Human fibrotic lung ECM substrates

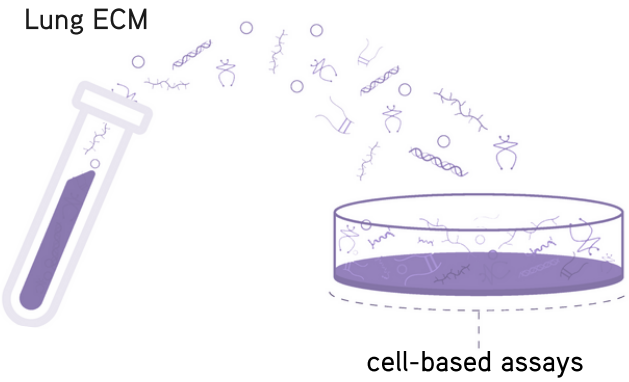
Accelerating anti-fibrotic drug development

Interstitial lung disease, including idiopathic pulmonary fibrosis (IPF), remains high-risk for drug development, as in-vitro techniques fail to recapitulate the human in-vivo disease environment. Xylyx Bio offers custom fibrotic human lung ECM substrates to significantly improve in-vitro disease modeling and drug development in a disease-relevant setting.

Features

- Recapitulate human lung fibrosis in vitro
- Disease-specific ECM composition
- Applicable in 2D and 3D in-vitro models
- Compatible with high-throughput screening
- Xeno-free

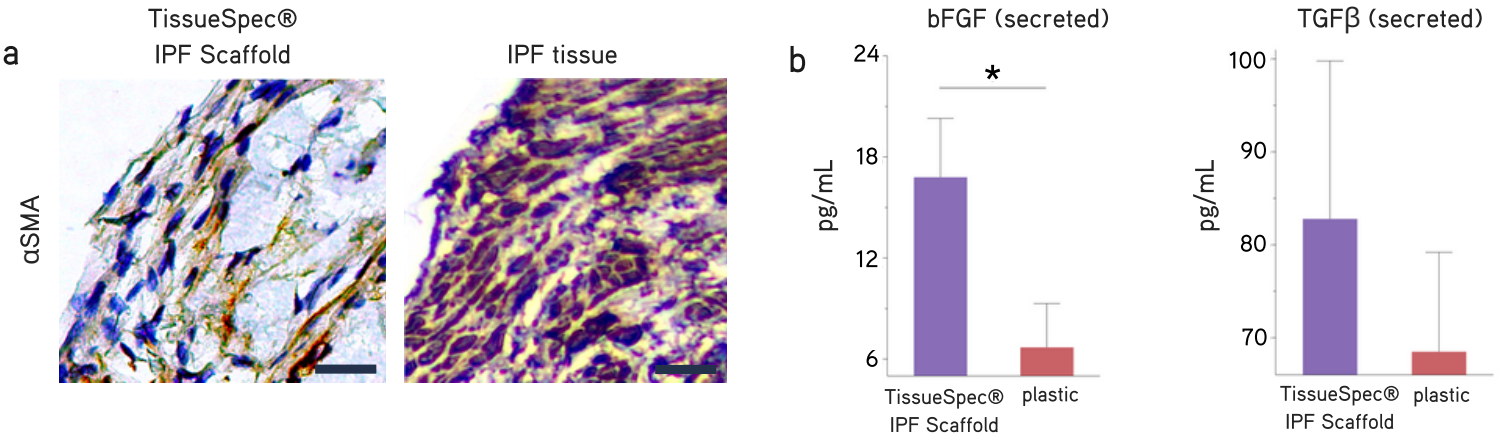
Organotypic ECM platform for anti-fibrotic drug development



Lung ECM products

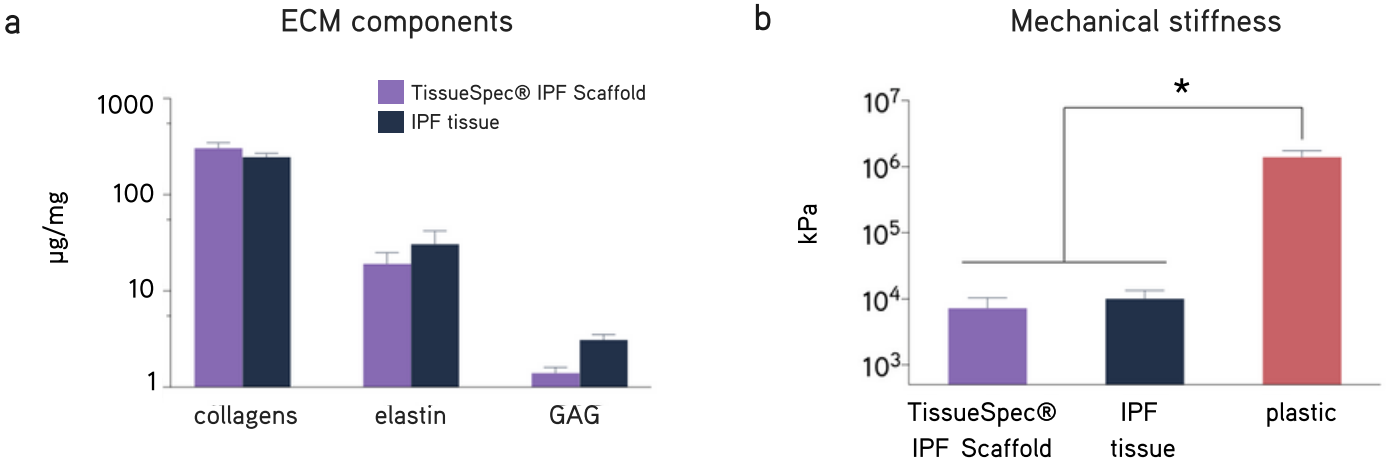
- TissueSpec® ECM Scaffold
- TissueSpec® ECM Hydrogel
- NativeCoat™ ECM Coating

IPF-associated phenotype of pulmonary fibroblasts



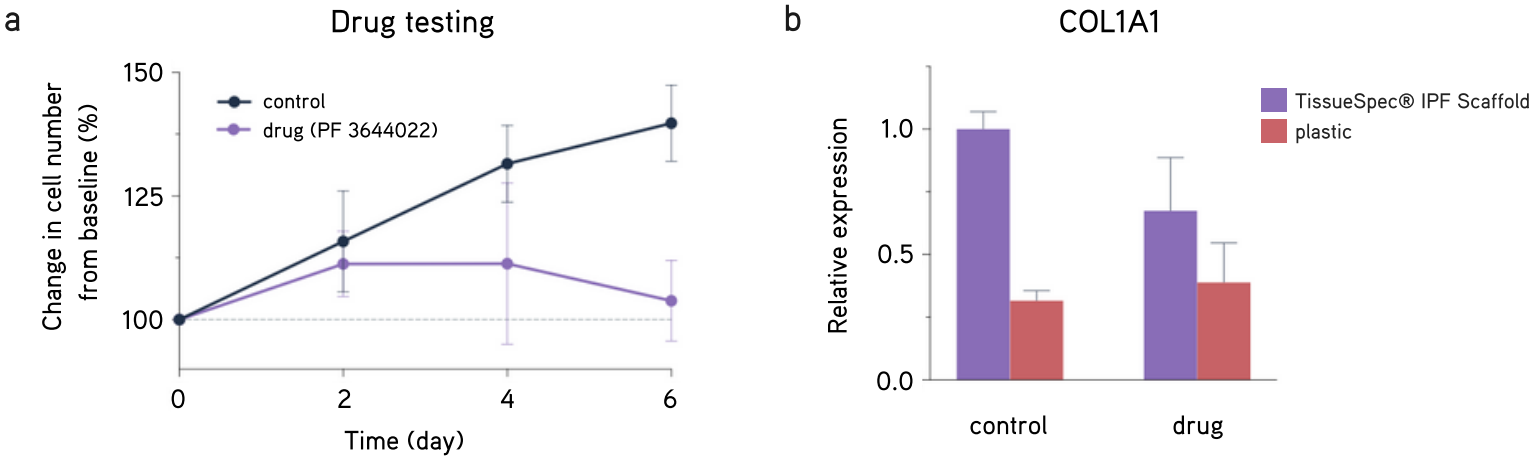
TissueSpec® IPF Scaffolds support fibrotic disease-associated phenotype of primary human pulmonary fibroblasts significantly more consistent with human IPF tissue than cells cultured on plastic. (a) Immunostaining of alpha smooth actin (αSMA). (b) Quantification of secreted basic fibroblast growth factor (bFGF) and transforming growth factor beta (TGFβ). Scale bar: 50 μm. * $p < 0.05$.

TissueSpec® IPF Scaffolds recapitulate the IPF disease environment



TissueSpec® IPF Scaffolds have a composition and mechanical stiffness consistent with human IPF tissue. (a) Quantification of key ECM components shows high similarity between TissueSpec® IPF Scaffolds and human IPF tissue. (b) Mechanical stiffness of TissueSpec® IPF Scaffolds matches IPF tissue. * $p < 0.001$.

Disease-relevant ECM platform for predictive anti-fibrotic drug testing



TissueSpec® IPF Scaffolds are a physiologic human ECM environment for predictive drug testing. (a) Growth curves and (b) relative expression of COL1A1 by human pulmonary fibroblasts after treatment with an anti-fibrotic drug candidate (PF 3644022).

Partner with Xylyx Bio!

We are actively partnering with leading pharmaceutical companies to further develop and integrate our disease-specific ECM products into cell-based assays and established workflows to accelerate pharmaceutical drug discovery and development.

For partnering opportunities, contact us today at info@xylyxbio.com