

Overview

varionostic is Europe's leading expert for **DNA methylation analysis** (using MassARRAY and Pyrosequencing). We offer our customers outstanding tailored services from assay design to data analysis. Scientists can also profit from our predesigned methylation assays developed within our own research facilities. Our unique specialised competence is the basis for highest quality in **epigenetic research** and service to biomedicine.

Additional services for epigenetic research include genotyping, allele quantification, short read sequencing and species identification. With our state-of-the-art lab we can detect all types of snips, polymorphisms and mutations. Besides human samples, the company also runs typing of BACs and other species. In cooperation we can also perform bioinformatics.

Research

Together with partners from clinical research, varionostic is performing its own epigenetic research. Our objective is to continuously improve our service, in particular by developing predesigned methylation assays.

Network

We are member of an extensive scientific network and have continuous access to the latest technologies, research and developments. Our scientific network includes:

- EPIGENOME Network of Excellence - The focal point for the European research community
- German Genetics Society
- German Chemical Society (GDCh)
- Consortium of Genetical Diagnostics (AGD)
- BioRegionUlm
- BioRegioSTERN

varionostic is in strong cooperation with pathologists of Southern Germany: we perform validated molecular marker tests relevant in modern pathology.

Profile

Network / Partners

Services

As with all scientific research projects, a thoroughly planned assay is key to success. When it comes to quantitative DNA methylation analysis the assay design is of high importance. Based on our experience we assist you from the very beginning of a project. We give advice on the complete assay design customised to the needs of your specific question, timeline and budget. This includes technical advice such as primer and PCR specifications to be used for best results as well as recommendations on how to best organise the project.

Within a certain project varionostic can cover the complete process from assay design to the interpretation of the data. It is also possible to share resources with customers if a partner wants to deliver parts of the workflow itself.

Quantitative DNA methylation analysis gives valuable information on the **gene activity** in the human genome under certain conditions. The methylation level of specific regions of the DNA is especially important for cancer research. varionostic, as THE methylation expert, gives you quantitative data on the methylation of the CpG regions and single CpGs you are interested in. For small projects or as well industry scaled.

We use both Pyrosequencing and MassARRAY for genetic analysis for methylation pattern. Pyrosequencing is an accurate and fast analysis method for quantifying CpG methylation in epigenetic studies. Quantification of methylation frequencies in individual CpG sites is highly reproducible due to its quantitative measurement principle, inherent quality controls, and few processing steps. MassARRAY suits perfect for larger projects & more samples. Quality controls are built-in for both platforms and also DNA sequence itself and controls for completion of the bisulphite conversion step can be integrated, also methylation positive and negative controls. Single CpG sites or Units can analyzed as the individual methylation levels of multiple consecutive CpG sites. We have also established methods for estimating global methylation.

Customized
assay design

DNA methylation
analysis



varionostic conducts research on its own to develop predesigned assays for cancer-relevant genes and their CpG sites. This enables you to conduct cost-efficient and high-quality methylation analysis. The following predesigned methylation assays are available i.a.:

- CDH-1, E-Cadherin
- GSTP1, Gluthation S-Transferase p1
- PTEN, Phosphatase and tensin homolog
- MGMT, O-6-methylguanine-DNA-methyltransferase
- p16, Cyclin-dependent kinase inhibitor 2A
- RASSF1A, Ras association domain-containing protein 1
- SOCS1, Suppressor of cytokin signaling 1
- and others

Additional assays are available for relevant **cancer genotyping**:

- K-RAS
- N/H-RAS
- JAK2
- BRAF
- EGFR
- C-KIT
- IDH1/2
- MSI

More assays are part of our product pipeline and are scheduled to be launched in 2013. We also run RUO-assays of Qiagen, Sequenom and others. Quality: varionostic and partners participate in interlaboratory tests launched by scientific societies.

Our customers are scientists in the fields of epigenetics and oncology based in research institutes or companies worldwide. Among our customers are:

- German Cancer Research Centre Heidelberg (DKFZ)
- Karolinska Institutet Stockholm
- University Hospital Brussels
- Swiss Federal Institute of Technology Zurich (ETH)
- Charité Universitätsmedizin Berlin

In addition partners from industry trust in our experience running epigenetics.

Predesigned assays

References

Diagnostics as result of research efforts

Since varionostic has spent strong efforts in own research and developmental work the company serves clinicians (oncology, molecular pathology) with its experience for diagnostic purposes.

Many of above mentioned biomarkers are well established and in routine clinical practice. Physicians are supported by help and assistance for reliable diagnostics and decision-making for patients healthcare.

We serve our partners providing knowledge on sampling and pre-analytical procedures (e.g. preparation of formalin-fixed paraffin-embedded samples). Analyzing samples by the use of the best technology platform for each specific clinical topic makes varionostic a best class laboratory.

Diagnostic

Technology platforms for scientific services on customers projects:

- Pyrosequencing instruments (2)
- MassARRAY Analyzer4
- qPCR
- Capillary sequencing
- PCR methods

In cooperation we can run NGS experiments on Roche FLX platform.

Companies facilities are operating on highest European level (EN ISO/IEC 17025, EN ISO 9000:2000ff).

Our lab is categorized S1 according to GenTG.

Techniques/ Platforms