CROWN BIOSCIENCE

Tumor Organoid Immuno-Oncology Applications

Harness clinically-relevant models for immunotherapy development

A JSR Life Sciences Company

QUICKFACT

V1.0

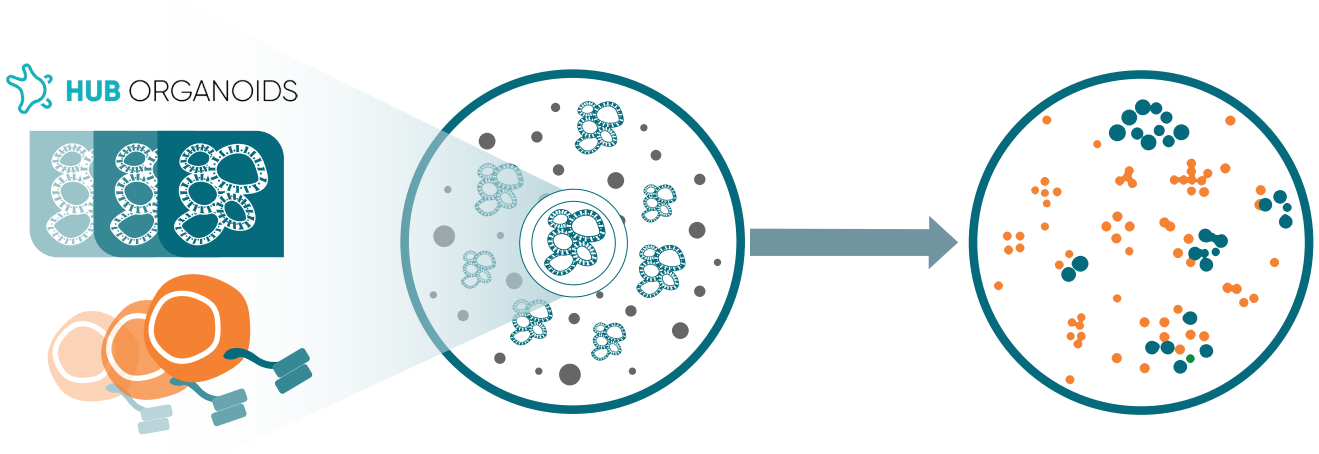
3D patient-derived organoid models provide a highly translatable and reproducible platform for in vitro drug development.

To enable immunotherapy assessment using these models, we've developed a unique co-culture approach - combining robust and predictive tumor organoids with non-autologous human immune cells. Utilize this organoid immuno-oncology platform to benefit from:

- A highly **clinically-relevant** 3D *in vitro* system available for immunotherapy, assessment, combining tumor organoids developed using HUB protocols and non-autologous immune cells from healthy patients
- The ability to **profile patient population diversity**, selecting from over 300 patient-derived tumor organoids across more than 15 different cancer types
- Matched normal/primary and metastatic models with characterization data accessible via **OrganoidBase**
- A highly **scalable system**, allowing the assessment of multiple cell donors and tumor model combinations concurrently, to overcome donor-to-donor variability and the limited availability of autologous patient material
- **Faster results** compared with more complex *in vivo* systems
- Customization through organoid engineering to establish **new immunotherapy models**, such as expressing specific CAR-T targets of choice

Organoid and immune cell co-culture provides flexibility across applications for proof of concept and mechanism of action studies, including:

- Evaluating the potency of immunotherapies using non-autologous allogenic T cell assays with optimized conditions
- Assessing tumor organoid killing by allogenic T, CAR-T, or CAR-NK cells
- Testing ADC, ADCC, CDC, and CDCP effects
- Evaluating tumor reactivity of CAR-T and TCR cells
- Profiling immunotherapy target gene expression on tumor organoids or identifying antigens of interest (such as tumor-associated antigens, immune checkpoint molecules)



Immune cells
- TILs
- Macrophages
- Dendritic cells
- Other TME components

Mechanism of action
- T cell mediated
- ADCC, CDC, CDCP
- ADC

Available readouts
- Morphology evaluation
- Luciferase reporter detection
- Flow analysis (live/dead)
- Cytokine production measurement

Test agents
- CAR-T cells
- CAR-NK cells
- T cell engagers

Get in touch

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