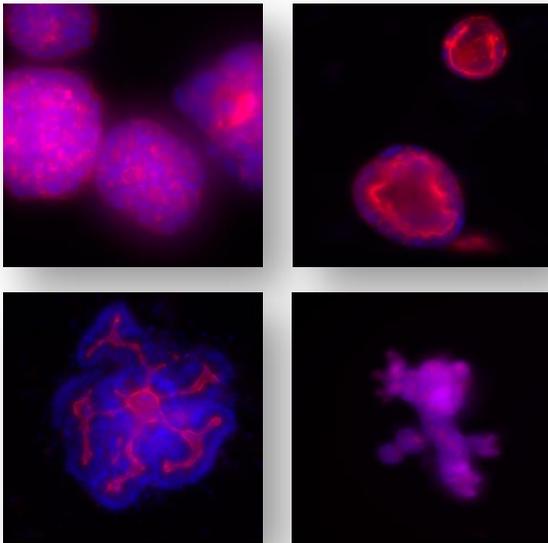


in vitro PDX: Compound screening and profiling in PDX tumor cultures



OcellO's *in vitro* PDX services use tissues cultured from patient-derived tumor cells in physiologically relevant microenvironments. 3D-assays enable selection of optimum PDX models from **the Charles River PDX collection** for later pre-clinical and clinical testing. Each *in vitro* PDX model is optimized for growth of tumoroids.

OcellO's advanced 3D image analysis enables discrimination of active, selective or cytotoxic molecules.

Key advantages:

- Direct translation of the same tumor model from *in vitro* to *in vivo* PDX
- Test candidate molecules in panels of PDX tumors *in vitro* for optimum pre-clinical success
- Automated high content compound screening in 384-well plate format
- Sensitive and robust measurement of clinically-relevant end-points
- Reduce timelines, attrition, costs and test compound need

Choose from several hundred well-characterized tumor PDX models from the Charles River collection, including:

Lung	90+
Colon	60+
Pancreas	40+
Breast	15
Bladder	10



Test your antibodies, antibody-drug conjugates, small molecules and more at OcellO

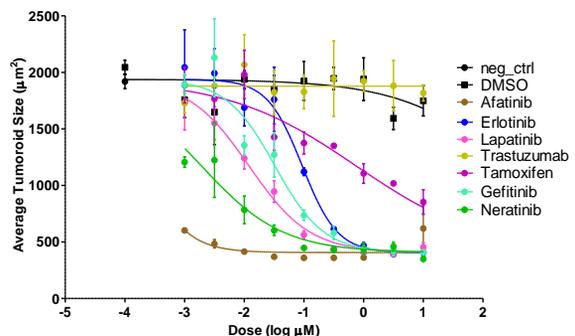
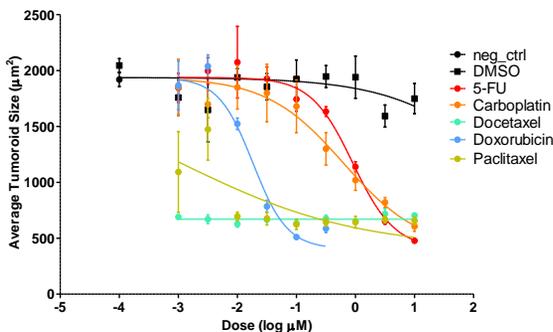
Phenotypic Profiling in PDX-Derived Tumor Spheroids Cultured in Natural Extracellular Matrix

Patient derived xenografts (PDX), representing diverse well characterized tumor sub-types, are reformed *in vitro* as tumor micro-tissues (spheroids) in 3D and exposed to various drug treatments. Spheroids are fixed, stained with fluorescent dyes, and image stacks are obtained. A 3D reconstruction of the micro-tissues is generated: typically 150 spheroids are obtained per well in a 384 well plate. OcellO's proprietary software evaluation delivers many features, such as: number, shape and size - of spheroids, of individual cells and of nuclei; as well as basic measurements of proliferation, apoptosis, and tissue and disease-specific features are collected. Intricate analyses as: network formation, spikes, protrusions, lumen formation and planar polarity are performed in differentiated tumors. These detailed insights enable accurate compound profiling.

Measurement of inhibition of tumour growth: e.g. breast cancer *in vitro* PDX

References for standard chemotherapy

References for targeted agents



Chemotherapy and targeted agents tested on a breast cancer PDX model

PDX tumors from mice were dissociated and cells were distributed into 384 well plates with extracellular matrix protein gels and allowed to develop into tumor spheroids. Compound exposure was for 7 days. After fixation, staining and 3D imaging, automated analysis using OcellO's proprietary software 'Ominer' extracted measurements of tumoroid properties.

Conclusions

- OcellO's *in vitro* PDX screening platform enables high throughput testing of compounds in extracellular matrix-embedded tumor cultures
- 3D-cultured PDX tissues have proven to show *in vivo*-like growth characteristics and responses to anti-cancer therapeutics
- Drug responses and drug sensitivity can be easily translated into the same tumor model *in vivo*