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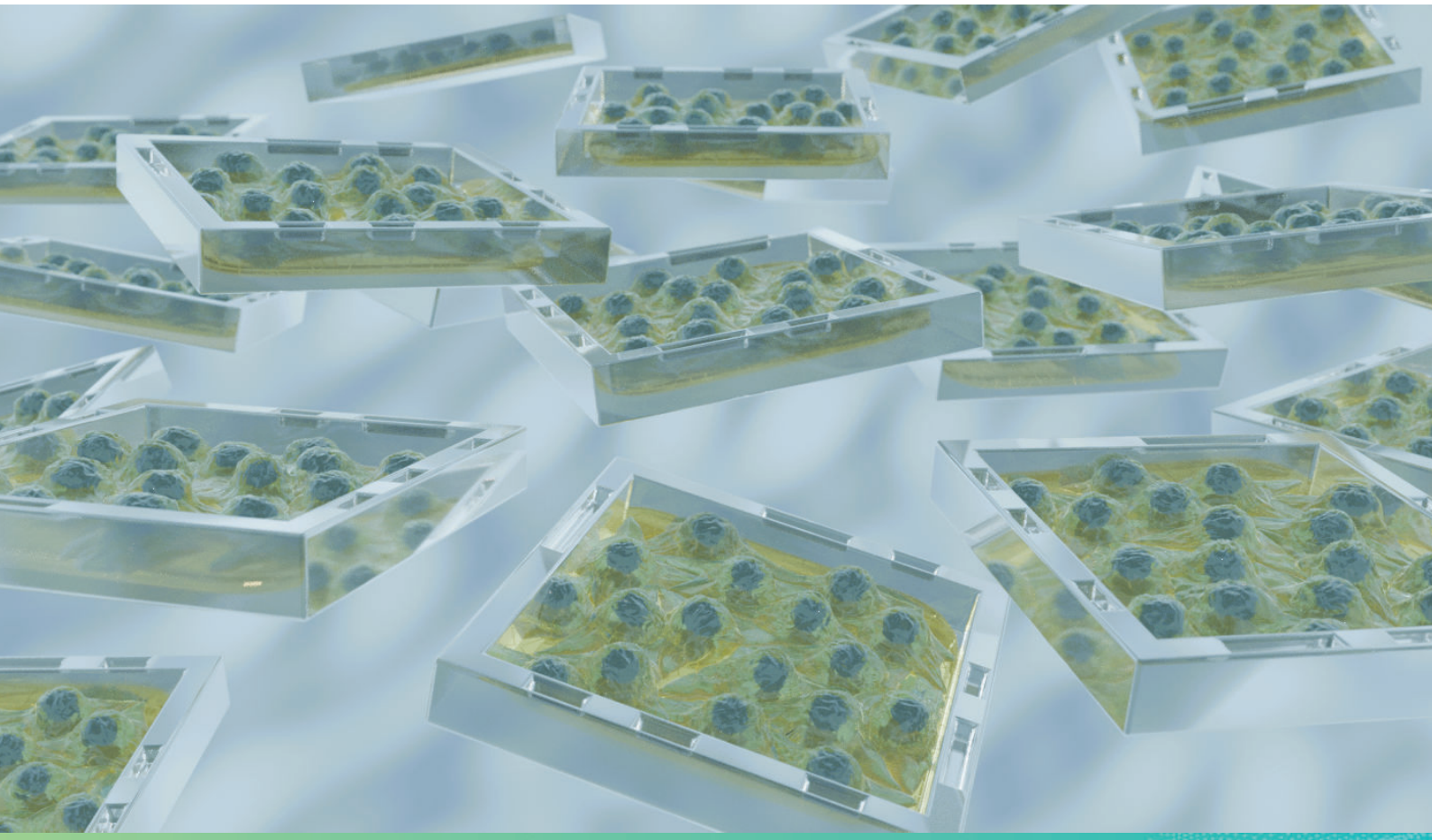
Flexibility for Adherent Cell Assays



SemaCytes for More Powerful Assaying Workflows

Our proprietary SemaCyte® microcarrier platform leverages novel materials physics to move and barcode adherent cells. Our approach introduces flexibility, miniaturisation, and multiplexing into existing drug discovery workflows. This novel approach to cell assays makes it possible to produce better drug data, faster.

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SemaCyte® assaying microcarriers function as ultra-miniaturized, barcoded wells which can carry small colonies of adherent cells.

These materials can be moved with liquid handling tools and their orientation can be magnetically controlled.

The SemaCyte® products include SemaDishes and peripherals which integrate seamlessly with read-out equipment such as plate readers and microscopes.

Our Semalyse software can digitally isolate the microcarriers and deconvolute barcodes.

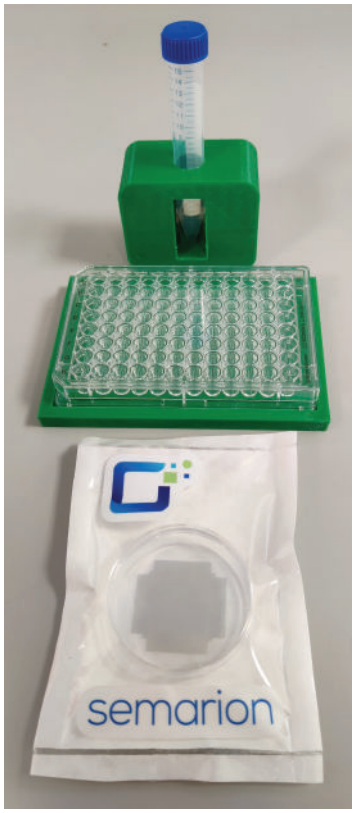
This unique approach enhances existing research workflows and enables novel methodologies.

SemaPure
magnetic purifier

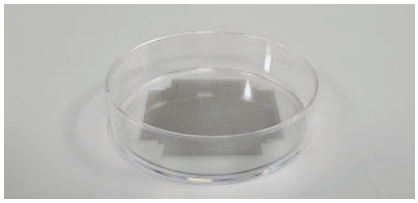
SemaPlate
magnetic orientator

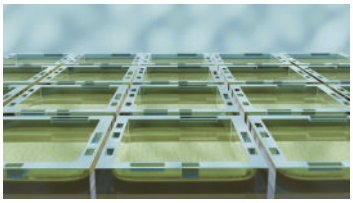
SemaDish-20
20 cm² seeding dish

Alternative sizes available

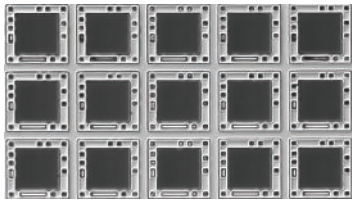


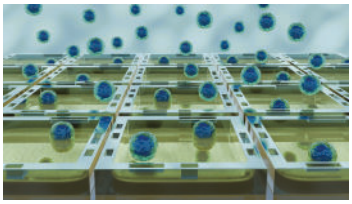
Preparation



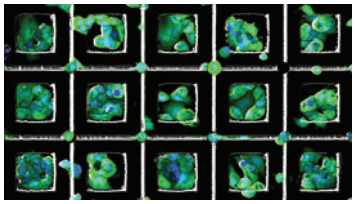


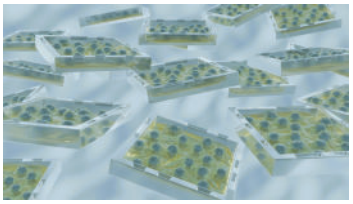
SemaCytes are provided as immobilised arrays in petri or SLAS dishes.



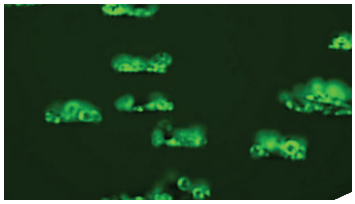


Cells are seeded and grown for a desired confluency and morphology.

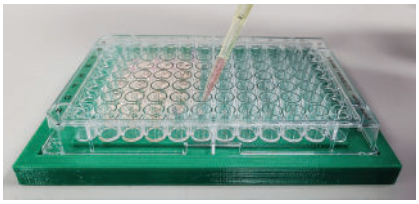


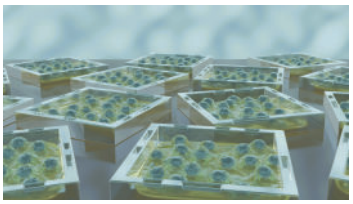


SemaCytes with cells are released into suspension, collected, and stored.

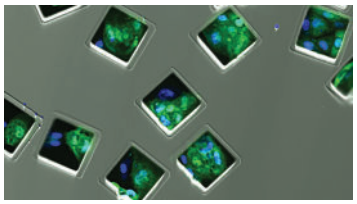


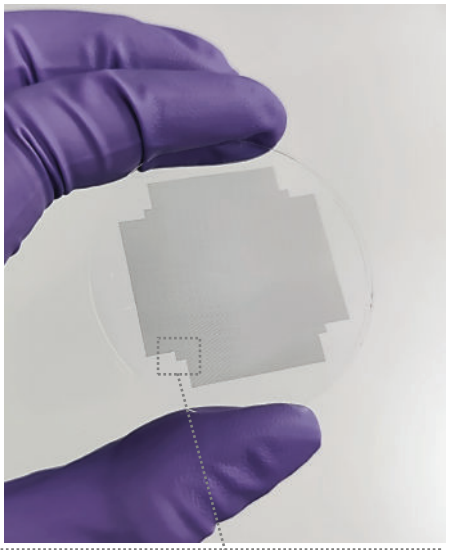
Assaying

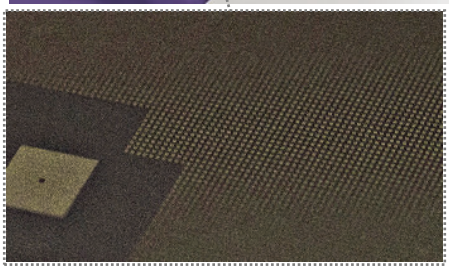


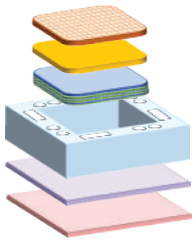


SemaCytes are dispensed at a desired density and used for standard assays.









SemaCyte® microcarriers are made using microchip fabrication, allowing for a high degree of control over their shape, properties, and features.

Our most common SemaCyte® microcarriers have a 100x100 µm² growth area and contain a syntehtic fibronectin-mimetic exctracellular matrix.

Move cells while retaining their adherent morphology

Increase Workflow Flexibility: 2-10x more data per experiment

Freeze-and-Thaw Adhered Cells: 2-20x faster data generation

Controllably Dispense Adhered Cells: 5-100x less cells used per assay

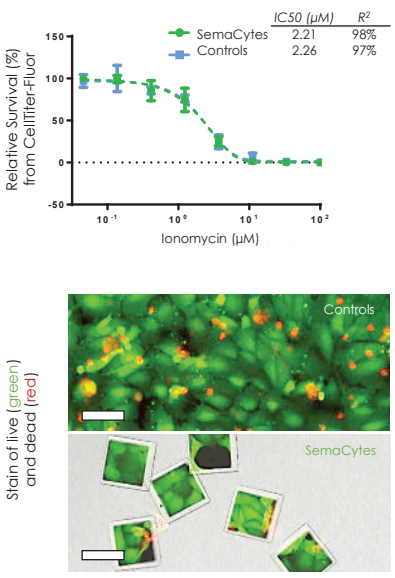
Optical barcode and combine different cell types

Multiplex Cell Models: 2-10x less time and cost for cell panel screening

Multi-Cell Co-Cultures: 5x increase co-culturing capacity

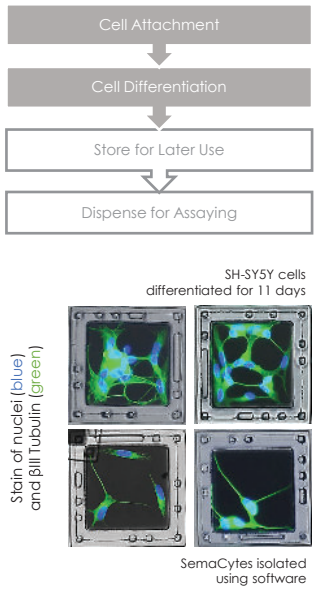
Rapid viability assays on a renal model (RCC-FG2) were validated across multiple research institutes.

6x less cells, 2x faster



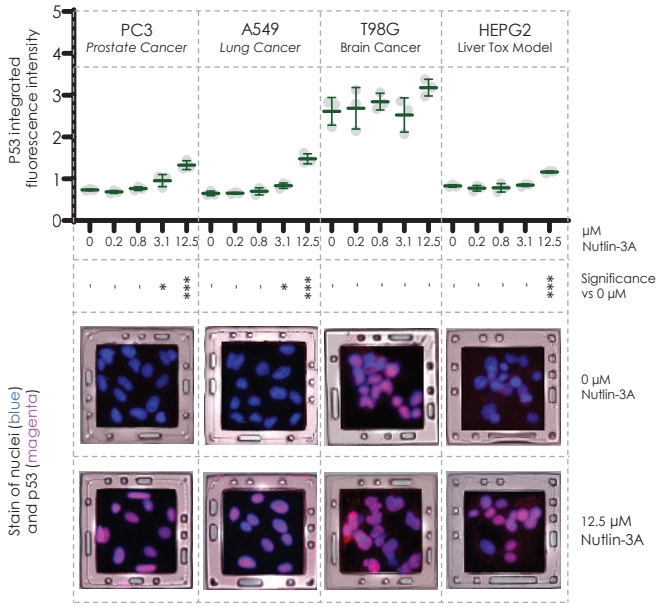
Neurons were differentiated on SemaCytes to create **on-demand complex cell models**.

10x less cells, 10x faster



Barcoded cells on SemaCytes were pooled for a **4-plex rapid mechanistic assay** (p53 activation) looking at the sensitivity of cancer and toxicology models to the drug Nutlin-3A.

4x less reagents, 60x less cells, 2x faster



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To learn more about our **Early Access Programme**, contact us at info@semarion.com.

Let us enhance your cell assay workflows

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