Humanized lung model for evaluation and monitoring of pulmonary fibrosis

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Description:

In-vitro lung on a chip system used to test pharmacological intervention of fibrotic diseases. Allows evaluation of matrix composition and stiffness driven fibrotic progression, and reversal using therapeutic intervention.

- First group to decellularize, solubilize, and conjugate matrix from healthy and diseased patient tissues to the tunable hydrogels
- Accurately mimics the tissue micro-environment, i.e., what the cells in the tissue actually sense
- Can very accurately reflect both the healthy and the diseased condition
- Large range of healthy or diseased tissues: lung fibrosis, cirrhosis, heart fibrosis, scleroderma, COPD, emphysema.

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The model can reproduce all stages of a disease from healthy to strongly fibrotic by modifying the stiffness of the substrate.