NEWCELLS
IN VITRO MODELS TO PREDICT IN VIVO OUTCOMES

Fibroblast-to-myofibroblasts transition(FMT) assay for high-throughput drug screening

The rapid screening solution for anti-fibrotic drug development

What you can achieve:

- Rapid screening of anti-fibrotic drug candidates for efficacy evaluation
- Fibrotic marker characterization as well as on demand assessment of mRNA and cytokines along with following compound treatment
- Assess donor-to-donor variation with multiple validated human lung fibroblast donors

What forms the basis of the study:

- Primary lung fibroblasts from healthy donor and idiopathic pulmonary fibrosis (IPF) patients
- High throughput format (384-well) for compound screening
- Physiologically-relevant conditions for increased sensitivity and reduced culture time

How can Newcells help

Accelerate drug development for lung fibrosis using high-throughput screening & high-content imaging assay.

Why choose Newcells' Lung FMT assay for evaluating your compounds?

1. Rapid screening of compounds in 384-well plate setup for their impact on reducing FMT induced by TGF-β-stimulated ECM expression.
2. Optimized assay conditions to control cell proliferation, enhancing the ability of stimuli to induce FMT.
3. Inclusion of a macromolecular crowding agent that mimics an in vivo environment and promotes mature collagen fibril deposition in the extracellular compartment., thereby increasing the sensitivity of the assay
4. Detection and quantification of αSMA and extracellular matrix proteins **(Fig. 1)** using immunocytochemistry and high-content imaging.

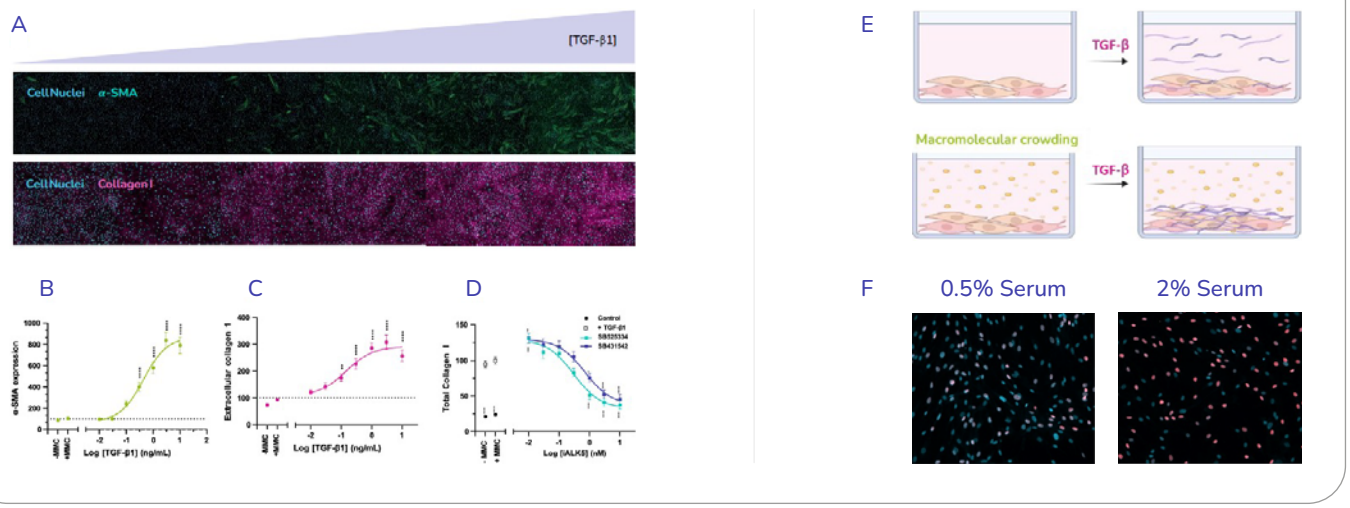

Figure 1: Representative images showing incorporation of αSMA (green staining) into cellular stress fibers, and the deposition of mature collagen I within the extracellular compartment (pink staining), following the stimulation with TGF-β1. TGF-β1 induces a dose-dependent increase in (B) αSMA and (C) collagen I expression in primary human lung fibroblasts. D. TGF-β1 induced expression of collagen I is inhibited, dose dependently, by two ALK inhibitor compounds, SB525334 and SB431542. Data show % integrated intensity relative to +MMC media control in the absence of TGF-β1, from n=3 individual human lung fibroblast donors. E. Schematic representation of macromolecular crowder effect on ECM deposition F. EdU incorporation staining showing higher % of proliferating cells in 2% serum concentration medium.

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For more information:

If you would like further information, please contact our experts or visit our website:

info@newcellsbiotech.co.uk
or visit: www.newcellsbiotech.co.uk/FMT

Scan the QR code to download the flyer

Lung FMT Assay					
SKU No.	Offering	Format	Readouts	Time-points	Inclusions
LSFMT0000H	Lung FMT assay	384-wells	Dose response curve for α-SMA, Collagen-I staining (cell number – EdU incorporation, PCR, ELISA)	72 hours	1 donor, 5 compounds, 7 dilutions with internal controls and QC included

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