

Biofabricated Skin Carcinoma Model

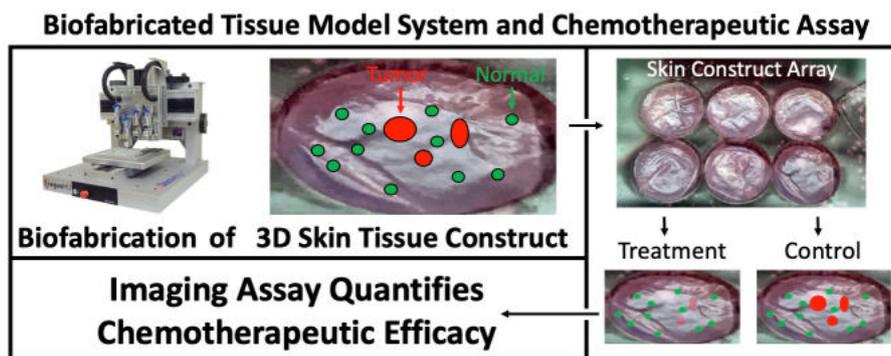


Browning JR, Derr P, Derr K, Doudican N, Michael S, Lish SR, Taylor NA, Krueger JG, Ferrer M, Carucci JA, Gareau DS. A 3D biofabricated cutaneous squamous cell carcinoma tissue model with multi-channel confocal microscopy imaging biomarkers to quantify antitumor effects of chemotherapeutics in tissue. *Oncotarget*. 2020;11: 2587-2596.

Overview

Cutaneous squamous cell carcinoma is the second most common form of skin cancer. Current therapies are highly ineffective against its metastatic and locally advanced forms. Developing carcinoma models with increased complexity and physiological fidelity has a key role in discovering efficient treatments. 3D models using human-derived cell lines present this advantage.

In this study, a high-throughput, 3D-biofabricated model of the tumor was developed. The model was used to test the efficacy and toxicity of chemotherapeutics in tissues.



Results

- ✓ Models exhibiting similar histology and gene expression to in vivo carcinoma cells
- ✓ Miniaturized test platform compatible with incubation and nondestructive imaging



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