Personal Genomics (PG) is a spin-off of the Functional Genomics Center of the prestigious University of Verona. PG’s mission is to offer services, products and solutions with highly innovative technological content intended for the personalized medicine, diagnostics and genomics fields.

Personal Genomics’ services include:

- Genetic analysis
- Population’s screenings
- Personalized diagnostic tests

MI Risk
Myocardial Infarction Genetic Test

The MI RISK kit is an innovative and unique tool for the personalized predisposition detection and prevention of dangerous medical conditions. MI Risk helps the patient to carry out preventive behaviors many years if not decades before the occurrence of a possible life threatening health condition, obtaining a considerable advantage on his/her future life quality. The MI RISK analysis calculates the chances of incurring in a cardiovascular event over a specific time period taking into consideration both standard cardiovascular diagnostic parameters and the personalized genetic predisposition risk.
A genetic test to evaluate predisposition to acute myocardial infarction: a genetic risk analysis for the assessment of cardiovascular risk is now available to anyone, with an easy to use and absolutely non invasive procedure for the DNA sampling which is obtained through a simple saliva swab.

Why a genetic test for myocardial infarction?

Cardiovascular diseases and myocardial infarction in particular are nowadays the first cause of death in the western world, including Italy, causing 44% of the overall number of deaths. Not all those diseases are caused by common risk factors such as smoking habits, diabetes, hypertension, high cholesterol rates, obesity etc. It has been demonstrated that the genetic predisposition has a critical role in these diseases. Recent Genome-Wide association studies (GWAS) allowed the identification of crucial genetic markers that greatly improve the predictive power of the test for the risk assessment of Acute Myocardial Infarction. Predisposition genetic markers are used in combination with individual information regarding traditional risk factors for the calculation of the personalized risk. (Scientific References: Girelli D. et al, Seminars in Thrombosis and Hemostasis 2009; Visel A. et al., Nature 2010).

What does the MI Risk kit analyze?

The genetic analysis is performed using a very innovative and powerful instrument: the Illumina BeadXpress® that was recently validated by the Food and Drug Administration (FDA) for diagnostic use. The genetic analyzer evaluates the presence of a series of genetic polymorphisms (SNPs) associated with the Acute Myocardial Infarction’s risk. The genetic markers considered were selected on the whole genome based on their statistical predictive value, which was demonstrated in recent scientific publications (Visel A. et al., Nature 2010 and Schunkert H. et al., Nature Genetics 2011).

What is the result of the MI Risk kit?

The results of the genetic analysis provide a genetic risk score specific for each individual. The test takes into account both the “negative” and the “protective” genetic alleles for the global cardiovascular risk and their relative effect based on Genome Wide Association Studies (GWAS). The genetic information analyzed with the kit is then integrated with general medical information regarding each individual’s lifestyle and the traditional risk factors considered by cardiologists (blood pressure, cholesterol, smoking habits, weight, age etc).

The final result consists in a risk profile that assesses the personal probability of acute Myocardial Infarct over a specific timeframe. The test can point out possible bad habits and/or modifiable behaviors for the improvement of the person’s overall health and the cardiovascular apparatus efficiency through specific disease prevention actions. A specialized clinician and a geneticist certify the medical report provided.

How to use the MI Risk kit?

The kit is very simple to use: it consists of a small swab that the customer can directly use to collect a saliva sample simply passing it in his own mouth. Personal Genomics will then extract the DNA from the saliva sample provided by the customer. A simple questionnaire will be used to collect the information about the traditional risk factors that will be used to obtain an anamnesis that complements the genetic information provided with the medical report.

Who can use the MI Risk kit?

Our products are intended for a very wide set of people and a very large age group that includes all those people aware that some of the peculiar characteristics of nowadays’ life, such a deskbound job, a non-balanced diet, stress and hypertension, can worsen a genetic system which might be potentially already prone to the development of cardiovascular diseases. Such a risk awareness helps preventing the actual development of the disease, and gives advices on which habits to changed in order to improve the lifestyle or which medical prevention actions to consider.