TumorGraft3D™

Clinically Relevant 3D Tumor Models for Rapid, Translational Insights

Preclinical models often fail to translate to the clinic. Cell lines and expanded organoid systems can lack tumor complexity and heterogeneity, and *in vivo* studies are resource-intensive and limit throughput. Screen, characterize, and de-risk oncology programs using low-passage, PDX-derived 3D tumor models that maintain key features of tumor biology while enabling faster, more scalable experimentation.

The TumorGraft3D Approach

The TumorGraft3D approach provides a practical bridge between speed and clinical relevance. It is derived from PDX models established from clinically relevant patient tumors, including advanced and pretreated disease and maintains tumor architecture, heterogeneity, and molecular characteristics. The matrix-free system avoids added ECM, reducing potential drug-binding effects and supporting clearer assay interpretation. Compatible models are typically assay-ready within approximately 5 days, depending on model readiness and study design.

Why TumorGraft3D

TumorGraft3D combines clinically relevant tumor biology with a practical, scalable approach to *ex vivo* experimentation.

- Derived from PDX models established from metastatic, often pretreated patient tumors
- Maintains key features of tumor structure, heterogeneity, and gene expression
- Enables biologically relevant screening with greater scalability than organoid systems
- Uses banked models to support practical study startup aligned to model readiness
- Built from the same PDX-derived model lineage used in *in vivo* studies

1,500+ **Patient-derived xenograft (PDX) models**

300+ **TumorGraft3D models and growing**

25+ **Tumor indications with treatment histories**

Key Applications

Compare assets head-to-head in clinically relevant 3D tumor models

Models selected to match the biological question, indication, or biomarker of interest.

Profile response across biologically defined cohorts

Identify sensitivity patterns, refine cohorts, and support translational hypotheses.

Investigate mechanism in a human-relevant tumor context

Use a 3D tumor format to separate biologic drivers of response, including target dependence, payload sensitivity, and genotype-linked response.

Translational Value

- Advance the strongest hypotheses into in vivo with greater confidence
- Generate earlier translational insight while reserving *in vivo* work for questions that truly require it

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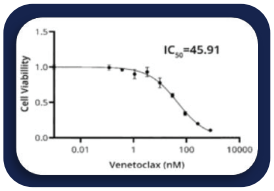
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Patient-derived tumor models → TumorGraft3D culture → Treatment → Multi-dimensional biological readout

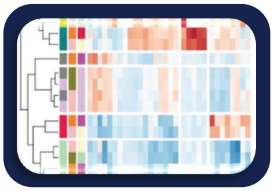
Multi-Layered Biological Endpoints

Built from patient-derived tumors that retain key structual, molecular, and functional features, TumorGraft3D enables multi-layered analysis of therapeutic response.



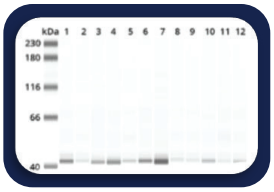
Cellular Response and Drug Sensitivity

TumorGraft3D enables assessment of tumor viability and support dose-response analysis, including IC50 and rank-ordering, and are well suited for screening and benchmarking prior to *in vivo* studies.



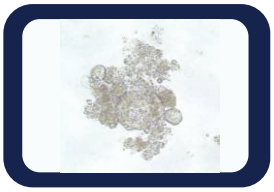
Molecular Profiling and Gene Expression

TumorGraft3D provides baseline molecular characterization and enables analysis of pathway modulation and transcriptional response. The platform supports biomarker hypothesis generation, target-related signatures, and early pharmacodynamic insights.



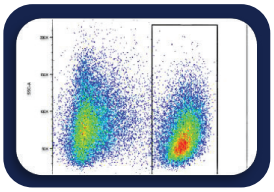
Protein and Signaling Analysis

TumorGraft3D supports evaluation of cytokine and secreted factors as well as protein expression and pathway activation, providing insight into immune signaling and target engagement.



Phenotypic and Structural Analysis

TumorGraft3D supports evaluation of tumor morphology and organoid formation using brightfield imaging. These models allow detection of treatment-induced phenotypic changes and provide context for response interpretation.



Cellular and Immune Characterization

TumorGraft3D enables analysis of tumor and immune cell populations, including immune activation, exhaustion, and target engagement, supporting evaluation of immune-mediated effects.

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