



STORE

Sustaining access to Tissue and data
from Radiobiological Experiments

Through the STORE project,
IBBL has benefited from European
research funding.

Sustaining access to tissue and data from radiobiological experiments

1 In 2012, IBBL (Integrated BioBank of Luxembourg) participated in a European Seventh Framework (FP7) project that aimed to sustain access to tissue samples that were exposed to radioactivity. IBBL scientists assessed the robustness and reproducibility of laboratory methods that were proposed by the project's consortium.

When combined with new genetic and molecular technologies, archives of data and biological tissue from radiation experiments carried out up to 60 years ago could provide new insights into the impact of radiation exposure on a person's health. Over the last three years, a framework project supported by the European Union within the FP7 Euratom programme has set up an international platform to share data, biomaterials and methods from past, current and future radiobiological experiments. The project entitled STORE (for Sustaining access to Tissue and data frOm Radiobiological Experiments) is coordinated by the Federal Office for Radiation Protection (Bfs) in Germany and involved 8 European partners, including IBBL (Integrated BioBank of Luxembourg).

An ideal biobanking partner

This was the first project funded by the European Commission for which the recently established biobank was selected. A fact that pleased Catherine Larue, PhD, MBA, Chief Executive Officer (CEO) of IBBL, who comments: "It is fantastic to have been part of a European-wide project and we hope to become a partner in many other framework programmes in the future. Luxembourg's location in the heart of Europe



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and its growing reputation as a hub for biomedical research should further attract international attention, collaboration and funding. I believe that our advanced and integrated infrastructure as well as our high quality services and staff make us an ideal biobanking partner for EU research consortia."

Validation is key for consortium standard operating procedures (SOPs)

Apart from setting up infrastructure for the physical storage of samples and data, the STORE consortium also developed the necessary standard operating procedures (SOPs) for the evaluation of the archived tissue samples. This includes protocols for the isolation of DNA, RNA and proteins from tissue samples stored in the form of formalin-fixed paraffin-embedded (FFPE) blocks.

As a partner of this FP7 project, the IBBL Biospecimen Research team has tested and verified all methods proposed by the STORE consortium for the isolation of DNA, RNA and proteins from FFPE tissue. The team used tissue samples provided by STORE and IBBL's own reference material to assess critical factors such as inter-operator reproducibility and robustness of the methods with regards to fixation, source and age of the sample. Olga Kofanova, PhD, the Biospecimen Research Scientist at IBBL who led the work, comments on the results: "The validation work demonstrated that good quality RNA, DNA and proteins can be recovered from FFPE tissue and the STORE SOPs are reproducible and robust."

In addition to confirming the suitability of the consortium's methods, the results support the use of quality control methods by biobanks to assess the quality of molecular derivatives extracted from such tissue samples. All validated methods are now proposed by the store consortium as standard SOPs which can be used by the international biobanking community.



The Seventh European Framework Programme for Research and Technological Development (FP7) was the European Union's main financial instrument to support European research during the 2007-2013 period. The funding programme continues under Horizon 2020, the Framework Programme for Research and Innovation, supporting a wide range of research domains with a budget of € 79 billion (2014-2020).