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CARDIOgen

Examples of our Genetic Profiles:

FEMgen: Sporadic breast cancer
OSTEOgen: Osteoporosis
THROMBOgen: Thrombosis
PROSTATEgen: Prostate cancer
DETOXgen: Detoxification capacities
DETOXgen heavy metals: Detoxification of heavy metals
OXIgen: Oxidative stress
DENTYgen: Periodontitis
NEUROgen: Neurodegenerative diseases
CARDIOgen: Cardiovascular diseases

MACULAgen: Age-Related Macular Degeneration
LIPIDgen: Lipid metabolism disorders
DIABETOgen: Diabetes type II
COLOgen: Sporadic colon carcinoma
ALOPECIAgen: Androgenetic alopecia
EMOgen: Emotional instability
AUTISMgen: Autism
SKINgen: Skin health
WEIGHTgen: Weight control
WELL-BEING: Anti-aging
NICOTINEgen: Nicotine addiction

Personalized Prevention of Cardiovascular Diseases



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LABORATOIRES RÉUNIS

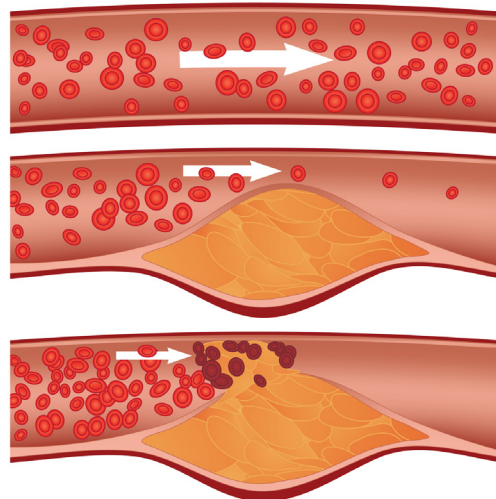
4P GENOMICS
 DISCOVER YOURSELF

What are cardiovascular diseases?

Accordingly to the WHO, the terms "cardiovascular diseases" group all the disorders of the heart and the blood vessels, thus including:

- coronary cardiopathies (disorders of the blood vessels that supply the cardiac muscle)
- cerebrovascular diseases (disorders of the blood vessels that supply the brain)
- peripheral arteriopathies (disorders of the blood vessels that supply the limbs)
- rheumatic cardiopathies (disorders of the cardiac muscle and valves, resulting in a severe articular rheumatism caused by a Streptococcus bacterium)
- cardiac congenital malformations
- deep vein thrombosis and pulmonary embolisms (vein obstructions, usually in the legs, by a thrombus which can eventually detach and migrate either to the heart or to the lungs).

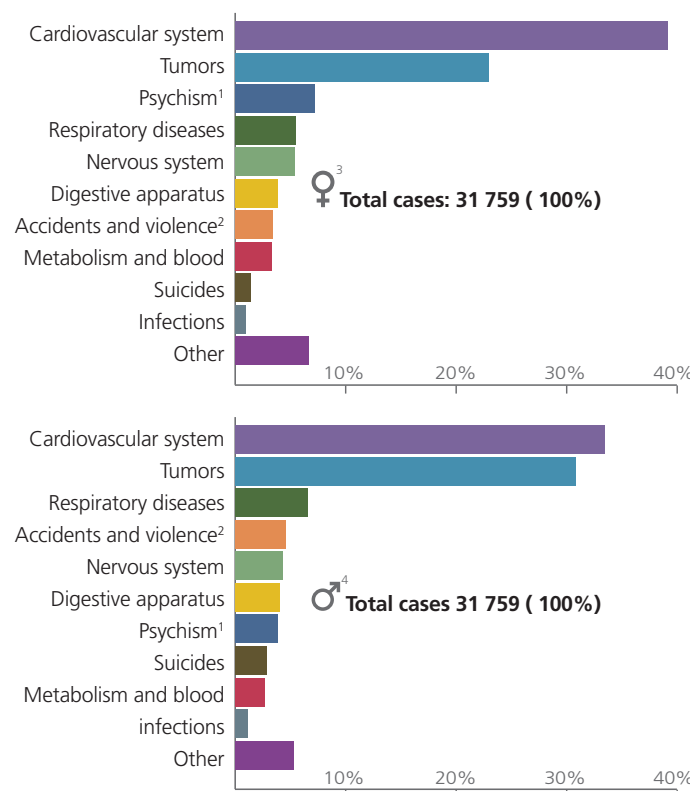
Fig 1: Development of atherosclerosis



What are the consequences?

The effects of unfavorable genetic variations in combination with unfavorable nutritional habits, sedentariness and tobacco consumption may manifest themselves by hypertension, high glucose or lipid levels, overweight or obesity (Fig.2). The lifestyle risk factors are responsible for approximately 80% of coronary and cerebrovascular diseases.

Fig 3 : Principal causes of death in 2008



Source: Statistics of causes of death in 2008. Office fédéral de la statistique, Neuchâtel.

The CARDIOgen Test

Principle of CARDIOgen

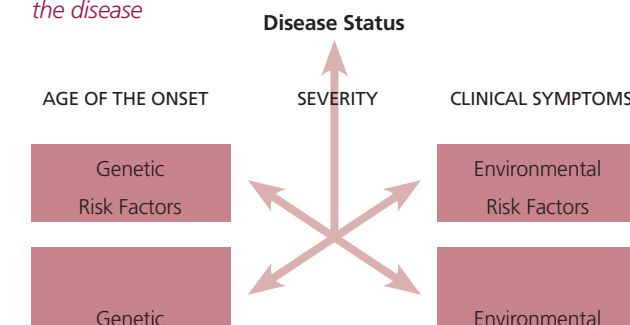
CARDIOgen is a genetic test carried out either on a saliva or on an EDTA blood sample. A health questionnaire needs to be filled out by the patient in order to gather relevant information about her/his lifestyle. The test takes into account the genetic parameters as well as the non-genetic parameters (information provided by the questionnaire) and analyzes the interactions between genetic predisposition and environment.

Objectives of CARDIOgen

CARDIOgen targets a group of genetic markers allowing a personalized and early prevention of atherosclerosis (Fig 1) as well as the underlying causes linked to the development of cardiovascular diseases such as:

- oxidative stress
- hypertension
- homocysteine metabolism disorders
- lipid metabolism disorders
- thrombosis

Fig 2: Gene-environment interactions in the development of the disease



Prevention

Cardiovascular diseases are the first cause of death in the world. The analysed genetic variations of the CARDIOgen profile are risk factors known to be associated to cardiovascular diseases (Fig 3).

Their identification allows taking preventive measures that reduce the relative risk of hypertension and the LDL cholesterol levels, and which increase HDL levels and the protection against oxidative stress.

When to carry out the CARDIOgen test?

- family history of cardiovascular diseases
- suspicion of cardiovascular diseases
- lipid and homocysteine metabolism disorders
- arterial hypertension

Results include:

- A table presenting detailed information about any relevant genetic variation (genotype).
- Specific nutrigenetic recommendations (nutrition and complementation). The specific nutrigenetic recommendations and other factors linked to lifestyle allow decreasing the risk of cardiovascular diseases. Detailed recommendations based on genetic predispositions and the analysis of the health questionnaire (non-genetic information) allows a personalized prevention thus facilitating the choice of the best adapted treatment for the patient.