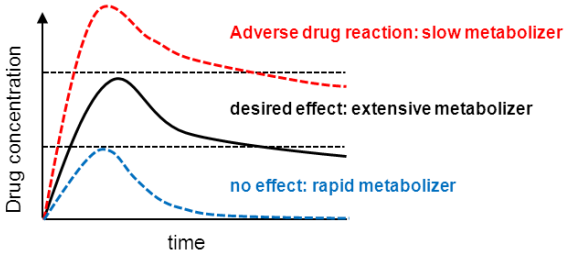
CYPASS® - extended: complete genetic passport for drug metabolism

Pharmacogenetics

Almost one third of hospital admissions in Europe result from adverse events caused by drug interactions. The knowledge of genetic variations present in the genes coding for the enzymes responsible for the metabolism of the prescribed drugs could prevent a large part of these adverse events by adjusting drug dosages.

The metabolism (activation and elimination) of drugs is, indeed, strongly modulated by polymorphisms present in the genome of each person, more specifically, in the genes coding for the cytochromes (CYP450). The risk to develop adverse event upon drug treatment (slow metaboliser) or to have no effect of the treatment (rapid metaboliser) is, thus, determined by the presence of these polymorphisms (Figure 1).

Figure 1



The field of pharmacogenetics integrates the differences between people and gives the tools to the medical doctors to tailor their treatment to each patient.

Cypass® profile

Cypass® profile includes the analysis of 82 genetic variants, clinically relevant, in the genes coding for the cytochromes CYP1A2, CYP2A6, CYP2B6, CYP2C8, CYP2C9, CYP2C19, CYP2D6, CYP2E1 and CYP3A4/5. Cypass® also analyses 12 variants present in the genes coding for phase II enzymes, NAT2, GSTT1, GSTM1, GSTP1 and SULT1A1 as well as genetic variants in ABCB1 transporter, which is involved in drug and toxic molecules in and out of the cells.

CYPASS® covers more than 90% of clinically relevant pharmacogenetics variants for almost 90% of drugs that are currently on the market. The choice of drug and drug dosage is, thus, adjusted according to the genetic variants identified in the profile and harmful drug interactions can, therefore, be avoided.

Genetic testing

This test, prescribed by a medical doctor, costs 490 CHF and is not reimbursed by the health insurance. However, it is now reimbursed for patients who use drugs on a regular basis and have subscribed a complementary PRIMEO insurance with HELSANA. They are performed once in a lifetime in a simple and non-invasive fashion (buccal swab).