



Cases #516

High Throughput Lung De/Re Cellularization

Current pre-clinical drug discovery incompletely recapitulates the complexity and heterogeneity of human disease and use of decellularized tissues and organ scaffolds to provide better model systems has drawn great interest, especially in complex organs such as the lung. Acellular lung tissue scaffolds from both normal and diseased human lung tissues provide a more biologically relevant three-dimensional structure that preserves disease phenotypes and bridges the gap between cell culture, animal models and human disease. The Weiss lab, experts in lung regeneration and repair, have developed a portfolio of novel techniques and components to create a high throughput decellularization kit for the lung. The DC Kit contains optimized decellularization reagents, detection systems for residual detergents, and a novel alginate coating technology to maintain the 3D structure and mechanical integrity of the decellularized tissue.

Applications:

- R&D models of lung disease and recellularization.
- Potential whole organ prep for organ transplants.

Advantages:

- Convenient, optimized and validated method.
- Residual detergent detection systems.
- Novel alginate-based coating for structural and mechanical integrity.
- Patient and disease specific profiles can be maintained.

Intellectual Property and Development Status:

US Non-Provisional Application US20160067378A1
Ready for research and development collaboration and licensing.

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