



THE UNIVERSITY OF  
**SYDNEY**

# Sydney Analytical 3D Cell Biology Platform

3D cell culture systems can mimic the complex microenvironment of tissues and organs more accurately than traditional 2D cell culture. Automation of 3D cell culture, assay and analysis pipelines delivers consistent, unbiased, and biologically relevant results at scale. At Sydney Analytical, we can assist with designing and developing automated 3D culture platforms for high-throughput drug discovery screening, personalized medicine screening, advanced therapeutics, and investigative biological studies.

## RASTRUM™ cell bioprinter

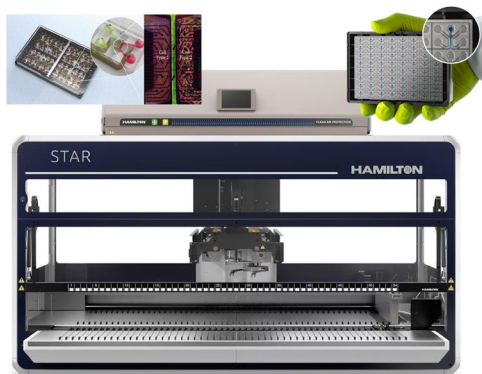
Prints primary and secondary cell lines and induced pluripotent stem cells (iPSCs) in 3D matrix (single or multiple) which closely mimics the complexity of in vivo microenvironments.



**Allego (Inventia)  
Future upgrade**

## Hamilton Microlab® STAR™

Automates in-process and endpoint pipetting workflows like preparing treatments, changing reagents, and harvesting samples. Generate trustworthy results with precise pipetting.



## In Vitro ADME services

Provide cell-based permeability and stability assays for drug and compound screening, enable quantitative determination using LC/MS-MS analysis.



## CellXpress.ai

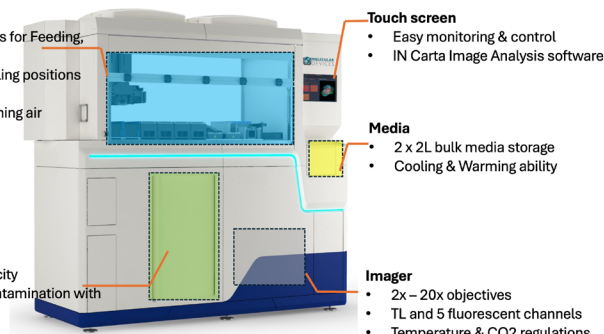
Standardises and automates cell culture processes. Integrates incubator, imager and liquid handling system all-in-one, supports 2D adherent, 3D suspension and 3D scaffold cell culture flows.

### Liquid handler

- 8 independent channels for Feeding, Seeding, Passaging
- Tilting and heating-cooling positions for plates or reservoirs
- HEPA filtration of incoming air
- UV sterilisation of deck

### Incubator

- 154 plates capacity
- Automatic decontamination with H<sub>2</sub>O<sub>2</sub>



### Touch screen

- Easy monitoring & control
- IN Carta Image Analysis software

### Media

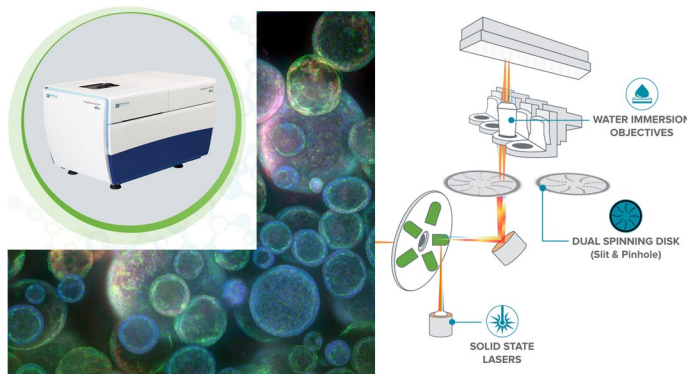
- 2 x 2L bulk media storage
- Cooling & Warming ability

### Imager

- 2x – 20x objectives
- TL and 5 fluorescent channels
- Temperature & CO<sub>2</sub> regulations

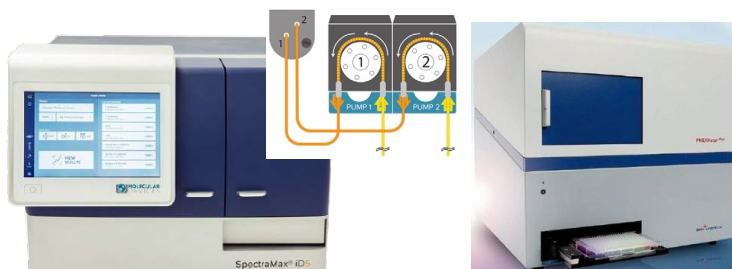
## ImageXpress Confocal HT.ai

Utilises a seven-channel laser light source with eight imaging channels and a spinning disk to enable high-sensitivity detection and fast acquisition of biological samples.



## Multi-Mode microplate readers

Utilises monochromator or optical modules to detect and measure absorbance, fluorescence and luminescence. Enhanced modes enable fluorescence polarization (FP), time-resolved fluorescence (TRF), TR-FRET and HTRF detections. Dual auto injector system supports on-board fluidics.



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