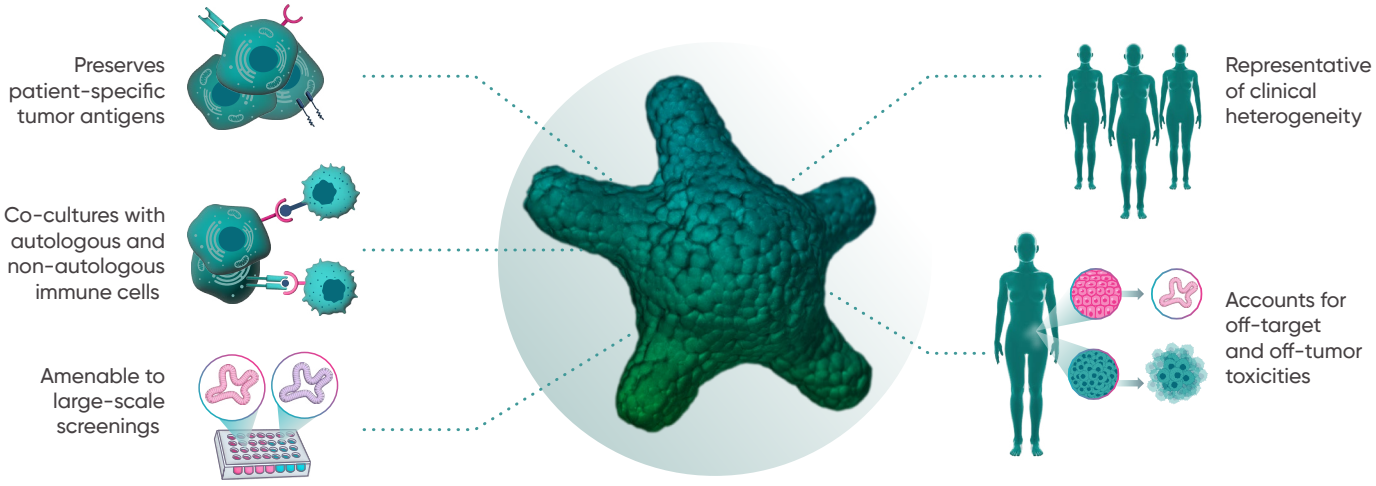
HUB ORGANOIDS

HUB Organoids® in immuno-oncology drug development

VALIDATE YOUR IMMUNOTHERAPEUTIC USING A PATIENT-RELEVANT PLATFORM

Immunotherapies have shown substantial success as a treatment strategy to combat cancer. However, their efficacy is limited to only a subset of patients. Treatment failure can be attributed to the lack of predictive biomarkers of response and to the limited translatability from current preclinical models which fail to recapitulate the interaction between human tumours and immune system, are prone to losing tumor-specific antigens, and/or are suboptimal for large-scale studies.

HUB ORGANOIDS ARE SUPERIOR PRECLINICAL MODELS FOR IMMUNO-ONCOLOGY DRUG DEVELOPMENT



IMMUNO-ONCOLOGY SERVICE OFFERING

Our offering including drug development and drug screening services to assess efficacy and potency, and account for unwanted toxicities has been optimized for the evaluation of bispecific antibodies and antibody-drug conjugates, engineered T cells, or CAR-T cells.

Our immunotherapy drug development platform can be used to validate your target hypothesis and accelerate your lead agent to clinical candidate.

BISPECIFIC ANTIBODIES AND ANTIBODY-DRUG CONJUGATES (ADC)

HUB Organoids have been successfully applied to testing and validation of bispecific antibodies and can be adapted to test ADC effects.

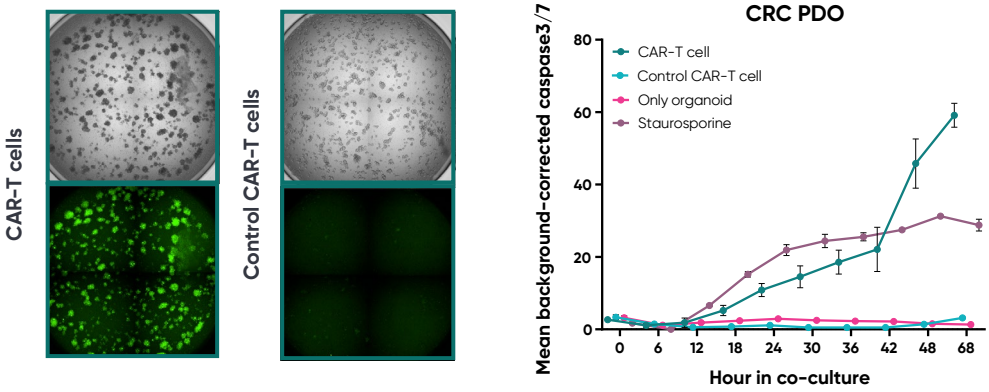
Our platform has successfully driven the development of the first bispecific antibody from target development to clinical trials within a timeframe of 5 years by using high-content screening and viability read-out on a biobank of matched normal and cancer organoids[1].

ALLOGENIC T CELLS AND CAR-T CELLS

In addition to assessing bispecific antibodies and ADC effects, we have established a co-culture system using HUB Organoids to evaluate allogenic or engineered T cells and CAR-T cells.

Tumor organoid killing and immune cell activation can be detected by a multitude of read outs including:

- caspase 3/7 imaging
- IFN-y secretion via ELISA,
- activated T cell count by flow cytometry



Representative brightfield and fluorescence (caspase 3/7 signal) images of CRC PDOs after 68h incubation with engineered T cells (left). Quantification of caspase 3/7 intensity over time (right)

INNOVATE WITH HUB: TOWARDS A COMPREHENSIVE IMMUNO-ONCOLOGY BIOBANK

MATCHED TUMOR/NORMAL ORGANOID AND T CELL CO-CULTURES

Our established unique matched tumor/normal patient-derived organoid biobanks for major solid cancer types include breast, colorectal, pancreatic, lung, and ovarian cancer organoid models that can be used to evaluate off-target or on-target/off-tumor toxicity.

Additionally, we are optimising conditions to expand and preserve in culture autologous patient-derived T cells that can be used for the establishment of matched tumor organoids and T cell co-cultures for the evaluation of checkpoint inhibitors, as well as co-cultures with other immune cell types including macrophages, NK, and B cells.

GET IN TOUCH WITH OUR TEAM TO ACCELERATE YOUR IMMUNOTHERAPY OR LEARN ABOUT CURRENT DEVELOPMENT PROJECTS AND OPPORTUNITIES

REFERENCE

1 Herpers et al., 2022. **Nature Cancer**, Apr 25; 3(4):418-436)

Curious to know more? Contact us at:

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