The “Blood Donor BIOBANK”
A unique resource for innovative research approaches
With its “Blood Donor BIOBANK”, the Bavarian Red Cross (BRK) Blood Donor Service offers a unique and innovative resource for biomarker research: the world’s first blood donor based biobank.

Biobanks are an important resource for research and medicine. Biobanks as collections of biological material together with associated medical data open new possibilities for the development of new targeted diagnostics and therapies. The BRK Blood Donor Service maintains a unique collection of over 3 million blood samples, making it one of the largest sample collections worldwide. Every working day 2,000 new samples are added to the collection.

The BRK Blood Donor Service, as an innovative organization, is open for co-operations and strategic alliances to shape the future together with its partners. By granting access to its large collection of biological samples and associated data the BRK Blood Donor Service opens up new possibilities to develop tools for the prevention, diagnosis and therapy of diseases.
Our blood donors, who are representative of the general Bavarian population¹, form the basis of the “Blood Donor BIOBANK”. The large pool of more than 400,000 active blood donors enables the identification of several thousands of diseased biobank participants per year.

Because most donors are strongly committed to the BRK Blood Donor Service, additional medical or socio-demographic data may also be collected.

¹ The BSD Health Study: a pilot study to examine the comparability of Bavarian blood donors with the Bavarian general population by a comparison with KORA S4
Gesundheitswesen 2009, 71: 481-488. (Article in German)
**The innovation:**
Serial, **pre-diagnostic** plasma samples from blood donors with diseases

**A decisive advantage for biomedical research:**
For the first time, numerous blood samples may be examined from one person, which were taken and stored before the diagnosis of a disease. This research approach is especially suitable for investigating markers associated with the onset and progression of disease. Such biomarkers are gaining more and more importance in early diagnosis and specific treatment of diseases.

Up to now, samples from patients have been compared to a healthy reference group when examining biomarkers. The "Blood Donor BIOBANK" facilitates a completely new research approach:

**The search for changes in the blood which are detectable before the manifestation of symptoms.**
On average there are 2 serial plasma samples per year available from every BIOBANK participant. The frequently short time span between sampling facilitates kinetic analyses.

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A novel approach:
Investigation of biomarkers detectable before manifestation of disease symptoms
Which indications are covered in the “Blood Donor BIOBANK”?

Principally, all diseases affecting the Bavarian population may be investigated using samples from the “Blood Donor BIOBANK”. A list of the most important diseases well represented in the “Blood Donor BIOBANK” is given below:

1. Cardiovascular diseases, including coronary disease and myocardial infarction
2. Diabetes
3. Cerebrovascular diseases, stroke
4. Prostate cancer
5. Breast cancer
6. Skin cancer
7. Cancer of the gastrointestinal tract
8. Vascular diseases, thrombosis
9. Diseases of the thyroid gland
10. Colitis, inflammatory bowel disease
11. Asthma, bronchitis, COPD
12. Multiple Sclerosis

High quality, standardized processes for the processing of blood samples

Proven, highly standardized production processes, as implemented for pharmaceutical blood products, are applied for the processing and storage of blood samples. The samples of the “Blood Donor BIOBANK” are stored in one of the world’s largest fully automated cold stores, at -42°C.

Qualified personnel guarantee our high standards

Only qualified personnel are entrusted with the administration of the “Blood Donor BIOBANK”. Inclusion of interested blood donors and administration of pseudonymised samples and data are performed strictly according to regulatory guidelines.

An internal evaluation of research projects, centrally administered operating procedures and a sophisticated quality management additionally ensure the professional implementation of projects.
Since the foundation of the BRK Blood Donor Service in 1953, the organization has established itself as a strong and competent partner of medicine and research. Our company’s excellent infrastructure and decades of experience in the production of pharmaceutical products, according to national and international standards (CLIA, GMP), as well as gapless logistics and cold chain are further decisive advantages over comparable biobank projects.

As Germany’s first blood donor service, the BRK Blood Donor Service achieved quality management certification according to DIN EN ISO 9001 for all departments, including the “Blood Donor BIOBANK” in 2008.

Since its launch, the “Blood Donor BIOBANK” has carried out numerous, successful projects with partners in industry and research.

The “Blood Donor BIOBANK” is also member of the prestigious excellence cluster, “m4-Personalisierte Medizin und zielgerichtete Therapie” (m4-personalised medicine and targeted treatment), which is funded by the German Ministry for Research. Here, we take advantage of the tight network and technology transfer among the numerous high-quality research institutes and companies involved.

More information on www.biobank.de
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