CT+	T	+ -	●
G6PD	GG-	T	- -	●
MIR146A	GG+	G	- -	●
MTHFR	AG-	G,T	+ -	●
MTHFR	AC-	A,C,G	+ -	●
MTHFR	CT-	A	+ -	●
MTRR	AG+	G	+ -	●
PTEN	GG+	A,C,T	- -	●
RNASEL	CC-	G	+ +	●
SLC39A6	TT-	A	+ +	●
SOD2	TT-	G	- -	●
XPC	CC-	A	- -	●
XPC	AC-	T	+ -	●
XRCC1	CT-	A	+ -	●



Neoplasm: Leukemia (Blood)



It is a cancer that occurs in the formation of blood cells, making it difficult for the body to fight infections.

Gene	Genotype	Minor Allele	Alteration	Result
IRF4	GG+	G,T	++	●
JAK2	GG+	A,T	--	●
NQO1	CT-	A	+ -	●

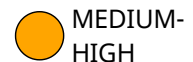
Gastrointestinal Stromal Tumor



They originate from the interstitial cells of cajal and are the most common mesenchymal neoplasm of the gastrointestinal tract, 5% to 6% of all sarcomas and

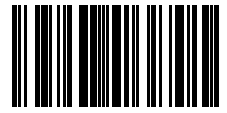
Gene	Genotype	Minor Allele	Alteration	Result
MTHFR	AG-	G,T	+ -	●
MTHFR	AC-	A,C,G	+ -	●
MTRR	CC+	T	--	●
MTRR	AG+	G	+ -	●
SHMT1	GG+	A	--	●

Glioma



A type of tumor that occurs in the brain and spinal cord.

Gene	Genotype	Minor Allele	Alteration	Result
CCDC26	TT+	G	--	●
CDKN2B-AS1	GG+	A	--	●
EGFR	AG+	G,T	+ -	●
PTEN	GG+	A	--	●
SEL1L	TT+	C	--	●
SOD3	CC+	T	++	●
TERT	GT-	A	+ -	●



Cervical Neoplasm



Cervical cancer is a type of cancer that occurs in the cells of the cervix - the lower part of the uterus that connects to the vagina. The graph on the right indicates the genetic predisposition to develop this condition.

Gene	Genotype	Minor Allele	Alteration	Result
IL-12B	AA-	G	++	●

Skin Neoplasm (Basic Cell Carcinoma - BCC)



They are cancers that form in the skin and are characterized by the abnormal growth of cells in the skin.

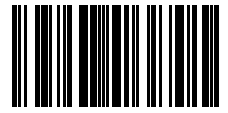
Gene	Genotype	Minor Allele	Alteration	Result
INTERGENIC	TT+	G	++	●
KRT5	GG-	T	--	●
PADI6	GG+	A	--	●

Stomach Neoplasm



Stomach cancer is also known as gastric cancer. Stomach cancer develops slowly over many years. Before the onset of cancer itself, precancerous changes occur in the inner lining of the stomach (mucosa). Stomach cancer is also called gastric cancer. The adenocarcinoma type accounts for about 95% of stomach tumor cases. Other types of tumors, such as lymphomas and sarcomas, can also occur in the stomach. Lymphomas are diagnosed in about 3% of cases. Sarcomas are rare tumors that start in the tissues that give rise to muscles, bones and cartilage. One type that can affect the stomach is the gastrointestinal stromal tumor, better known as GIST. Stomach adenocarcinoma affects mostly men in their 60s to 70s. About 65% of patients are over 50 years old. In Brazil, stomach cancer is the third most common type among men and the fifth among women.

















Gene	Genotype	Minor Allele	Alteration	Result
AURKA	GG-	C	--	●
LTA	CC+	T	--	●
MTHFR	AG-	G,T	+ -	●
MTHFR	CT-	A	+ -	●
PLCE1	AA+	G	--	●
SERPINE1	CC+	T	--	●

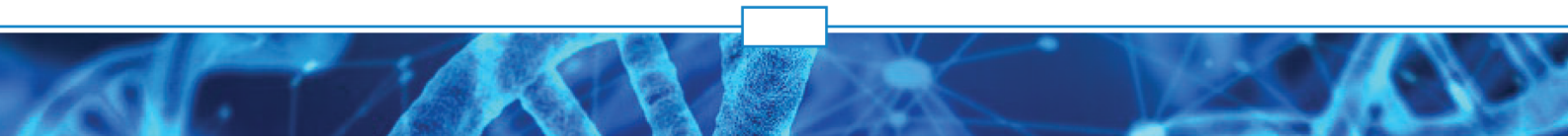


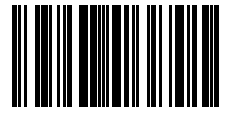
Colorectal Neoplasm (Meat Consumption)

 MEDIUM-HIGH

Excessive consumption of red meat can be a risk factor for colorectal cancer, especially in individuals with these polymorphisms, if indicated in orange or red.

Gene	Genotype	Minor Allele	Alteration	Result
GATA3	GT+	G		
MLH1	AG+	C,G,T		
NAT2	AG+	G		
NAT2	CC+	T		
NAT2	CT+	T		
NAT2	GG+	A		
NAT2	GG+	A		
NAT2	CC+	A,T		



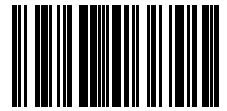


Lung Neoplasm

 MEDIUM

Cancer that starts in the lungs and most often occurs in smokers.

Gene	Genotype	Minor Allele	Alteration	Result
ABCB1	CC-	G	- -	●
ABCB1	TT-	G	- -	●
ATM	CC-	G,T	- -	●
CHEK2	TT-	C,G	- -	●
CHRNA3	CT-	A	+ -	●
CXCR4	CC-	A	- -	●
CYP1A1	AC-	A,T	+ -	●
CYP1A1	TT-	G	- -	●
CYP1A1	CC-	A,T	- -	●
CYP1A1	TT-	G,T	- -	●
CYP24A1	CC+	T	- -	●
EGFR	GG-	T	- -	●
ERCC2	TT+	A,G	- -	●
FASLG	CT+	T	+ -	●
G6PD	GG-	T	- -	●
HYKK	TT+	C	- -	●
KLF6	CC+	T	- -	●
MGMT	AA+	G	- -	●
MTHFR	AG-	G,T	+ -	●
MTHFR	CT-	A	+ -	●
NQO1	CT-	A	+ -	●
PER3	AG-	T	+ -	●
SOD2	TT-	G	+ +	●
TERT	GT-	A	+ -	●
XPC	AC-	T	+ -	●
XRCC1	CT-	A	+ -	●



Diffuse large B-cell lymphoma



Diffuse large B-cell lymphoma (DLBCL) is a cancer of B cells, a type of lymphocyte that is responsible for producing antibodies. It is the most common form of non-Hodgkin lymphoma among adults, with an annual incidence of 7–8 cases per 100,000 people per year in the US and UK. This cancer occurs primarily in older individuals, with a median age of diagnosis at ~70 years, although it can occur in young adults and, in rare cases, children. DLBCL can arise in virtually any part of the body and, depending on various factors, is often a very aggressive malignancy. The first sign of this illness is typically the observation of a rapidly growing mass or tissue infiltration that is sometimes associated with systemic B symptoms, e.g. fever, weight loss, and night sweats.

Gene	Genotype	Minor Allele	Alteration	Result
IL-6	CG+	G	+ -	●

Liver Neoplasm



Liver Neoplasm is a malignant tumor that originates from cells that make up the liver. Liver cancer is divided into two categories: primary liver and secondary, or metastatic (originated in another organ and affecting the liver as well). The term "primary liver" is used in tumors originating in the liver, such as hepatocarcinoma or hepatocellular carcinoma (most frequent primary malignant tumor occurring in more than 80% of cases), cholangiocarcinoma (which affects the bile ducts within the liver) , angiosarcoma (blood vessel tumor) and, in children, hepatoblastoma. Despite not being among the most prevalent neoplasms, hepatobiliary cancer requires high complexity in its diagnosis and treatment proficiency.

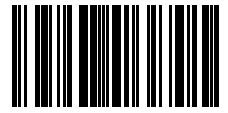
Gene	Genotype	Minor Allele	Alteration	Result
CTLA4	AG+	G,T	+ -	●
FUT2	AA+	T	- -	●
TERT	GT-	A	+ -	●
TNF	GG+	A	- -	●

Meningioma



A benign tumor that usually arises in the membranes surrounding the brain and spinal cord.















Gene	Genotype	Minor Allele	Alteration	Result
MTRR	AG+	G	+ -	●
PTEN	GG+	A	- -	●
SOD3	CC+	T	+ +	●

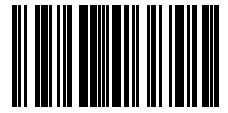


Acute Lymphoblastic Leukemia (ALL)

 MEDIUM

B-cell Acute Lymphoblastic Leukemia (ALL). A type of leukemia in which many B-cell lymphoblasts are found in the blood and bone marrow. It is the most common type of acute lymphoblastic leukemia. Also called precursor B lymphoblastic leukemia and B-cell acute lymphocytic leukemia.
































Gene	Genotype	Minor Allele	Alteration	Result
ADAM28	CC+	G,T		
ARID5B	GT+			
ARID5B	AA+	G		
HLA-DQA1	GG+	A		
HLA-DQA1	AA+	G		
IKZF1	GT+			
LTBR	TT+	A,C		

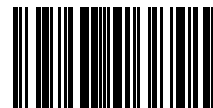


Breast neoplasm

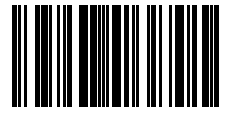
 MEDIUM

Breast cancer is a disease caused by the multiplication of abnormal cells in the breast, which form a tumor. The graph on the right indicates the genetic predisposition to develop this condition.

Gene	Genotype	Minor Allele	Alteration	Result
ABCC4	GG+	A,T	- -	
AGER	GG-	A	- -	
AKT1	GG+	G	- -	
ATM	TT+	C	- -	
ATM	CC+	T	- -	
ATM	AA+	T	- -	
ATM	CC+	A,T	- -	
ATM	GG+	C	- -	
ATM	TT+	C	- -	
ATM	CC+	T	- -	
AURKA	GG-	C	- -	
BRCA1	AG-	A,C	+ -	
BRCA1	AA-	C	- -	
BRCA1	AG-	A,C	+ -	
BRCA1	CC-	A	- -	
BRCA1	AA-	C,G	- -	
BRCA1	GG-	G,T	- -	
BRCA1	GG-	T	- -	
BRCA2	TT-	C,G	- -	
BRCA2	AA+	G	- -	
BRCA2	CC+	A,T	- -	
BRCA2	AA+	G	- -	
BRCA2	AA+	T	- -	
BRCA2	CC+	T	- -	
BRCA2	AA+	C	- -	
BRCA2	AA+	T	- -	
BRCA2	CC+	A,G	- -	
CASC16	CC-	G	- -	
CDKN1B	CC+	C	- -	
CHEK2	TT-	C,G	- -	
CHEK2	GG-	T	- -	









































COMT	CC+	T	- -	●
CYP1B1	CG-	C	+ -	●
FANCC	CC-	A	- -	●
FGFR2	CT-	G	+ -	●
FGFR2	AG+	G,T	+ -	●
FGFR2	CT-	G	+ -	●
FGFR4	CT-	A	+ -	●
FTO	TT+	A,G	- -	●
HMMR	CC+	T	- -	●
INTERGENIC	AA+	G	- -	●
INTERGENIC	AA+	G	- -	●
INTERGENIC	AA+	G	- -	●
MAP3K1	AC+	A	+ -	●
MIR146A	GG+	G	- -	●
NCOA3	GG+	A,C	- -	●
NQO1	CT-	A	+ -	●
RNF146	AA+	G	- -	●
SLCO1B3	AA+	A	- -	●
SLCO1B3	AA+	G	- -	●
TCF7L2	GG+	A,T	- -	●
TERT	CT+	T	+ -	●
TNF	GG+	A	- -	●
TP53	GG-	C,T	+ +	●
TP53	GG-	A,G,T	- -	●
TP53	CC-	A,C	- -	●
TP53	GG-	A,T	- -	●
VTCN1	AA+	A	- -	●
WRN	CC+	T	- -	●
XRCC1	GG-	G,T	- -	●

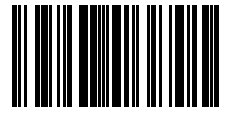


Ovary Neoplasm

 MEDIUM

Ovarian cancer is the most lethal gynecological neoplasm and the overall survival is less than 40% in five years. This is mainly because most patients have advanced stages at the time of diagnosis. In these cases, the therapeutic options - cytoreduction and chemotherapy - are only partially effective. When diagnosed early, on the other hand, the five-year survival is greater than 90% and surgery is usually the only treatment needed. However, due to the low prevalence of ovarian cancer in the population, even very specific tests produce high rates of false-positive results and increased surgical interventions to address asymptomatic adnexal masses. Based on these facts, it is essential to search for methods and strategies to detect these tumors in their early stages and, at the same time, avoid unnecessary interventions.

Gene	Genotype	Minor Allele	Alteration	Result
BRCA1	AG-	A,C		
BRCA1	AA-	C		
BRCA1	CC-	A		
BRCA1	AA-	C,G		
BRCA1	GG-	G,T		
BRCA2	TT-	C,G		
BRCA2	AA+	G		
BRCA2	AA+	G		
BRCA2	TT+	C		
BRCA2	AA+	T		
BRCA2	CC+	T		
CYP3A4	AA-	T		
ERCC2	TT+	A,G		
ESR1	GG+			
HNF1B	GG-	G,T		
INTERGENIC	GG+	A		
MAGEC3	AA+	A		
TIPARP	TT+	T		
TP53	GG-	T		

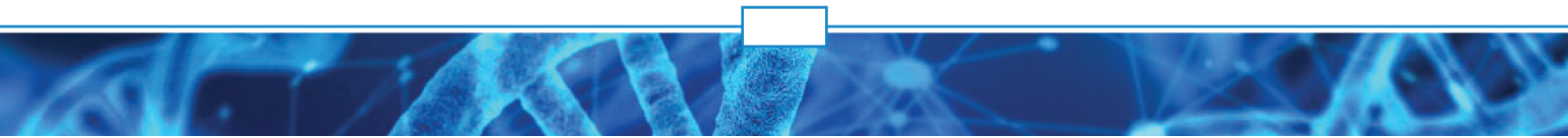


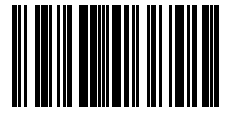
Breast Neoplasm (Family)

 NORMAL

Cancer that forms in the cells of the breasts.

Gene	Genotype	Minor Allele	Alteration	Result
ABCC1	GG+	A	- -	●
BRCA1	AG-	A,C	+ -	●
BRCA1	AA-	C	- -	●
BRCA1	CC-	A	- -	●
BRCA1	GG-	G,T	- -	●
BRCA2	TT-	C,G	- -	●
BRCA2	AA+	G	- -	●
BRCA2	CC+	A,T	- -	●
BRCA2	AA+	G	- -	●
BRCA2	AA+	T	- -	●
BRCA2	CC+	T	- -	●
CHEK2	TT-	C,G	- -	●
CHEK2	GG-	T	- -	●















































Hereditary Cancer Predisposition Syndrome

 NORMAL





Describes a mutation in an inherited gene that increases the risk for one or more types of cancer.

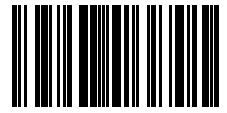
Gene	Genotype	Minor Allele	Alteration	Result
ATM	TT+	C		
ATM	CC+	T		
ATM	CC+	A,T		
ATM	TT+	C		
BRCA1	AG-	A,C		
BRCA1	AA-	C		
BRCA1	CC-	A		
BRCA1	AA-	C,G		
BRCA1	GG-	G,T		
BRCA2	TT-	C,G		
BRCA2	AA+	G		
BRCA2	CC+	A,T		
BRCA2	AA+	G		
BRCA2	AA+	T		
BRCA2	CC+	T		
CHEK2	TT-	C,G		
CHEK2	GG-	T		
ERCC4	AA+	G		
MSH2	GG+	A,T		
MSH6	TT+	C,G		
PTEN	TT+	A,G		

Tumor calcinosis

 NORMAL

A rare type of extraosseous calcification characterized by large cystic and elastic masses containing calcium phosphate deposits. The condition is more prevalent in periarticular tissue and preserves osteoarticular structures.








Gene	Genotype	Minor Allele	Alteration	Result
KL	CC+	T		
KL	TT+	A,G		



Myeloproliferative Disorder

 NORMAL



Also called myeloproliferative neoplasms, it starts in the bone marrow, when stem cells, those that give rise to red blood cells responsible for oxygenation in our body, white blood cells, which fight bacteria and infections and platelets, responsible for blood clotting, proliferate up excessively.

Gene	Genotype	Minor Allele	Alteration	Result
FGFR3	AA+	G		
MPL	GG+	A		
MPL	GG+	A,C		
MPL	CC+	T		
MPL	TT+	A		
MPL	CC+	T		

Tumor Necrosis Factor Alpha

 NORMAL















Tumor necrosis factor is a cell signaling protein involved in systemic inflammation and is one of the cytokines that make up the acute phase reaction

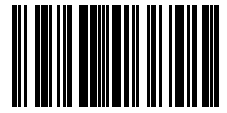
Gene	Genotype	Minor Allele	Alteration	Result
TNF	GG+	A		

Non-Hodgkin's Lymphoma

 NORMAL

Cancer that starts in the lymphatic system, which is a complex network of vessels and small structures called lymph nodes that transport lymph fluid from tissues back to the circulatory system.



Gene	Genotype	Minor Allele	Alteration	Result
CBS	AG+	A		
ITGB3	TT+	C		
LTA	CC+	T		
PRRC2A	CC-	G		
SELPLG	TT+	A,C		
TLR6	TT-	G		
TNF	GG+	A		



Peripheral T cell lymphoma

 NORMAL

Peripheral T-cell lymphoma. This type of lymphoma is rare and develops from more mature forms of T cells.

Gene	Genotype	Minor Allele	Alteration	Result
VCAM1	TT+	C		

Medulloblastoma

 NORMAL



It is a cancer of the cerebellum, which grows rapidly, is not very invasive and is more common in children. It originates in the most primitive neurological cells of the medulla of the cerebellum.

Gene	Genotype	Minor Allele	Alteration	Result
BRCA2	CC+	A,G		
NRAS	GG-	A,G,T		
TP53	GG-	A,G,T		
TP53	GG-	A,G,T		
TP53	CC-	A,C		
TP53	GG-	A,T		

Oral Cavity and Laryngeal Neoplasm

 NORMAL







Oral cancer, oral cancer or oral cancer is a type of malignant neoplasm of the tissues of the oral cavity. It includes malignant tumors of the lips, gums, tongue, floor of the mouth, hard palate, soft palate (roof of mouth) and oropharynx.

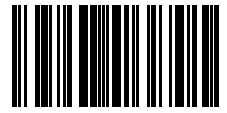
Gene	Genotype	Minor Allele	Alteration	Result
ADH7	CC+	G		

Skin Neoplasm (in redheads)

 NORMAL

Cancer that affects mainly lighter people, such as redheads.































Gene	Genotype	Minor Allele	Alteration	Result
MC1R	CC+	A,G,T		
MC1R	CC+	T		
MC1R	GG+	A,C		



Li-Fraumeni Syndrome

 NORMAL







Gene mutation conducive to cancer development. The TP53 gene mutation weakens the ability to resist cancer, leading to increased susceptibility to multiple neoplasms such as sarcomas, breast cancer, adrenocortical carcinoma, brain tumors and leukemia in the patient.

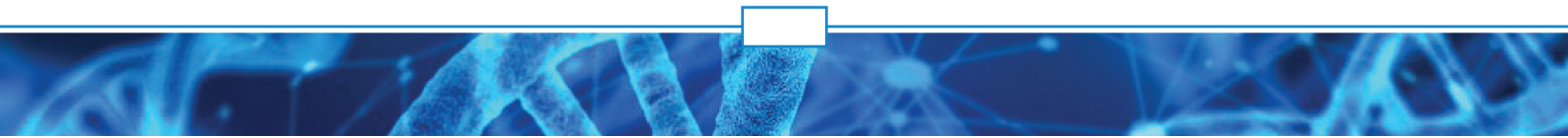
Gene	Genotype	Minor Allele	Alteration	Result
TP53	GG-	A,G,T		
TP53	CC-	T		
TP53	GG-	A,G,T		
TP53	GG-	A,T		
TP53	TT-	G		
TP53	GG-	G		
TP53	CC+	T		
TP53	CC-	A,C		
TP53	GG-	A,T		
TP53	TT-	G		
TP53	GG-	A,G,T		
TP53	GG-	A,T		
TP53	TT-	G		
TP53	AA-	A,C		
TP53	AA-	C,G		

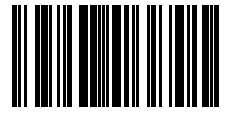
Lynch Syndrome

 NORMAL

Also called hereditary colorectal cancer (autosomal dominant transmission) non-polypoid, it is a type of hereditary cancer of the digestive tract, which affects especially the colon and rectum, representing 3% to 5% of cancer cases in these two locations. Endometrial cancer is the extracolonic neoplasm most frequently associated with Lynch II syndrome, with a cumulative risk of 42% at 80 years of age. In addition, the cumulative risk for the development of other extra-colonial tumors, such as cancers of the stomach, ovaries, and biliary and urinary tracts (19%, 9%, 18% and 10%, respectively), is greater than the expected at random. It is estimated that in families with Lynch I syndrome, 40% have mutations in MSH2 and 30% in MLH1 (2). More than 100 mutations have been described in MSH2, predominantly substitutions and small deletions

Gene	Genotype	Minor Allele	Alteration	Result
MSH2	GG+	A,T		
MSH2	GG+	C		
MSH6	TT+	C,G		





Hereditary Tyrosinemia Type 1

 NORMAL





This is a rare disease in which the body is unable to completely degrade tyrosine, an amino acid, and as a result harmful substances form, causing serious liver problems and liver cancer.

Gene	Genotype	Minor Allele	Alteration	Result
FAH	CC+			
FAH	AA+			
FAH	GG+			
FAH	GG+			
FAH	GG+			

Wilms' Tumor

 NORMAL



Malignant embryonic neoplasm arising from the metanephric blastema, which is the most common renal tumor during childhood.

Gene	Genotype	Minor Allele	Alteration	Result
PAX6	CC+	T		
WT1	AA-	C		

Hereditary Nonpolyposis Colorectal Neoplasm

 NORMAL

Colorectal cancer (CCR) is the fifth most common type of cancer in Brazil. It is estimated that hereditary CCR represents 10% to 15% of all diagnosed cases. Two hereditary colorectal cancer syndromes have been further investigated: Familial Adenomatous Polyposis (FAP) and Hereditary Non-Polyposis Colorectal Cancer Syndrome (HNPCC). While FAP is a rare syndrome, representing less than 1% of diagnosed RCC cases, the HNPCC syndrome has the highest incidence.

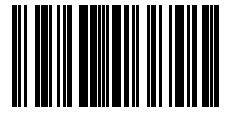
Gene	Genotype	Minor Allele	Alteration	Result
MSH6	TT+	C,G		

Multiple Endocrine Neoplasm

 NORMAL

It is an inherited syndrome characterized by tumors in the parathyroids, pancreatic islet cells and pituitary











Gene	Genotype	Minor Allele	Alteration	Result
CDKN1B	CC+	C		
CDKN1B	TT+	A,C,G		
RET	CT+	T		
RET	AA+	G		



Pancreas Neoplasm

 NORMAL



The pancreas is a gland located in the upper abdomen, behind the stomach, and is one of the organs that make up the digestive system. It is composed of three parts - head, body and tail - and has two distinct functions: the endocrine function, responsible for the production of insulin (a hormone that controls the blood glucose level) and the exocrine function, responsible for the production of involved enzymes in the digestion and absorption of food. Pancreatic cancer is rare in young people under 30 years of age. The disease affects practically the same proportion of men and women, in general, over the age of 50, especially between 65 and 80 years of age. In most cases, it is not possible to determine the cause of the disease, but the most important risk factor is smoking. The others are: chronic pancreatitis, previous radiotherapy applications, type 2 diabetes mellitus, prolonged exposure to pesticides and chemicals, certain genetic syndromes, and surgeries to treat ulcers or remove the gallbladder.

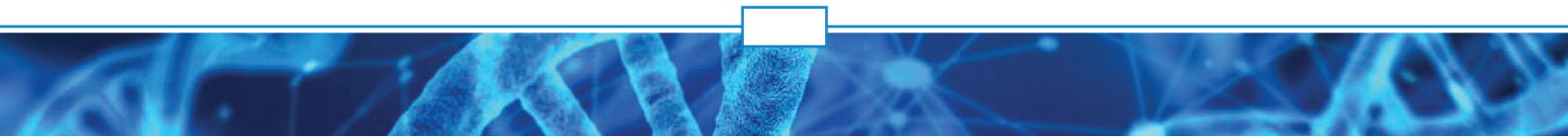
Gene	Genotype	Minor Allele	Alteration	Result
ATM	CC-	G,T		
CCKBR	CC+	A		
GP2	TT+	C		
GP2	GG+	A		
MTRR	CC+	T		

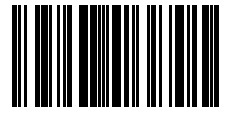
Malignant Pleural Mesothelioma

 NORMAL

Mesothelioma is a type of neoplasm that develops from the cells of the mesothelium - tissue of mesodermal origin that forms the epithelium that externally lines the viscera. The area most commonly affected is the pleura, but it can also occur less frequently in the peritoneum and, more rarely, in the pericardium and tunica vaginalis. Signs and symptoms of mesothelioma can include dyspnoea, ascites, chest pain, cough, fatigue, and weight loss. These symptoms are progressive but may be delayed due to the generally slow course of the disease. Individuals with the CC alleles of the rs4880 polymorphism were at higher risk.

Gene	Genotype	Minor Allele	Alteration	Result
SOD2	TT-	G		























Retinoblastoma

 NORMAL







Retinoblastoma is a rare type of eye cancer that usually develops in infancy, usually before age 5 years. This form of cancer develops in the retina, which is the specialized light-sensitive tissue at the back of the eye that detects light and color. In children with retinoblastoma, the disease usually affects only one eye. However, one in three children with retinoblastoma develops cancer in both eyes. The most common first sign of retinoblastoma is a visible whiteness of the pupil called "cat's eye reflex" or leukocoria. This unusual whiteness is particularly visible in low light or in photographs taken with a flash. Other signs and symptoms of retinoblastoma include crossed eyes or eyes not pointing in the same direction (strabismus), which can cause strabismus; a change in the color of the colored part of the eye (iris); redness, pain or swelling of the eyelids; blindness or lack of vision in the affected eye(s). Retinoblastoma is often curable when diagnosed early. However, if not treated immediately, this cancer can spread beyond the eye to other parts of the body. This advanced form of retinoblastoma can be fatal. When retinoblastoma is associated with a genetic change (mutation) that occurs in every cell in the body, it is known as hereditary (or germinal) retinoblastoma. People with this form of retinoblastoma often develop cancer in both eyes and are also at increased risk of developing many other types of cancer outside the eye.

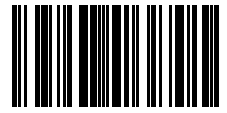
Gene	Genotype	Minor Allele	Alteration	Result
RB1	GG-	A		
RB1	GG+	T		
RB1	TT+	A		
RB1	CC+	T		
RB1	CC+	T		
RB1	CC+	T		
RB1	CC+	T		
RB1	CC+	T		
RB1	TT+	A		

Myelodysplastic Syndrome

 NORMAL

Myelodysplastic syndrome (MDS) refers to a group of neoplasms of bone marrow precursor blood cells, characterized by an increase in the number of immature cells, which can move to the spleen and liver, and a production of inefficient and abnormal blood cells (anemia, leukopenia or thrombocytopenia). There is a 20-30% risk of developing acute myeloid leukemia. All three bone marrow cell lines may be involved (white or granulocytic series, red or erythrocytic series, and platelet or megakaryocytic series).



Gene	Genotype	Minor Allele	Alteration	Result
HRAS	GG-	A,C,T		
TP53	GG-	A,G,T		
TP53	CC-	A,C		




Lung adenocarcinoma

 NORMAL



About 40% of lung cancers are adenocarcinomas. These tumors start in the cells that line the alveoli and produce substances like mucus. This type of lung cancer occurs mainly in smokers and ex-smokers, but it is also the most common type in non-smokers.

Gene	Genotype	Minor Allele	Alteration	Result
PDCD1	CC-	T		

JAK2 V617F mutation

 NORMAL



The JAK2 V617F mutation is an acquired, somatic mutation present in the majority of patients with myeloproliferative cancer (myeloproliferative neoplasms) i.e. nearly 100% of patients with polycythemia vera and in about 50% of patients with essential thrombocytosis and primary myelofibrosis.

Gene	Genotype	Minor Allele	Alteration	Result
JAK2	GG+	A,T		

Schwannoma

 NORMAL





















Schwannoma is a rare type of tumor that forms in the nervous system. Schwannoma grows from cells called Schwann cells. Schwann cells protect and support the nerve cells of the nervous system. Schwannoma tumors are often benign, which means they are not cancer. But, in rare cases, they can become cancer.

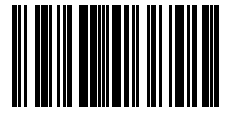
Gene	Genotype	Minor Allele	Alteration	Result
SEL1L	TT+	C		

Skin Neoplasm (Melanoma)

 LOW

Melanoma is the most serious type of skin cancer.

Gene	Genotype	Minor Allele	Alteration	Result
BRCA2	AA+	G		
CDK4	CC-	A,T		
ERCC2	TT+	A,G		
INTERGENIC	CT+	C		
MC1R	TT+	C		
MC1R	CC+	A,G		
MC1R	CC+	T		
MC1R	GG+	A,C		
MCR1R	AA+	G		
PIGU	GG+	A,C		



Endometrial Neoplasm

 LOW



Endometrial cancer is a malignant disease in which cells form in the tissues of the endometrium, which is the inside of the uterus, a hollow muscular organ located in a woman's pelvis. Endometrial cancer is the extracolonic neoplasm most frequently associated with Lynch II syndrome, with a cumulative risk of 42% at 80 years of age. In addition, the cumulative risk for the development of other extra-colonial tumors, such as cancers of the stomach, ovaries, and biliary and urinary tracts (19%, 9%, 18% and 10%, respectively), is greater than the expected at random. It is estimated that in families with Lynch I syndrome, 40% have mutations in MSH2 and 30% in MLH1 (2). More than 100 mutations have been described in MSH2, predominantly substitutions and small deletions.

Gene	Genotype	Minor Allele	Alteration	Result
CDKN1B	CC+	C		
COMT	CC+	T		
ESR1	AG+	G		
MSH6	TT+	C,G		
MUTYH	GG-	T		
PTEN	GG+	A,C,T		

Osteosarcoma

 LOW

A type of bone cancer that starts in the cells that form the Skeletal System (bones).

Gene	Genotype	Minor Allele	Alteration	Result
ERCC2	TT+	A,G		

Ductal Carcinoma (Breast)

 UNDEFINED

Premalignant or non-invasive cancerous lesion of the breast. Ductal carcinoma of the breast is a tumor derived from the cells lining the breast ducts and accounts for 80 to 90% of breast cancers. Ductal carcinoma can be divided into: In situ or intraductal: when there is proliferation of malignant cells within a duct, not exceeding the limits of the basement membrane, not invading deep structures. Invasive: when malignant cells invade structures beyond the basement membrane.

Colon Carcinoma

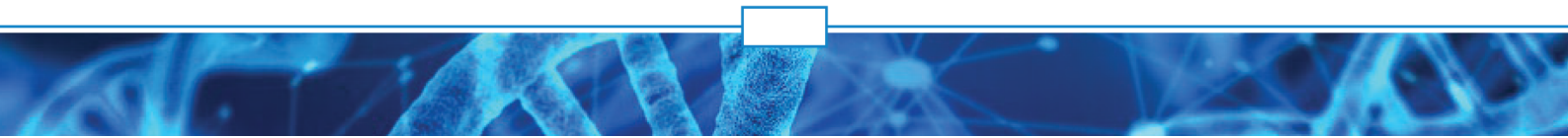
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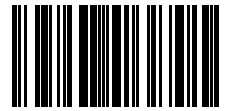
Cancer of the colon or rectum, located at the lower end of the digestive tract.

Tumor Carcinosis

 UNDEFINED

A rare type of extraosseous calcification characterized by large cystic and elastic masses containing calcium phosphate deposits. The condition is more prevalent in periarticular tissue and preserves osteoarticular structures.





Colorectal Neoplasm (Family)

UNDEFINED

Cancer of the colon or rectum, located at the lower end of the digestive tract. Most colorectal cancers occur in people without a family history of colorectal cancer. Still, 20% of people who develop the disease have other family members who have been affected by the disease. People with a history of colorectal cancer or adenomatous polyps in one or more first-degree relatives are at increased risk. The risk is doubled in patients with only one affected first-degree relative. This risk is even greater if this relative was diagnosed with less than 45 years of age, or if more than one first-degree relative was affected.

Gallbladder Neoplasm

UNDEFINED

Cancer that develops in the gallbladder, a small organ below the liver. The signs and symptoms of gallbladder cancer usually only appear when the disease is at an advanced stage, but in some cases they may appear at an earlier stage when treatment may be more effective.

Skin Neoplasm (Melanoma - Hereditary)

UNDEFINED

Hereditary genetic mutations that increase the risk of melanoma are often passed from one generation to another

Tumor predisposition syndrome (BAP1)

UNDEFINED

Tumor predisposition syndrome that is related to mutations in the BAP1 gene

Gastrointestinal Tumor (GIST)

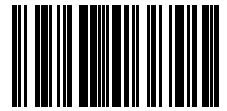
UNDEFINED

It is a type of cancer that can develop along the entire digestive tract, that is, from the esophagus, through the stomach, small intestine, large intestine, to the rectum

Biliary Pathway Neoplasm

UNDEFINED

Cholangiocarcinoma, also known as bile duct cancer, is a form of cancer that is formed by mutated epithelial cells (or cells showing characteristics of epithelial differentiation) that originate in the bile ducts that drain bile from the liver into the small intestine.



Hodgkin's lymphoma



Lymphoma or Hodgkin's disease is a type of cancer that originates in the lymphatic system, composed of organs (lymph nodes or ganglia) and tissues that produce the cells responsible for immunity and vessels that carry these cells through the body. Hodgkin's lymphoma has the characteristic of spreading in an orderly way, from one group of lymph nodes to another group, through the lymphatic vessels. The disease arises when a lymphocyte (the body's defense cell), most often a type B cell, turns into a malignant cell, capable of multiplying uncontrollably and spreading. The malignant cell begins to produce, in the lymph nodes, identical copies, also called clones. Over time, these malignant cells can spread to nearby tissues, and, if left untreated, can reach other parts of the body. The disease originates more frequently in the neck and chest region called the mediastinum. The disease can occur in any age group; however, it is more common among adolescents and young adults (15 to 29 years), adults (30 to 39 years) and the elderly (75 years or more). Men are more likely to develop Hodgkin's lymphoma than women.

Non-Small Cell Lung Neoplasm



Lung cancer is divided into two main types, which are treated very differently: 80 to 85% of lung cancers are non-small cell lung cancer. 10 to 15% of lung cancers are of the small cell lung cancer type.

Invasive Squamous Cell Carcinoma



This form of skin cancer arises in squamous cells, which make up most of the upper layers of the skin (epidermis). Squamous cell carcinomas can occur in all parts of the body, including the mucous membranes and genitals, although they develop more in areas that are constantly exposed to the sun, such as the arms, legs, neck, face and scalp. Skin in these regions often shows signs of sun damage, such as wrinkling, changes in pigmentation, and loss of elasticity.

BAP1 - Tumor Predisposition Syndrome

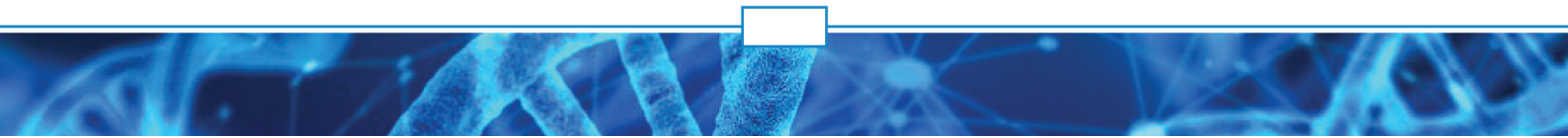


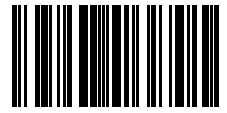
Patients with germline mutations in BAP1 can develop several atypical intradermal tumors with mutations in BAP1, melanocytic and flesh color (MBAITs). These tumors generally develop earlier than other BAP1-associated tumors, highlighting an important role for dermatologists in identifying and screening patients with a history suggestive of germline mutation. Mutations of the BAP1 gene cause Tumor Predisposition Syndrome. People with this condition are at increased risk of developing many types of tumors, both benign and malignant, particularly certain skin tumors (atypical Spitz tumors, cutaneous melanoma, and basal cell carcinoma); eyes (uveal melanoma); kidneys (clear cell renal cell carcinoma); of a tissue called mesothelium that lines the chest, abdomen and internal organs (malignant mesothelioma).

Oligodendroglioma



Oligodendroglioma is a tumor that can occur in the brain or spinal cord. Oligodendroglioma forms from oligodendrocytes — cells in the brain and spinal cord that produce a substance that protects nerve cells. Oligodendroglioma can occur at any age, but most often affects adults.





Craniopharyngioma



A craniopharyngioma is a rare type of brain tumor derived from pituitary gland embryonic tissue that occurs most commonly in children, but also affects adults. It may present at any age, even in the prenatal and neonatal periods, but peak incidence rates are childhood-onset at 5–14 years and adult-onset at 50–74 years.

Adrenocortical Carcinoma







Adrenocortical carcinoma is a rare disease in which malignant (cancer) cells form in the outer layer of the adrenal gland. There are two adrenal glands. The adrenal glands are small and shaped like a triangle. One adrenal gland sits on top of each kidney. Each adrenal gland has two parts.

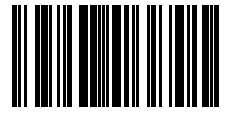
Digestive system

Bowel polyps



A polyp is a small bulge that grows in mucosa-lined cavities. Polyps can appear in various regions of our body, such as stomach, gallbladder, uterus, nasal cavity, intestines and others. In the case of intestinal polyps, the place where they are most common is in the large intestine (colon). Intestinal polyp is a benign tumor that arises from an abnormal growth of the gut's own mucosal cells. Barely comparing, we can say that they are a kind of colon wart. These injuries are very common, being present in more than 30% of the adult population. Although they are usually benign, a small part of them have the potential to develop into colon cancer over the years. Fortunately, through colonoscopy it is possible not only to diagnose, but also to remove intestinal polyps completely and safely, preventing them from developing into colon cancer.

Gene	Genotype	Minor Allele	Alteration	Result
MUTYH	AA-	C		
MUTYH	GG-	T		



Juvenile Polyposis Syndrome



Juvenile Polyposis is a rare condition and belongs to the group of familial hamartomatous polyposis (FHP). It is an autosomal dominant syndrome that can be triggered by mutations in the SMAD4/DPC4 gene (which encodes an intermediate TGF- β signal). It is characterized by the appearance of 10 or more hamartomatous polyps (juvenile) in the gastrointestinal tract, predominantly in the colon. It usually manifests itself between 4 and 14 years of age. Some polyps acquire adenomatous foci despite the hamartomatous nature of the lesions and there is a chance of malignancy.

Gene	Genotype	Minor Allele	Alteration	Result
SMAD4	GG+	A	- -	●
SMAD4	GG+	A	- -	●
SMAD4	GG+	A	- -	●
SMAD4	GG+	A	- -	●
SMAD4	CC+	T	- -	●
SMAD4	GG+	A	- -	●

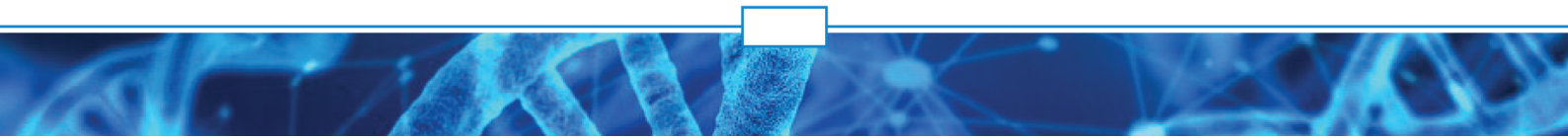
Drug Reactions

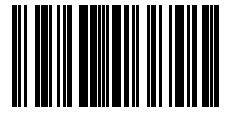
Risk of Peripheral Neuropathy using Taxane



Although it does not represent a risk to the patient's life, peripheral neuropathy depreciates the quality of life, compromising the performance of Daily Living Activities (ADLs), as well as the Instrumental Activities of Daily Living (IADLs). In addition, it represents the most common neurological complication of antineoplastic treatment and affects approximately one third of patients undergoing cytostatic drugs, among which taxanes (paclitaxel and docetaxel) and oxaliplatin, frequently used in treatments for breast, ovarian cancer, stand out. , lung and intestine.⁴ Some factors, such as dosage, administration of antineoplastic agents (total dose, dose per cycle, number of cycles, infusion time), age of the patient, impaired liver and kidney function, previous or concomitant use of other neurotoxic drugs and concurrent radiotherapy treatment of the central nervous system may interfere with the incidence and severity of neurotoxicity. Several studies show that almost all patients who use oxaliplatin have some degree of peripheral neurological dysfunction and, depending on the intensity at which they occur, it is recommended to reduce the dose by 25% to 50% or even to interrupt treatment, with risk progression of cancer. In addition, the fact that chronic neuropathy is observed in 29% -70% of people who use this drug is highlighted. This antineoplastic agent is mainly used in first and second line therapeutic regimens for colon and rectal cancer. Taxanes, in turn, are frequently associated with dose-dependent, dose-limiting and cumulative peripheral neuropathy. Paclitaxel is an antineoplastic agent commonly used to treat lung, breast and ovarian cancer. The incidence of peripheral neurotoxicity after its use is 62%, of which 30% of patients present it in grade 2, that is, with some limitation in activities of daily living. Symptoms are characterized by tingling, numbness and pain in the hands and feet; fine motor changes; difficulty walking; loss of deep tendon reflexes; myalgia and transient arthralgia, especially in joints and limbs. Docetaxel, a drug used in the treatment of advanced or metastatic breast cancer, non-small cell lung carcinoma, among others, is also associated with peripheral neuropathy, but in lesser intensity and frequency, with approximately 13% of patients manifesting their signs. and symptoms.

General












Hepatocellular Carcinoma (HCC)

 NORMAL

Hepatocellular carcinoma (HCC) is the most common type of primary liver cancer in adults and is currently the most common cause of death in people with cirrhosis. HCC is the third leading cause of cancer-related death worldwide. It occurs in the setting of chronic liver inflammation, and is most closely linked to chronic viral hepatitis infection (hepatitis B or C) or exposure to toxins such as alcohol, aflatoxin, or pyrrolizidine alkaloids. Certain diseases, such as hemochromatosis and alpha 1-antitrypsin deficiency, markedly increase the risk of developing HCC. Metabolic syndrome and NASH are also increasingly recognized as risk factors for HCC.



Gene	Genotype	Minor Allele	Alteration	Result
MIR146A	GG+	G		
MIR196A2	TT+	C		
PNPLA3	CG-	G		
TP53	CC-	T		

Genes

GSTT1

 NORMAL

GSTT1 gene plays an important role in detoxification and clearance of reactive oxygen species(ROS). A null variant in this gene has been demonstrated to confer cancer susceptibility.



Gene	Genotype	Minor Allele	Alteration	Result
GSTT1	TT-	G		

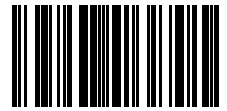
Genetic diseases

Proteus Syndrome

 NORMAL

Proteus syndrome is a very rare congenital disease that causes pathological overgrowth of the skin with subcutaneous tumors, atypical development with macrodactyly and hemihypertrophy. It is an extremely rare disease: around 101 cases have been described worldwide. Because of this rarity, there are not many studies in the area today, and almost all the events, practically, have no solution. Features: partial gigantism of the hands and feet, pigmented nevus, hemihypertrophy, subcutaneous tumors, macrocephaly and other cranial and visceral anomalies.























Gene	Genotype	Minor Allele	Alteration	Result
AKT1	TT+	C		



Hereditary Breast and Ovary Cancer Syndrome

 NORMAL



Cancer that forms in the cells of the breasts and ovaries.

Gene	Genotype	Minor Allele	Alteration	Result
BRCA1	AG-	A,C		
BRCA1	AA-	C		
BRCA1	CC-	A		
BRCA1	AA-	C,G		
BRCA1	GG-	G,T		
BRCA2	TT-	C,G		
BRCA2	AA+	G		
BRCA2	CC+	A,T		
BRCA2	AA+	G		
BRCA2	AA+	T		
BRCA2	CC+	T		

Rasopathies

 NORMAL

The rasopathies that encompass Noonan Syndrome and syndromes related to it (Legius, for example), are monogenic diseases caused by mutations in genes belonging to the same signaling pathway (RAS-MAPK) important for growth, immune system, growth and differentiation of cells. Short stature is a cardinal sign and also difficulty feeding in the first months of life.

Gene	Genotype	Minor Allele	Alteration	Result
BRAF	GG-	G		

Bloom Syndrome

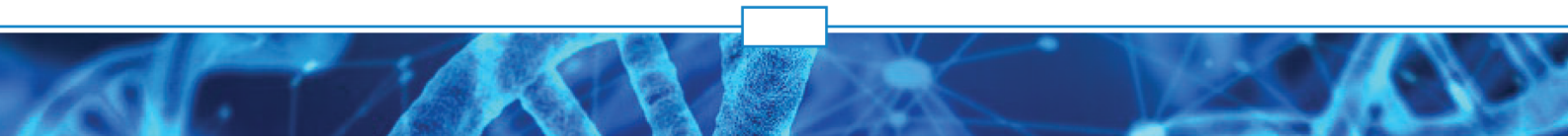
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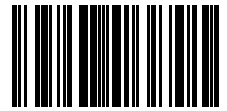
It is a rare inherited disease that is found more frequently in Ashkenazi Jews than in other populations. A feature of Bloom's syndrome is a high risk of cancer. Bloom's syndrome is sometimes considered a disease of premature or accelerated aging. Babies with this disease are born small and remain shorter than normal as they grow. Their skin may look red, and they have more lung and ear infections than children normally have.

Peutz-Jeghers syndrome

 UNDEFINED

Peutz-Jeghers' syndrome (SPJ), also called hereditary intestinal polyposis syndrome (SPHI) is a genetic disease characterized by the development of hamartomatous polyps in the digestive system and dark spots on the lips and in the mouth mucosa. It is a rare, autosomal dominant genetic disease, probably due to a mutation of the STK11 (LKB1) gene on Chromosome 19 (human), a gene that suppresses the appearance of cancer. Therefore, the risk of developing internal cancers is often greater in these patients.







Hematologic system

Idiopathic Hypereosinophilic Syndrome



PDGFRA-associated chronic eosinophilic leukemia is a form of blood cell cancer characterized by an elevated number of cells called eosinophils in the blood. These cells help fight infections by certain parasites and are involved in the inflammation associated with allergic reactions. However, these circumstances do not account for the increased number of eosinophils in PDGFRA-associated chronic eosinophilic leukemia. Another characteristic feature of PDGFRA-associated chronic eosinophilic leukemia is organ damage caused by the excess eosinophils. Eosinophils release substances to aid in the immune response, but the release of excessive amounts of these substances causes damage to one or more organs, most commonly the heart, skin, lungs, or nervous system. Eosinophil-associated organ damage can lead to a heart condition known as eosinophilic endomyocardial disease, skin rashes, coughing, difficulty breathing, swelling (edema) in the lower limbs, confusion, changes in behavior, or impaired movement or sensations. People with PDGFRA-associated chronic eosinophilic leukemia can also have an enlarged spleen (splenomegaly) and elevated levels of certain chemicals called vitamin B12 and tryptase in the blood. Some people with PDGFRA-associated chronic eosinophilic leukemia have an increased number of other types of white blood cells, such as neutrophils or mast cells. Occasionally, people with PDGFRA-associated chronic eosinophilic leukemia develop other blood cell cancers, such as acute myeloid leukemia or B-cell or T-cell acute lymphoblastic leukemia or lymphoblastic lymphoma. PDGFRA-associated chronic eosinophilic leukemia is often grouped with a related condition called hypereosinophilic syndrome.

Gene	Genotype	Minor Allele	Alteration	Result
PDGFRA	TT+	C		

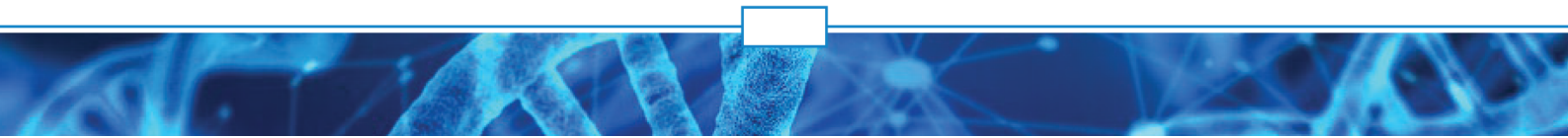
Hormone

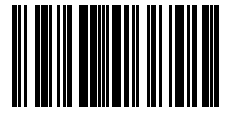
Adiponectin Flag



Adiponectin is a protein hormone that modulates several metabolic processes, including blood glucose regulation and fatty acid catabolism. It is exclusively secreted from adipose tissue into the bloodstream and its levels in blood plasma are inversely related to the percentage of body fat in adults, while this association is not well defined in children. This hormone plays a role in suppressing metabolic events that can cause Type 2 Diabetes, Obesity, Atherosclerosis, Non-Alcoholic Fatty Liver Disease, and Metabolic Syndrome. Adiponectin is secreted into the bloodstream, where it represents about 0.01% of all plasma proteins. There is a sexual dimorphism in their plasma concentrations, with women having higher levels than men. Adiponectin levels are reduced in diabetics compared to non-diabetics. Loss of body weight significantly increases the concentration of this hormone in plasma. This hormone exerts part of its weight loss effects on the brain. This action is similar to that of leptin, but the two hormones have complementary actions, and may have additive effects. Green result indicates low flag, orange result indicates intermediate flag and red result indicates high flag. Low adiponectin levels are associated with systemic organ failure in acute pancreatitis.

Immune system





Neurofibromatosis



Neurofibromatosis (NF1 and NF2) is an autosomal dominant inherited disease.

Gene	Genotype	Minor Allele	Alteration	Result
NF1	CC+	T	- -	●
NF1	CC+	G	- -	●
NF1	GG+	A,T	- -	●
NF1	GG+	A	- -	●
NF2	AA+	C	- -	●
NF2	CC+	T	- -	●
NF2	CC+	T	- -	●
NF2	CC+	G,T	- -	●
NF2	GG+	T	- -	●
NF2	TT+	C	- -	●

Neurodegenerative diseases

Louis-Bar Syndrome (Ataxia Telangiectasia)



It is a rare, neurodegenerative and hereditary disease that causes severe disability.

Gene	Genotype	Minor Allele	Alteration	Result
ATM	TT+	C	- -	●
ATM	CC+	T	- -	●
ATM	CC+	A,T	- -	●
ATM	TT+	C	- -	●

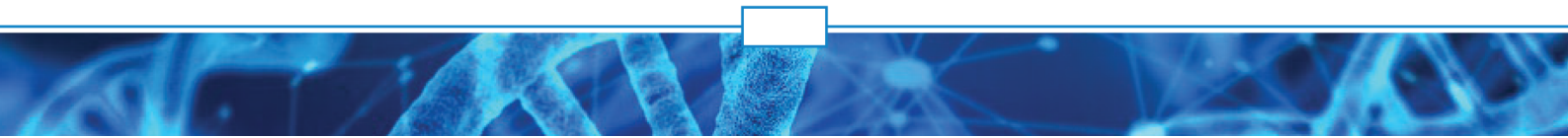
Oncologic

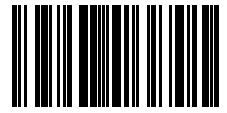
Cervical Cancer



Cervical cancer is a type of cancer that occurs in the cells of the cervix — the lower part of the uterus that connects to the vagina.

Gene	Genotype	Minor Allele	Alteration	Result
HRAS	GG-	A,C,T	- -	●
TP53	GG-	A,T	- -	●







BRAF V600E mutation

 NORMAL

A specific mutation (change) in the BRAF gene, which makes a protein that is involved in sending signals in cells and in cell growth. This BRAF gene mutation may be found in some types of cancer, including melanoma and colorectal cancer. It may increase the growth and spread of cancer cells. Checking for this BRAF mutation in tumor tissue may help to plan cancer treatment.

Gene	Genotype	Minor Allele	Alteration	Result
IRF4	CC+	T		

Choroidal Melanoma

 UNDEFINED



Choroidal melanoma is the cancer that most affects the eye of adults. It is also called ocular melanoma or uveal melanoma. The annual incidence of ocular melanoma is about 10 cases per million inhabitants.

Reactions to Treatments

Glucocorticoid Resistance

 NORMAL



The state of resistance or sensitivity to glucocorticoids, seen in patients with inflammatory autoimmune diseases. In orange or red, it indicates greater resistance to its action.

Gene	Genotype	Minor Allele	Alteration	Result
NR3C1	GG-	G,T		

Response to Fluorouracil

 NORMAL



It is an antitumor agent widely used in the treatment of several types of cancers.

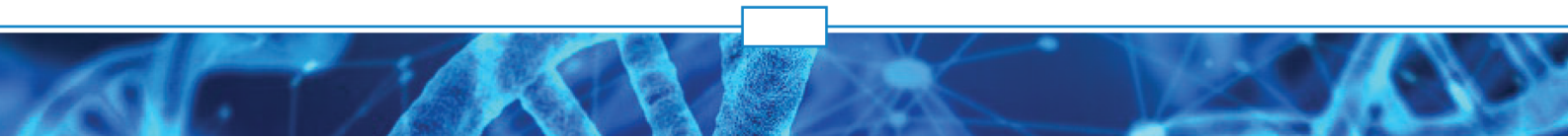
Gene	Genotype	Minor Allele	Alteration	Result
DPYD	GG-	G,T		

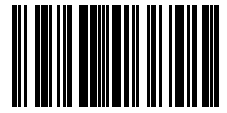
Glucocorticoid Therapy

 NORMAL

Glucocorticoids are a class of steroid hormones characterized by their ability to bind to the cortisol receptor and trigger similar effects.

Gene	Genotype	Minor Allele	Alteration	Result
GLCCI1	AG+	A,C		







Allogeneic Rejection

 NORMAL



In the allogeneic transplant technique, the patient's own stem cells are used, which are treated with high doses of radiation or chemotherapy to ensure that there are no cancer cells.

Gene	Genotype	Minor Allele	Alteration	Result
TNF	GG+	A		

Effect of Aspirin to reduce risk of colorectal neoplasia

 NORMAL



Effect of Aspirin to reduce risk of colorectal neoplasia

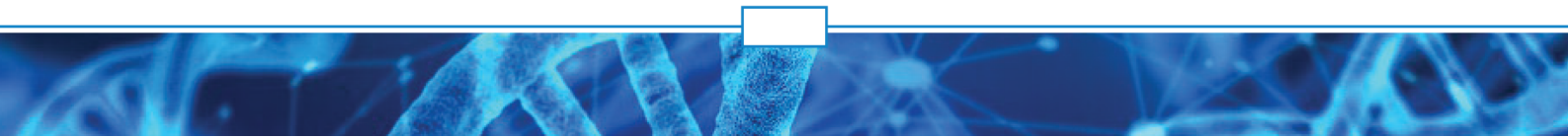
Gene	Genotype	Minor Allele	Alteration	Result
CASC8	GG+	T		

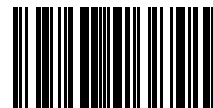
Best Effectiveness of Chemotherapy

 NORMAL

Although the effectiveness of chemotherapy can be affected by many factors, genetic variation such as polymorphism plays a significant role in drug response. The location or site of the polymorphism will determine the effect, as the polymorphism present within a coding sequence and leading to an amino acid change (referred to as a non-synonymous SNP or mutation) can modify the protein's activity or function. If the mutation is synonymous, translation rates or mRNA half-life may be affected. If the mutation causes a premature stop codon, it can lead to the production of a truncated protein product or the nonsense mediated decay phenotype. Therefore, due to differences or changes at the genetic level, causing changes in cell phenotype could explain part of the variability in response or toxicity.

Gene	Genotype	Minor Allele	Alteration	Result
TP53	GG-	C,T		





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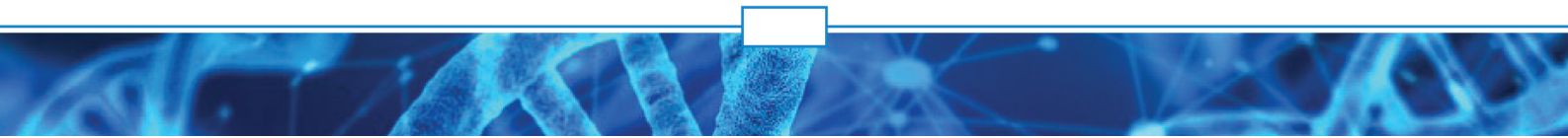
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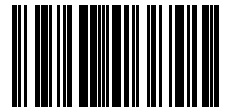
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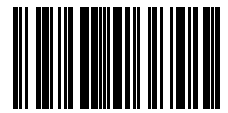
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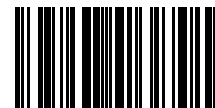
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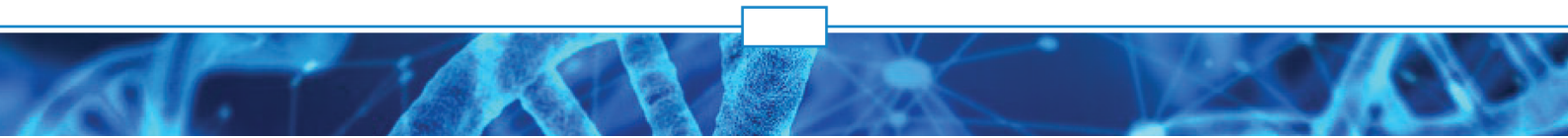
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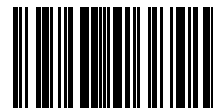
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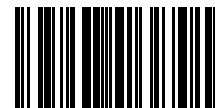
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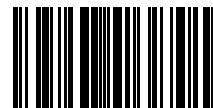
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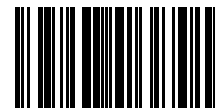
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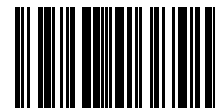
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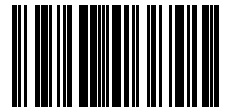
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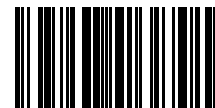
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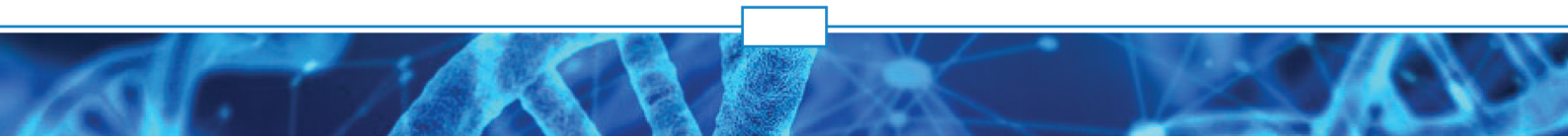
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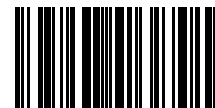
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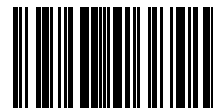
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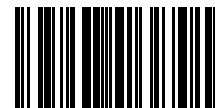
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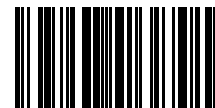
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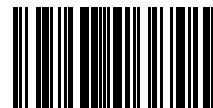
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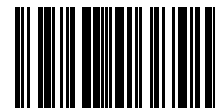
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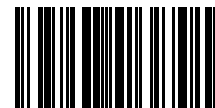
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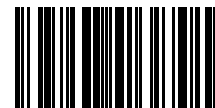
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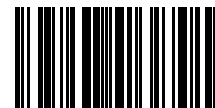
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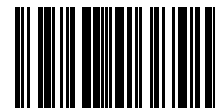
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