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A big step towards personalised medicine: CBmed appointed first Expert Centre of European Biobanks

14.07.2016

The Graz based research facility CBmed has been appointed the first European "BBMRI-ERIC Expert Centre - Trusted Partner" (Biobanking and BioMolecular resources Research Infrastructure - European Research Infrastructure Consortium). The aim is to reach quicker result in the biomarker analysis and to improve treatments. With the identification of biomarkers it will be possible to individually treat cancer, metabolic diseases, and inflammations of the single patient.

The past few years have shown that not every patient reacts the same way to a treatment. Therefore, medical research is aiming to develop a personalised and tailored treatment of the single patient. To reach this goal the analysis of biomarkers is a very important field. A biomarker is a biologically measurable indicator, such as enzymes, hormones, or genes, measured in biological samples.

Such samples are being evaluated with the consent of the patient and stored in biobanks, like there is the Biobank Graz in Austria. A biobank can be defined as a collection of substances, such as body fluids or tissue samples, and their associated data stored in a database.

The collection includes a large volume of biological material such as DNA samples, blood samples, and tissue samples together with their background information of the donor or organism (clinical history, living condition, identification, place of collection). At the Medical University of Graz biological samples have been collected for research purposes under strict quality control for 30 years.

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"We now know that targeted therapies do not have the same result with all of the patients. In case certain mutations can be proven as biomarkers therapies will not have the desired results", explains Mag.a Dr.in rer.nat Selma Mautner, who is responsible for research management at CBmed.

"The donated samples form a valuable basis for an understanding of diseases that include various clinical symptoms but also a variety of different pathologies. Therefore, it is very important to show the utmost care when dealing with such material. Furthermore, with the introduction of quality criteria and the standardization of the analyzing process the gained data can be compared internationally."

Pan-European linked research infrastructure

To be able to efficiently search for biological samples for biomarker research a certain infrastructure is necessary. This infrastructure is being provided by the European consortium BBMRI-ERIC, which was founded in 2013 and is today's largest scientific health infrastructure in Europe. Currently BBMRI-ERIC has 19 member states, including Austria, which helped considerably with building this infrastructure to develop a methodical platform for the collaboration of European biobanks.

This cooperation allows the partners to access biological resources and biomedical installations in order to support efficient and excellent biomolecular and medical research. The "Center For Biomarker Research In Medicine" in Graz (CBmed GmbH) is linking the scientific expertise of the medical universities of Graz and Vienna to innovative technologies of leading international companies in the fields of pharmacy, diagnostics, and medical technology and therefore helps to improve the diagnosis and treatment of cancer, metabolic diseases, and inflammations in the future.

The award as "BBMRI-ERIC Expert Centre - Trusted Partner" proves also for future partners that the analysis of samples happens under strict quality control at the labs of CBmed. There is another advantage: "The shipping of medical samples is rather difficult, as the material can suffer under the transport conditions such as fluctuation in temperature and would therefore deliver falsified results. But in case it can be assured that there are the exact same quality criteria and benchmarks for evaluation and survey, then it will suffice to analyze samples at just one expert centre and to only distribute the results. This means a massive improvement and acceleration of the process", describes Mautner.

Understanding and resolving of subtypes of diseases

The term stratification describes the characterisation of a disease, for example breast cancer, into different subtypes, each of which needs a different treatment.

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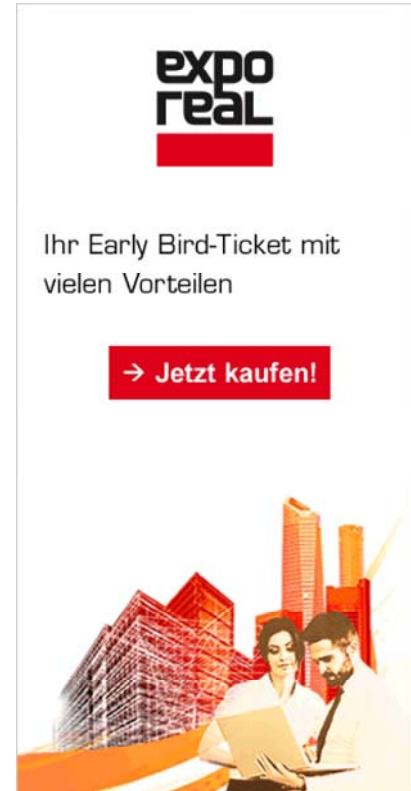










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The more detailed the subtype can be characterised, the more targeted a therapy can be developed.

There are hundreds of biobanks worldwide that provide their data to partners in research and medicine to identify these types. The larger the set of samples is, the higher the chances are to precisely identify relevant subgroups of patients and the higher is also the probability to recognise statistical patterns. Due to the collaboration of the European biobanks the amount of data is increasing, which also influences the development of personalised medicine.

At the Medical University of Graz biological samples have been collected for research purposes under strict quality control for 30 years. The pathologist Univ.-Prof. Dr. Kurt Zatloukal, head of the Austrian branch BBMRI.at, played a substantial role for the founding of BBMRI-ERIC. Graz has a leading position in the international field of biobanks, the headquarter of the European infrastructure BBMRI-ERIC is based in Graz, as well.

CBmed is aiming at becoming the leader in the world of biomarker research

CBmed's vision is to become the world's most recognized center for biomarker research in personalized medicine expertise in the fields of cancer, metabolism and inflammation by 2030. This will be achieved by integrating cutting-edge technologies with international and interdisciplinary. Together with scientific and industry partners, CBmed is developing solutions and products for patient care and cure.

CBmed is receiving funding from the "COMET" programme and ideally links local research competence with international leading companies. The research facility has a budget of 17.4 mio. EUR for the first funding period from 2015 until 2018. Already in its first year since the founding 34 international science and industry partners have joined the consortium. At the moment CBmed is running six core labs, four of which are located in Graz and the remaining two in Vienna. The goal is to connect excellent research infrastructure and scientific competence with national and international companies for a systematic research of biomarkers in medicine.

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Further information:
<http://www.cbmed.org/de/>

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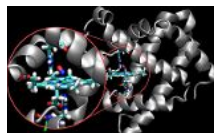
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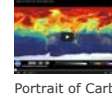
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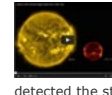
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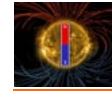
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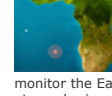


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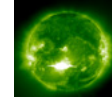


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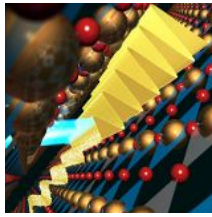
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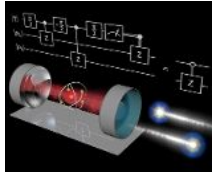
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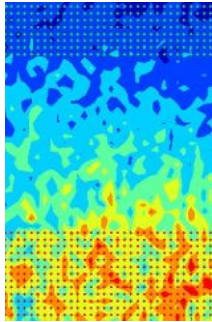
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