

3<sup>rd</sup> International Conference & Exhibition on**TISSUE PRESERVATION AND BIOBANKING &**6<sup>th</sup> International Conference on**TISSUE ENGINEERING AND REGENERATIVE MEDICINE**

August 23-24, 2017 San Francisco, USA

**Human mesenchymal stem cell-derived conditioned medium: Perspectives for therapeutic application in lung cancers****Lourdes Cortes-Dericks**

University of Hamburg, Germany

Mesenchymal stem cells (MSCs) are adult stem cells having the capacity for self-renewal and differentiation. The current consensus of the therapeutic benefits of mesenchymal stem cells posits that these cells secrete trophic factors that elicit paracrine actions for cancer therapy. These soluble factors may be collected in what has been known as the conditioned medium (CM). In the malignant setting, the biomolecules secreted by MSCs are thought to either support or inhibit tumor growth. This presentation will cover the anti-tumor effect of the human lung mesenchymal stem cell-derived conditioned medium (hLMSC-CM) in lung cancers. It will include the identification of the different biomolecules contained in the hLMSC-CM and its anti-tumor effects in malignant mesothelioma cell lines. It will highlight the efficacy of hLMSC-CM as compared to twice the IC50 of cisplatin in eliminating the chemo resistant, sphere-forming mesothelioma cells. Other regenerative capacities MSC-CM from our and other studies such as the attenuation of cigarette smoke-induced injury in lung fibroblasts, *in vivo* and *in vitro* will also be mentioned to underscore its potential in improving tissue regeneration. In the clinical setting, the use of cell-free MSC-derived conditioned medium may facilitate a practical approach compared with stem cell-based therapy as the former is easier to prepare, preserve and transport to appropriate clinics, and may also present less complications relative to issues on cell transplantation. Despite the promising results of the beneficial effects of MSC-derived conditioned media, standardization of MSC cultivation, collection and preservation of the CM is still necessary.

**Biography**

Lourdes Cortes-Dericks completed her Ph.D in Biological Sciences from the University of Hamburg, Germany. Her dissertation was focused on the cellular and molecular mechanisms of the desensitization processes in guanylyl cyclase receptors. Her postdoctoral studies principally surround the tumor biology of lung cancers and identification of tumor biomarkers for tumor cancer stem cells to identify their roles in lung carcinogenesis. She is an active peer reviewer in numerous respected journals and an editorial board member.

cortes-dericks@gmx.de

**Notes:**