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DETOXgen

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

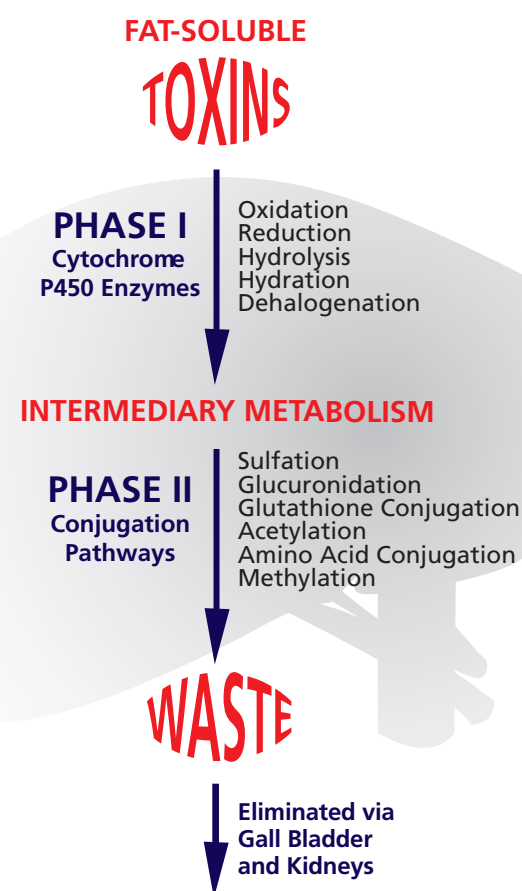
Phases I & II Detoxification Capacities

What is detoxification?

Detoxification is the mechanism of inactivation and elimination of waste products originating either from endogenous molecules such as hormones or from exogenous compounds such as drugs and pollutants. These eventually toxic waste products are chemically reduced or oxidised and finally conjugated in order to transform them into less toxic substances and to facilitate their excretion.

The liver plays a crucial role in the detoxification processes (elimination of toxins, synthesis and secretion of bile, enzymatic disassemblage of chemicals). Other organs implicated in detoxification are the colon and the kidneys, but also the brain and the skin (Fig 1).

Fig 1: Mechanism of detoxification



What are the consequences?

At the level of detoxification phase I

Phase I neutralises toxins to form activated intermediate compounds. A dysfunction of the enzymatic activity leads to an inadequate metabolism with unwanted side effects as a consequence (Fig 2).

At the level of detoxification phase II

Bioactivated substances from detoxification phase I are transformed (neutralised) into soluble compounds by phase II enzymes. Exposure to carcinogenic compounds coupled to a low enzymatic activity of phase II significantly increase the susceptibility to chronic diseases due to aging (Fig 2).

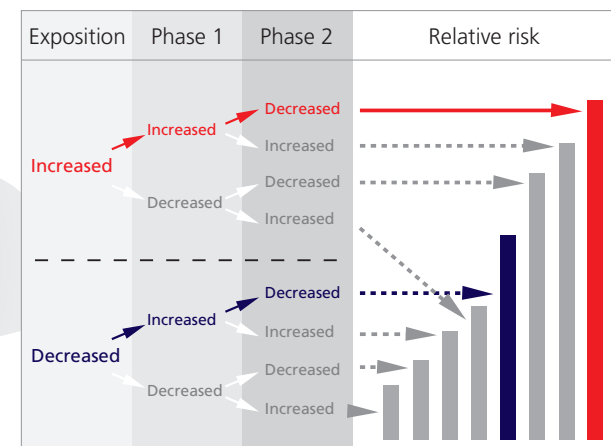


Fig 2: Correlation between an exposure to xenobiotics and genetic polymorphisms of phase I and II detoxification enzymes. In this profile, the phase I is highly efficient whereas the phase II efficiency is reduced (adapted from Nebert and Carvan 1997).

The Test DETOXgen

DETOXgen analyzes several genetic variations linked to:

- the metabolic activation of polycyclic aromatic hydrocarbons
- the drug metabolism and cholesterol synthesis
- the detoxification of herbicides, insecticides and nicotine
- the detoxification of alcohol and the metabolism of toxic compounds
- the oxidation of steroids, fatty acids and xenobiotics
- the protection of cells against carcinogenic chemical compounds and/or xenobiotics via conjugation
- the detoxification of several substances originating from industrial pollution, tobacco consumption, etc.

Detailed recommendations based on the genetic predispositions as well as on the patient's questionnaire (non-genetic predispositions) allow a personalized prevention, guiding the physician to the best adapted treatment.

The application of the recommendations provided by the report, together with the medical treatment represent the most ideal solution for an optimal follow-up of the patient's health.

Prevention

Preventive measures, in particular the knowledge about the individual genetic predispositions, triggering an increase of the detoxification capacities help to reduce or to avoid unpleasant symptoms (Fig 3).

DETOXgen has especially been developed by Laboratoires Réunis to evaluate the individual risk of partial disorders in detoxification phases I and II.

Fig 3: Genes Determine Drugs Effects

