



# TumorMimic

## Tailor 3D Culture Materials to Enable Enhanced Cancer Drug Screening

Cancer drug candidates are assessed using cell culture assays and animal models. Currently only <10% of these drug candidates are approved and they show limited efficacy against solid tumors. To address this, tailored 3D cell cultures offer a solution.

3D cultures can encapsule cancer cells within hydrogel materials modeling solid-cancer tissues. However, the materials often fail to model the accurate biomechanical cues of the tissues that have recently been found to regulate drug resistance of the cells. Furthermore, these materials often show variation between sample replicates and internal heterogeneity within each sample—that are regulators of cellular responses.

**TumorMimic technology** tailors 3D culture materials to replicate the physiological biomechanical properties of specific tissues, such as those found in triple-negative breast cancer. We use the technology as an add-on to standard live-cell microscopy, as well as a standalone instrument—both accompanied by automation software and custom-built analytics.

Our technology paves the way for enhanced control of 3D cultures, to enable superior cancer-drug screening efficacy, and accelerated discovery of new drug targets.

### COMPETITIVE ADVANTAGE

- Only technology to measure and visualize cell-scale mechanics in 3D culture materials at the stiffnesses as in solid cancer biopsies (0.1 to 10 kPa in Young's moduli)
- Simultaneous multiple-location data in time lapses
- Usable before/after or during experiments

### SEARCHING FOR

- Collaboration and partnerships
- Research funding applications
- Funding for a future startup
- Input from key industry areas to push our invention to the market

### IPR STATUS

- US Patent accepted 03.03.2026
- Two further patents pending (2022 – present)

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