



DNAVision became the first company in Europe to be awarded a certificate of Good Laboratory Practice in pharmacogenomic and toxicogenomic studies in medicinal products.

DNAVision also offers services in biobanking – secure storage solutions for valuable biosamples; animal genetics, comprising research and diagnostic services for breeders and researchers, and DNA sequencing. In the food quality area, DNA technologies are proving increasingly important to provide information required to establish or confirm traceability.

DNAVision is located on two sites in Wallonia. Work on virology, immunology, applied genetics, anatomo-pathology, bioinformatics is carried out in the labs in the Gosselies Biopark, near Charleroi, where DNAVision is located. This work also involves researchers (biologists, chemists, physicians, information technologists, agronomists, veterinary, surgeons or medical doctors). from the Institut de Biologie et de Médecine Moléculaire (IBMM), which is part of the Université Libre de Bruxelles (ULB). Testing of agricultural and animal samples goes on in a site at Liège.

The company has four major shareholders: the ULB, the Institut de Pathologie et de Génétique, one of eight official human genetics centres in Belgium, Technoval, the technology branch of the Walloon Investment Organisation SIRW, and Sambrinvest, and organisation promoting investment in SMEs in the Charleroi area. This mixture of shareholders means for one thing that the company owns, or has access to, state-of-the-art infrastructure and techniques for molecular biology research and analysis.

The company's research is in great demand both inside and outside Belgium. As Mr Detiffe explains: "80 per cent of our business is in fact destined for export. This is not surprising when you consider the international nature of the pharmaceutical industry, which makes up a large part of our turnover. DNAVision counts seven of the world's top ten pharmaceutical companies among its clients."

DNAVision was set up in Charleroi in 2004, aiming to become the European leader in genetic analysis and research on and around the topic of genetic markers. Its expertise is put to use in the provision of a wide range of services centred around DNA and RNA analysis. Many of these services examine the way medicines perform in particular genetic context, and therefore the best way of providing the right treatment to an individual.

Jean-Pol Detiffe, an industrial pharmacist with long experience in the pharmaceutical sector, heads the company. "The main growth area is personalised medicine. Traditionally medicines have been prescribed and administered essentially on a trial and error basis. Of course, in-depth tests have been carried out on the safety and efficacy of a medicine before it is made available for use. But no two people respond in exactly the same way."

Personalised medicine is founded on the principle that a doctor should be able to have in-depth knowledge about a patient's genetic profile to be able to treat him/her in the best way. DNAVision analyses samples sent by doctors to ascertain the patient's DNA/RNA profile. The results allow the doctor to prescribe exactly the right dosage and mix of molecules to prescribe – avoiding unresponsiveness and side-effects. A number of prescription drugs already carry information on genetic variability within their product labelling.

This can be instrumental in a range of areas. "For example, we're carrying out tests related to the intermediate stages of breast cancer.

This is a notoriously difficult area for doctors to assess the best strength of chemotherapy treatment to use. Genetic analysis of tumour material can determine exactly the right strength of treatment for a particular person at a particular stage of the disease."

The company provides services in the two main areas of research that can provide these answers:

- Pharmacogenetics - the study of inter-individual variations in DNA sequence and the way this affects drug response. This study can help pharmaceutical companies and clinical research organisations effectively integrate pharmacogenetics into their drug development program and thus deliver safer, more effective products to the market more quickly.
- Pharmacogenomics deals with the influence of genetic variation on drug response in patients by correlating gene expression with a drug's efficacy or toxicity. By doing so, pharmacogenomics aims to develop rational means to optimise drug therapy to ensure maximum efficacy with minimal adverse effects.

## DNA analysis for more effective healthcare



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