

International Conference and Exhibition on **Tissue Preservation & Bio-banking**

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Bio Bank Network. Tissue and data sets, formation and sustainability

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The concept of biobank arises like an idea of creating a repository of biological samples, both tissues such as blood, to be a source preserved in good condition and serve as a tool for both clinical as to the molecular research.

The specification for the novel methods of sampling, storage and handling is an essential aspect in modern biobanks.

The increase in the number of biobanks has helped develop a collaborative network so that, thanks to data and samples stored in them can be made more comprehensive and reliable the etiopathology studies, determination of biomarkers, the study profiles in response to treatments, etc with an general overview of rare and common tumors and other diseases. This system for collecting and sharing biological material and clinical records is a significantly important step for translational research.

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Brain banking

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Brain banks have been created to obtain, classify, preserve and distribute nervous system tissue and biological samples for research of diseases of the nervous system under very precise ethical and legal settings. Handling nervous tissue has many peculiarities. Brain banks should be monitored by specialized personnel including at least one Neuropathologist and specialized technicians. The register must include clinical data set, agonic state and post-mortem delay, and complete neuropathological diagnoses, together with material stored. The brain is removed from the skull following well-established protocols, and it is usually cut in the middle sagittal plane and both cerebral hemispheres separated. The cerebrum is separated from the brain stem above the superior colliculi, the cerebellum separated from the brain stem by cutting the cerebellar peduncles, and the cerebellum divide by the vermis. One cerebral hemisphere is used for biochemical studies and the other is immersed in 4% buffered formalin for morphological studies. For biochemical studies, small pieces of representative regions of the brain are frozen on metal plaques over dry ice, kept on individual air-tight plastic bags and numbered with water-resistant ink or by using appropriate tags. The rest of the fresh cerebrum and cerebellum is frozen on coronal sections, packed in individual plastic bags, labeled, and stored at -80C. Human brain banks are mainly based on nervous tissue obtained after death and, therefore, several factors may interfere with tissue and molecular preservation. Knowledge of the limitations is mandatory when using human post-mortem brain for research.

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