



ORAL PRESENTATION

Improved molecular read-out options via adequate tissue fixation

Dagmar Silvia Lang, Holger Schultz, Ekkehard Vollmer, and Torsten Goldmann

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The novel HOPE technique has proven to be an excellent tool for both research as well as diagnostic aspects. This presentation will focus on the advantages provided by this unique fixation technique as compared to formalin fixation as the current standard with regard to integrity as well as long-term preservation of both nucleic acids and antigenic structures.

A complete panel of modern molecular analyses are demonstrated, including DNA extraction, RT-PCR analysis, *in situ* hybridization, Northern-blot and Western-Blot that has been successfully applied on human tissues of different organ origin. Clinical applications with regard to mechanisms of human lung infection (COPD) and Her-2 diagnostics for human breast cancer are also included. Furthermore, recent results are presented using an *ex vivo* short-term tissue culture model (STST) that has been established in combination with the HOPE-fixation method. This STST model is suitable not only as a promising model of the initial phase of lung infection, but has also considerably improved the possibilities to identify new clinically relevant molecular targets for anti-cancer treatment of human lung cancer.

In conclusion, the HOPE-technique represents a valuable tool for extensive molecular analyses in human tissues, whereas STST represents a multifunctional *ex vivo* model for various aspects in clinical research and modern diagnostic pathology. In combination, a solid base is provided for the development of efficient High Throughput assays to further enhance the diagnostics in human severe disease.

Author details

Clinical and Experimental Pathology, Research Center Borstel, Borstel, Germany

Email: tgoldmann@fz-borstel.de

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