



Mimetix® scaffolds for 3D Cell Culture

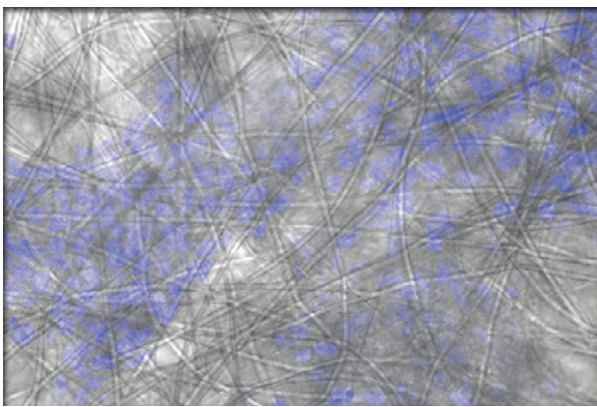


Image 1: Hepatocytes (nuclei in blue) growing in the Mimetix scaffold

Why Use 3D Models in Drug Discovery?

Cells grown in a 3D micro-environment look and behave more like cells in human tissues than those cultured in 2D. They are in contact with other cells and produce extracellular matrix, which influences tissue-specific gene expression, cell growth and the uptake and metabolism of drugs. 3D cell-based *in vitro* assays can provide more realistic data on the efficacy of drug candidates against tumour cells or their toxicity, potentially reducing the risk of failure in expensive clinical trials.

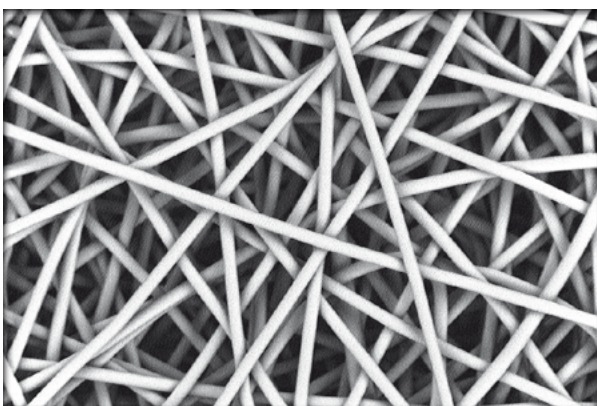


Image 2: The Mimetix scaffold resembles the extracellular matrix

Mimetix Scaffolds for 3D Cell Culture

Mimetix scaffolds are highly porous and mimic the extracellular matrix, providing an ideal environment to support the growth of cells in 3D. They are created by electrospinning the medical grade polymer poly(L-lactide) (PLLA) into fibres. The Mimetix scaffold is highly consistent well-to-well with respect to fibre diameter and pore size, resulting in excellent reproducibility of cell-based assays. Mimetix has been validated with a number of primary cells, cell lines and stem cells and is available in a range of ready-to-use, sterile laboratory consumable formats.

Mimetix Multi-Well Plate

Our 96-well plate contains the Mimetix scaffold, laser-welded by a proprietary process into the base, and is designed to be compatible with industry standard automated handling and imaging equipment. It is available in fibre diameters of 2 μm and 4 μm , corresponding to pore sizes of 10–18 μm and 19–31 μm , and at a scaffold thickness of 50 μm . It is supplied gamma-irradiated in individually-sealed plastic wrapping.

Mimetix benefits in 3D assays

- True 3D environment
- High batch-to-batch consistency for reproducible cell-based assays
- Ready-to-use, sterile, standard-size plates are compatible with industry-standard automated handling and imaging equipment
- Minimal protocol adaption required to switch from 2D to 3D
- Material does not degrade or alter over the course of an experiment
- Thin scaffold provides benefits of 3D cell morphology and behaviour, yet allows microscopic imaging

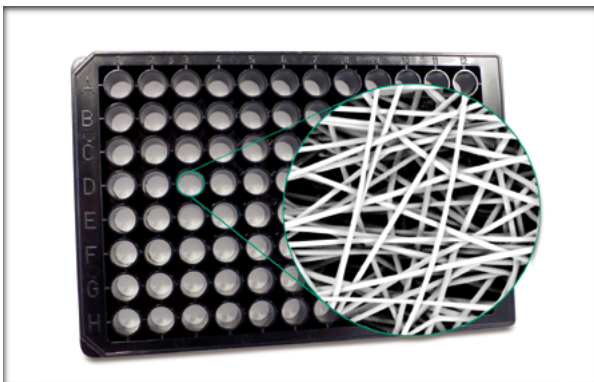


Image 3: Mimetix scaffold in a 96-well plate (fixed)



Image 4: Mimetix scaffold in a 6-well format with hanging inserts, allowing exposure to medium above and below

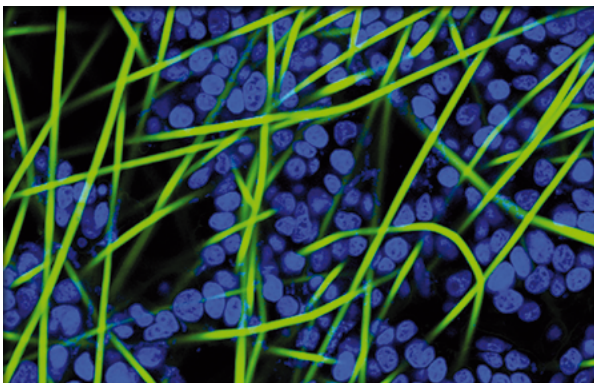


Image 5: MCF7 breast cancer cells (nuclei in blue) growing in the Mimetix scaffold (green)

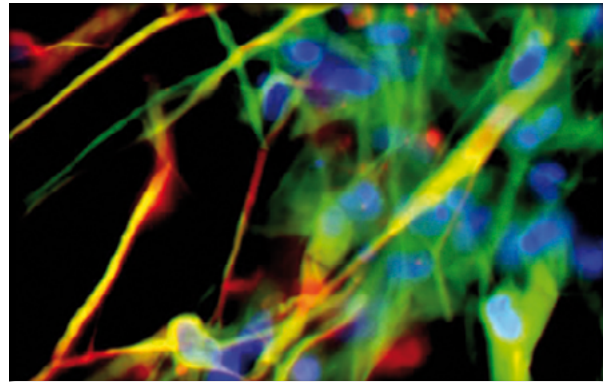


Image 6: Neural stems cells differentiating in an electrospun scaffold (nuclei in blue, Tubulin β III in green, DCX in red)



ELECTROSPINNING
COMPANY

Contact us: For more information on our products, to order samples and to discuss collaborative projects.