

Bioprinted Skin Equivalents for Drug Testing

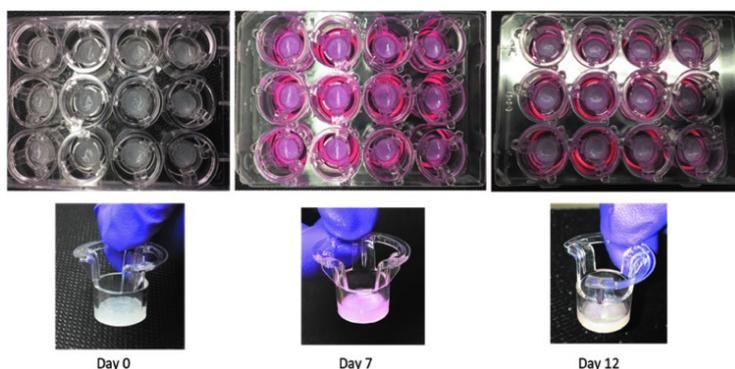


Derr K, Zou J, Luo K, Song MJ, Sittampalam SG, Zhou C, Michael S, Ferrer M, Derr P. Fully Three-Dimensional Bioprinted Skin Equivalent Constructs with Validated Morphology and Barrier Function. *Tissue Eng. Part C: Methods*. Jun 2019.334-343.

Overview

In vitro human skin models are mainly used in two contexts: (1) for toxicity testing of skin products, and (2) to replace animal testing as it is no longer allowed by international regulations. 3D bioprinting has the potential to increase the reproducibility, scalability, and complexity of the fabricated architectures while enabling high-throughput, robust testing of compounds.

In this study, full-thickness bioprinted skin equivalents were fabricated with the combination of three different printing technologies in a single process. The method was developed to mimic the composition of native tissue.



Results

- ✓ Bioprinted models presenting native tissue architecture, stratification, and barrier function
- ✓ Mature tissues in less than 14 days (thanks to bioprinting that minimizes lateral contraction)



REGENHU's bioprinting technology enables:

High-throughput

Process performed directly in 24-well plates

Fabrication time 2.5min per tissue

Technology convergence

Three different technologies (PSD, VSD, PDD) for optimized bioink processing

Interested to know more ?

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