ABSTRACTS

Joint Conference of the European, Middle Eastern & African Society for Biopreservation & Biobanking (ESBB) and the Spanish National Biobank Network
Granada, Spain

November 7–9, 2012

Conference Information

The Joint Conference of ESBB & the Spanish National Biobank Network (Red Nacional de Biobancos), will be held in the Granada Conference and Exhibition Centre, in Granada, which is in the Andalucian region of southern Spain. The conference theme is: “Biobanks—Advancing Science and Serving Society in the 21st Century,” and it will feature presentations and discussions that relate to the full spectrum of biobanking activities across the clinical, biological, and environmental sciences. Particular emphasis will be given to issues relevant for Europe, the Middle East and Africa, since this is the geographic scope of ESBB.

The Programme Committee includes: Peter Doran (chair), Rita Lawlor, Maimuna Mendy, Elena Salvaterra, Christina Schroeder, Anna Bosch Comas, Maura Ferrari, Peter Riegman, Christian Chabannon, Paul Hofman, Paul Bartels, Manuel Morente, Herbert Gottweis, Ole Seberg, Tobias Schulte-in-den-Baumen, Pasquale de Blasio, Hans-Peter Deigner, Alexandre Bartsev, Christian Oste, Enrique de Álava, Erik Steinfelder, Bas de Jong, Roger Bjugn, and Robert Hewitt.

For more information please see: http://www.esbb.org.

ESBB is a chapter of the International Society for Biological and Environmental Repositories (ISBER)
Blood sample collection, processing, handling and storage protocols are based mainly on accepted practices rather than careful comparative analysis and testing. We set out, therefore, to examine variables intrinsic to each step in the process of obtaining and storing clinical samples, beginning with collection of samples from healthy subjects and cancer patients in controlled studies. Various tube types were tested including EDTA, heparin, serum and protease inhibitors. Various times on bench and temperatures of incubation were compared, before and after centrifugation of the blood. The effects of freeze-thaw cycles and time in freezer were also examined. Sample analysis has been performed by high resolution mass spectrometry, leading to the identification of specific proteins that are affected by the various parameters tested. While different blood collection tubes can be used with reproducible results, there is a marked difference in the protein content obtained from each type. Freeze thaw cycles affect only a few specific proteins and only after multiple cycles. A multiplexed assay is currently being assembled for the analysis of stored samples in order to determine sample integrity and utility for use in clinical research.

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Introduction: With the ongoing need to improve therapy for NSCLC, there has been an increasing interest in the development of reliable preclinical models to test novel therapeutics. The aim of this study was to evaluate the rate of establishment of patient-derived NSCLC xenografts in the context of a long-distance research network (from Nice to Paris, France).

Methods: Fresh surgically resected NSCLC specimens were sent from the human biobank hospital (Nice, France) to the animal facilities (Sanofi, Vitry-sur-Seine, France). An informed consent was signed by all patients. Hazard status (HIV, hepatitis B, hepatitis C) was known before sending fresh samples. Shipment was performed in AQIX medium at room temperature. Within 24h post surgery, tumor fragments (~60 mm3) were subcutaneously implanted in female SCID mice. The growing tumors were passaged in new mice (10 passages). The xenografts were histologically checked to eliminate human or murine lymphoma.

Results: Overall, 98 NSCLC samples were implanted leading to 32 (33%) NSCLC xenografts. The rate of tumor growth was higher in non-adenocarcinoma specimens (23/45,51%) [20/38 (53%) for squamous cell carcinoma, 2/4 (50%) for large cell carcinoma, and 1/3 (33%) for pleomorphic carcinoma], when compared to adenocarcinoma samples (9/53,16%).

Conclusion: We report a high success rate of xenotransplantation established from patient-derived NSCLC tissues. Our biobanking model system, regardless of extended time and distance, provides a stable and reliable animal model for human lung cancer research, in particular for testing new targeted therapy.