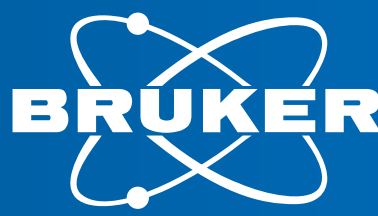


What If You Could Increase the Value of Your Biobank



The Added Value of Magnetic Resonance Technology

A New Business Concept: Biobanks & Phenotyping

Bruker's nuclear magnetic resonance (NMR) metabolic profiling platform has been designed to quickly and efficiently gather qualitative and quantitative data on an individual biofluid sample which can be used to perform quality control (QC) on incoming samples, and also create a phenotype Biobank which can be offered in addition to, or instead of, sample aliquot, thus increasing the value of each sample while simultaneously reducing handling cost.

Quality Analysis/Quality Control

- Extensive QC by NMR before input of new samples
- Screen for non-compliant samples
- Characterize the incoming new samples.



Save Time and Costs

- No complex sample preparation
- Standardized for ease of use – no need for experts
- Reduce aliquots for NMR-based metabolomics studies
- Offer spectra and analysis results as a product.



Enhanced Metadata

- Spectra for all samples in the Biobank with no extra effort
- Lipoprotein subclass analysis for all plasma/serum samples
- Quantification list of metabolites for all plasma/serum samples
- Quantification list of metabolites for all urine samples.



Bruker's Standardized Biobanking Solution

One Sample = Unlimited Value

NMR analysis with minimal sample preparation under uniform standard operating procedures (SOPs) with the **Bruker AVANCE IVDr* platform.**

Single NMR Measurement from Biofluids (Urine, Plasma, CSF, Extract of Biofluids)



High Quality Spectra Generation

Combining targeted and non-targeted analysis in a single run provides high quality spectra with multiple parameters that can be used immediately by Biobanks as a phenotype offering, as well as in QC.



Quality Control on Incoming or Existing Samples

Stringent NMR-based QC helps Biobanks characterize samples as they are received, eliminating non-compliant samples before they are entered into the bank (and the database) and determining the status of the sample.

Retrospective Analysis & Relevance

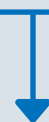
All raw data, collected once at the point of sample entry, can be reprocessed with updated databases to maintain a relevant phenotype offer. Existing samples in the Biobank can be measured and processed as well to increase their value.

New Value with Phenotyping

Just as samples are currently being genotyped, the IVDr platform provides a phenotype offering. Now your customers can know how the genes are expressed, not just what genes are present, offering a new digital product with high investigative value.

Spectral and Metadata (Phenotype) Storage & Sharing

The business model moves towards data handling, reducing physical and repeated sample exposure to freeze/thaw effects, increasing sample longevity and enabling global reach.



Increase the Value of Your Biobank!

Adding Significant Value While Simultaneously Reducing Time and Costs

NMR in Biobanking

Conventional Biobanking requires extensive sample handling to receive samples and deliver multiple aliquots. Each transfer puts the sample at risk of degradation and contamination. Genomic data only shows what genes exist, not how they are expressed. The IVDr platform brings the Biobank offer to the next level by capturing the phenome of a patient sample in a quality controlled analytical environment, reliably, consistently, and with the ability to stay relevant as science progresses. All this while handling the data and not physically exposing the sample. Imagine how this data can be used!

The Future is NOW... Phenotyping and Personalized Medicine

Metabolic Syndrome

Diabetes type 2, obesity

Cerebrovascular Disease

Stroke, cerebral thrombosis

Neuro Degenerative

Alzheimer's, PD

TCM

Evidence-based research

Gut Microbiota

Cerebrovascular Disease

Atherosclerosis, high blood pressure, thrombosis

Digestive System Disease

Fatty liver, hepatic fibrosis, IBD, pancreatic function

Nutrition Research

Health management, functional food development

Infectious Disease

COVID-19, hepatitis, HIV

Pediatrics

IEM

Kidney Disease

CKD, kidney transplant rejection

Orthopedic Disease

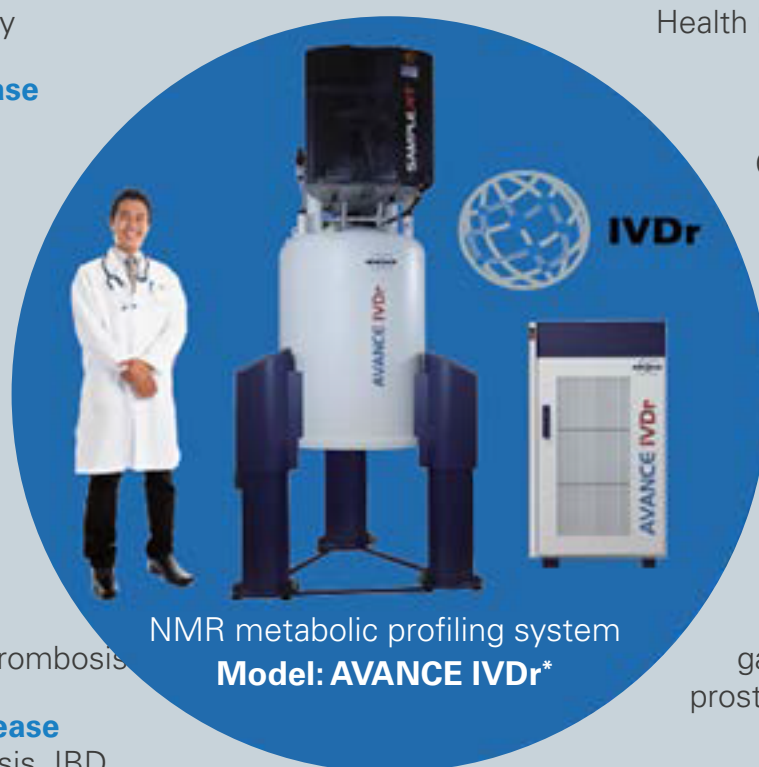
Arthritis, osteoporosis

Cancer

Lung, liver, pancreas, gastric, colorectal, breast, prostate, leukemia, brain etc.

Special Environment Medical Research

Space, underwater, cold, hot



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