

Cancer Therapy Screening Partner

CUSTOMIZABLE
POWERFUL
PRECISION
EFFICACY TESTS

3D co-culture and
primary models
Combination studies &
immunotherapy studies

 **SCREEN IN 3D**

INTRODUCTION

The challenges in developing successful anti-cancer treatments is not just limited to the discovery of new drug therapies. Intra-patient tumor heterogeneity, rapid development of drug resistance/tumor relapse and adverse drug reactions post treatment pose enormous challenges. Therefore, there is immense need for *ex vivo* platforms that facilitate combination studies and immunotherapeutic tests on primary tissue, ultimately leading to precision medicine.

In recent years, microfluidic technologies have emerged as important tools in cancer research and drug discovery. These platforms show great promise in various applications, including rapid genome sequencing, drug activity profiling, and assessing changes at the molecular level post drug treatment.

ScreenIn3D services employ proprietary microfluidic technology together with robust cell assays to help drug and cell therapy developers produce more effective oncology treatments tested on human cancer tissue, maximising the number of screens that can be performed in 3D using limited amount of patient-derived tumor samples.

WHY USE SCREEN IN 3D SERVICES



HUMAN TME

Relevant to human disease



COST EFFECTIVE

20x more efficient screening



COMBINE

Facilitating combination therapy



DESIGN

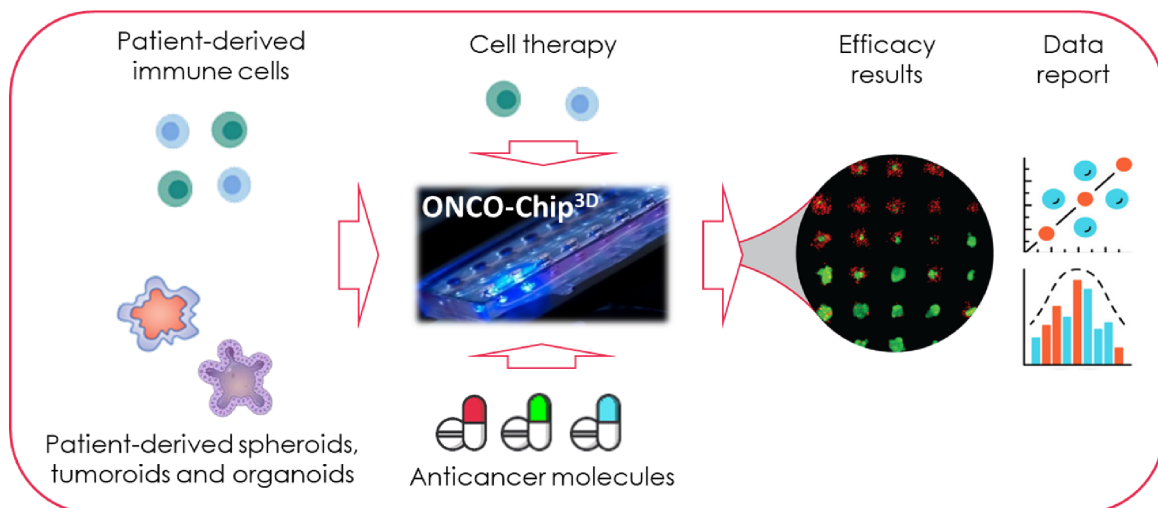
Mitigating risks for clinical trials



PERSONALIZE

Faster results for precision medicine

OUR “ONCOSCREEN” SERVICES

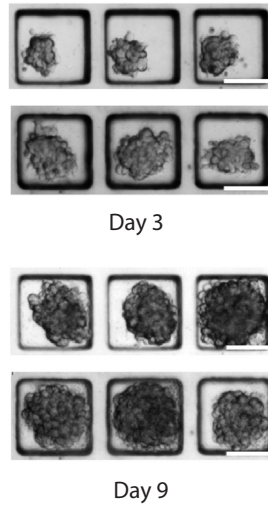
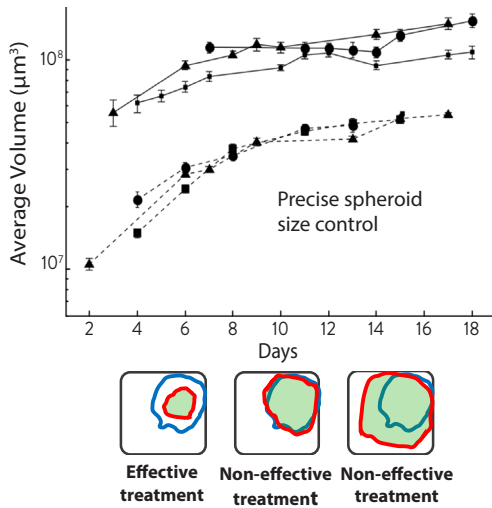


- **20-fold increase** in screening capabilities using **human biopsy tissue**
- **Quantifiable** tests of drug efficacy (IC50)
- Screening of human biopsy tissue in 1-3 weeks (**feasible clinical times**)
- Continuous **label-free readouts** of tumoroid condition in addition to standard readouts
- Tumoroid culture using **perfusion** and **shear stress-free** conditions
- **Quicker results** than with costly animal models

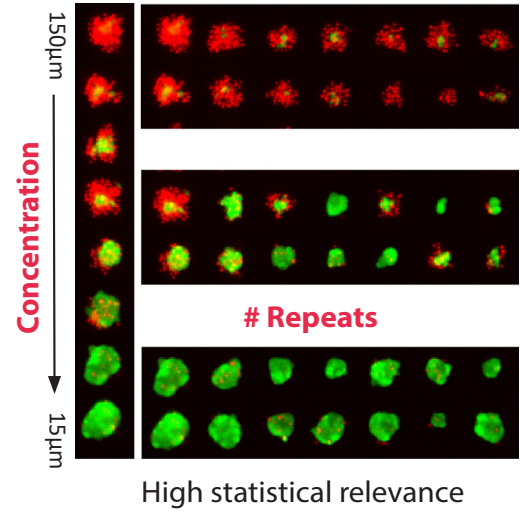
OUR SERVICE OFFERS MULTIPLE END-POINTS

We offer multiple end point measurements to assess tumour growth, health and drug effects, in addition to immunofluorescence, supernatant analysis and tissue retrieval post treatment.

1. TUMOROID GROWTH

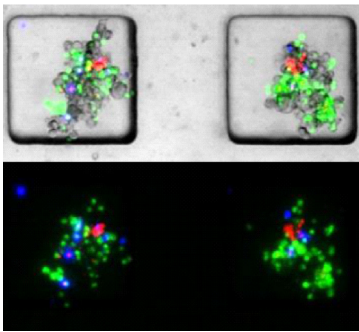


2. VIABILITY (LIVE/DEAD CELL STAINING)

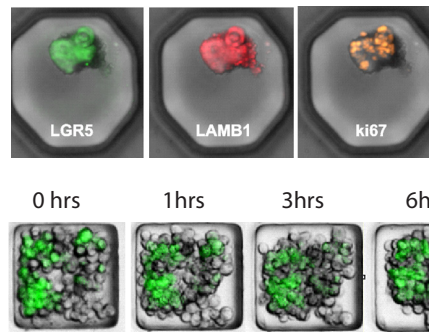


3. ASSESSMENT OF 3D STRUCTURE PHENOTYPE AND RESPONSE TO DRUGS OR THERAPY

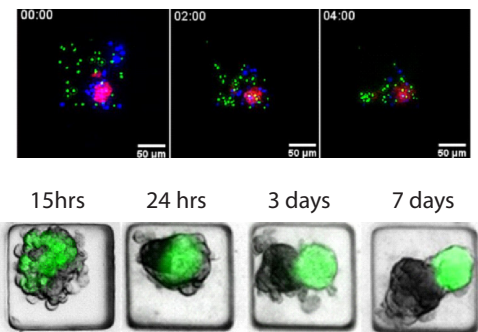
Cell type specific response



3D structure markers



Real time monitoring



Data produced using bespoke software image analysis tools.

VALIDATED TUMOR MODELS

IN VITRO DISEASE MODELS

- Primary lines
- Organoids
- Cell lines
- Tissue fragments

PATIENT DERIVED TUMOR MODELS

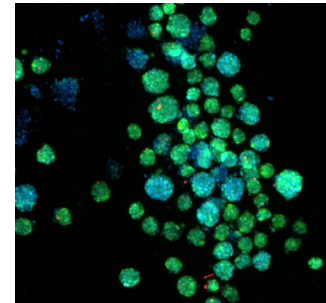
- Ovarian cancer
- Prostate cancer
- Lung cancer
- Breast cancer
- Pancreatic cancer
- Colorectal cancer
- Glioblastoma

NEW ASSAYS & MODELS

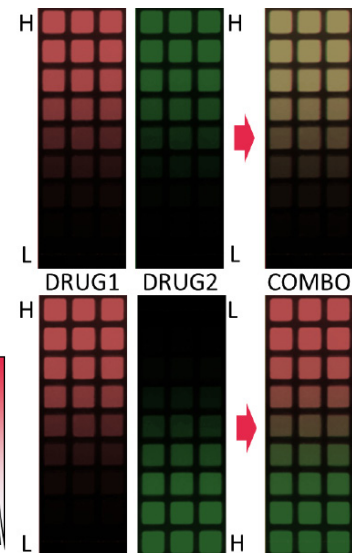
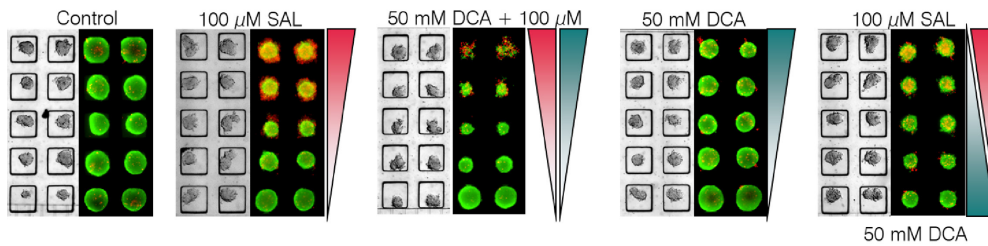
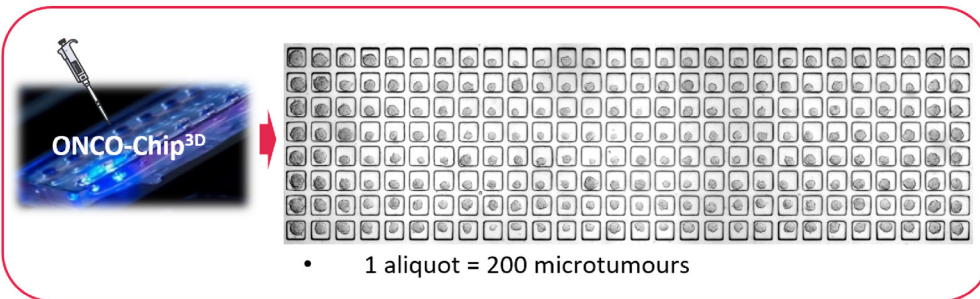
- Immunotherapy (CAR-T, NK, PBMC)
- Complex multi-culture models

OUR MICROFLUIDIC TECHNOLOGY ALLOWS

- As few as 10K cells generate up to 100 tumoroids
- More than 20 concentration response curves per biopsy
- Immuno-therapy and combinatorial tests in 3D
- Long term culture of 3D multicellular tumoroids
- High degree of assay customization
- Tumoroid retrieval for off-chip post-processing



3D model retrieval



SETTING UP SERVICE PROJECT

1. CHOOSE MODEL TYPE

- Cell lines (standard)
- Primary lines
- Patient derived tumor models

2. CHOOSE ASSAY TYPE

- Drug(s) to be tested
- Immunotherapy
- Combinatorial study
- Radiotherapy

3. INDICATE END POINTS OF INTEREST

- Tumoroid shrinkage
- Live-Dead/viability
- Biomarker/Immunofluorescence
- Cytokine profiling
- Assess apoptotic events

4. RECEIVE RESULTS

- Detailed report
- Raw and processed data
- Interpretation of results
- Follow up studies



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