



ONS BIO

<https://onsbio.com/bioprinting>

EpiTem

Reconstructed Human Skin Equivalent Model



Skin For Your Research



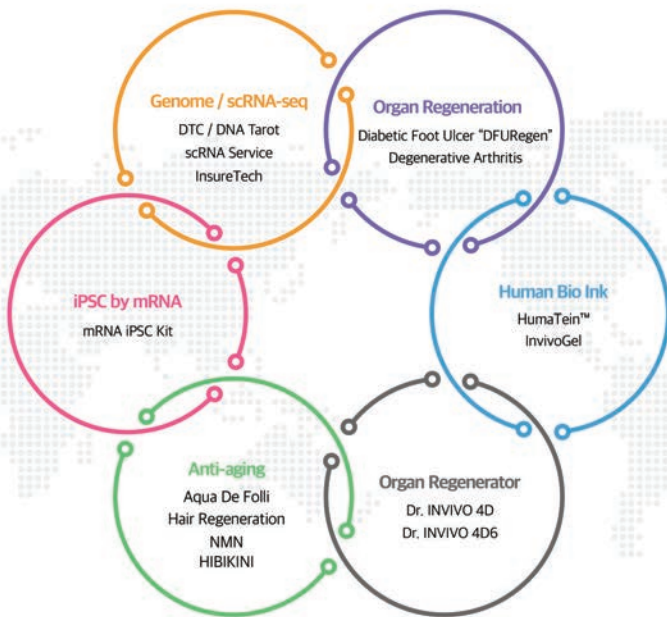
About ROKIT HEALTHCARE

ROKIT Healthcare is a global company committed to provide an effective autologous organ regeneration platform using its proprietary biofabrication technology across all types of applicable diseases in the field of regenerative medicine.

Through a convergence of know-how's and innovation in the areas of R&D (i.e. 4D bioprinting, autologous stem cell treatments, and human cell derived biomaterials), surgical medicine, and regulatory affairs, ROKIT Healthcare believes that supplying customized organ regeneration platform services will drastically change the way we trust and manage the health of our own body.

Best Regenerative Solution

ROKIT Healthcare brings a revolutionary transition in bioprinting industry 'from bench to clinic' and we ask all researchers and physicians around the world to contribute in the field of regeneration technology. Please share 4D bioprinting medical platforms to improve the quality of life and provide innovative healthcare. Unite with us in the creative and life-saving strife.



“Aging Is A Disease”

Renovate and Expand the life expectancy with ROKIT's organ regeneration & healthcare platforms. We, ROKIT Healthcare, endeavor to change the world by providing the safest and effective organ regeneration services with our specialized expertise in regenerative medicine. Now is the moment for a new paradigm shift in the global healthcare economy. Therefore, we made ourselves as a pioneer to introduce new therapeutic methods utilizing autologous cells, cell sheet technology, and 4D biofabrication technology.

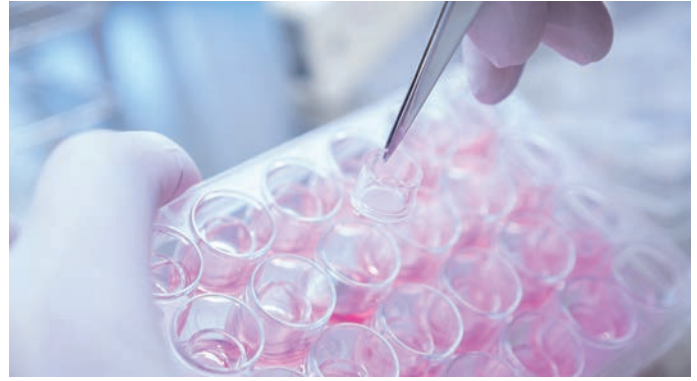
You, Seokhwan

Chairman/CEO

Y. Seokhwan

Reconstructed Human Skin Equivalent Model

Introducing ROKIT Healthcare’s all-in-one solution for the human skin on-demand. As a pioneer, we took the first step to provide on-demand services to the scientists and researchers, saving their precious time and reducing the experiment costs. Benefit from the validated human skin equivalent made with ROKIT Healthcare’s high precision technology of 4D biofabrication in the comfort of your bench.



Feature

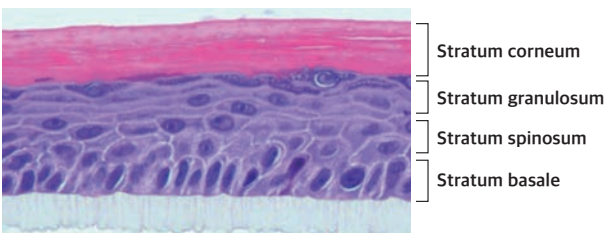


Fig 1. EpiTem had the multi-layered and highly differentiated epidermis.

Histological morphology is observed following H&E staining after 18 days of reconstruction and characterization of the localized proteins expression.

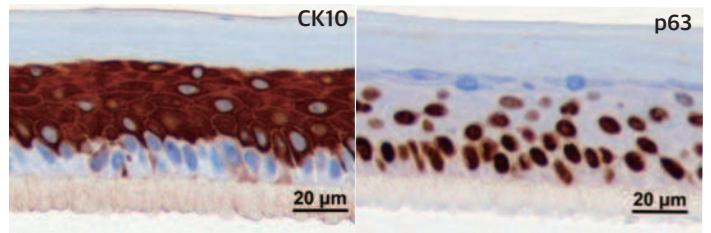


Fig 2. Immunohistochemistry results of (A) Cytokeratin10 and (B) p63.

IHC was performed by histological cross-sections of the EpiTem to characterize the localized expression of differentiation marker.

Barrier Function Test

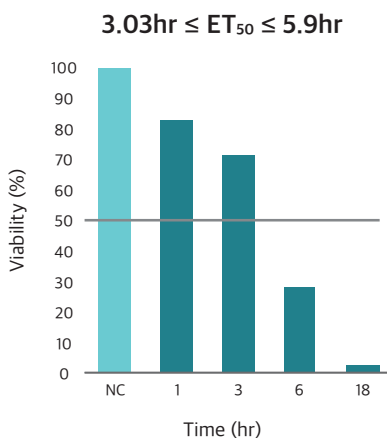


Fig 3. Barrier function result depends on time exposure.

ET₅₀ corresponds to the time to observe 50% cell mortality after treatment of 1% Triton X-100 on EpiTem.

*ET₅₀ - Exposure Time required to reduce cell viability by 50%

Irritation Test

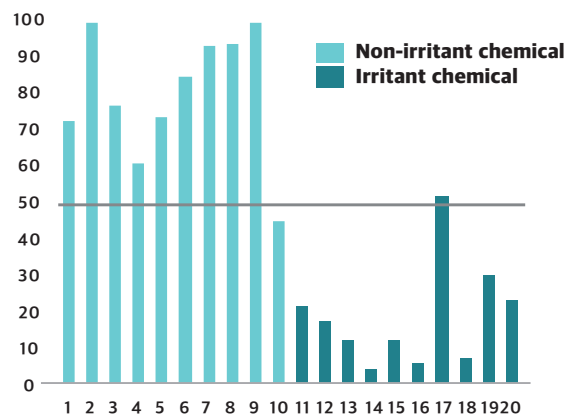
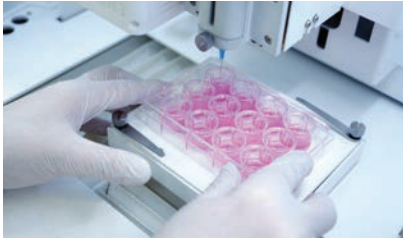


Fig 4. Irritation test results of 20 chemicals according to OECD TG439 guidelines.

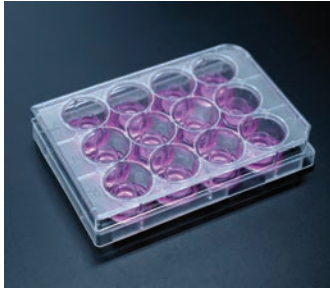
Non-irritation chemicals show over than 50% cell viability, but classified chemicals represent less than 50% viability.



3D Bioprinting Human Skin Equivalent System

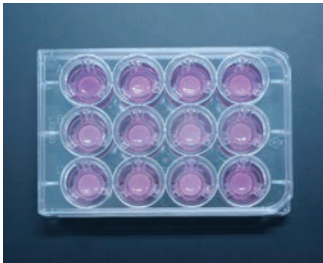
ROKIT's human skin equivalent model is a three-dimensional living cell epidermal & dermal system that printed by layering cells and biomaterials according to the native structure of skin.

1. EpiTem - Epidermis Human Skin Equivalent Model



EpiTem is reconstructed human epidermis model by culturing human keratinocytes on a chemically defined medium. EpiTem is highly differentiated, where all four epidermal layers can be clearly seen and qualifies the OECD TG439. As an alternative to animal testing, EpiTem can be used for testing cosmetic ingredients, pharmaceuticals and skin research testing.

2. EpiTemFT - Full-thickness Human Skin Equivalent Model



EpiTem FT is a full-thickness human skin equivalent (HSE) produced by the 3D bioprinting technology. It recapitulates multi-layered dermis and epidermis of the human skin using human epidermal keratinocytes (NHEK) and neonatal dermal fibroblasts (NHDF). The standard EpiTem FT is contained in 12 mm-diameter culture inserts, but the well size can be customized.

Rokit's human skin model offers a cost-effective, on-demand way to test drugs and cosmetics on human tissues. **Ready to Use!**

3. EpiTem Creator Kit



Dr. INVIVO 4D
or
Dr. INVIVO 4D6

Bioink

Medium

Cell

Protocol

EpiTem Kit provides a unique solution to build your own human skin equivalent in the controlled settings of your lab.

ON-DEMAND: Combine ROKIT Healthcare's bioprinter, bioinks, cells, media, and standardized protocol to create human skin tissues whenever you need them.

CUSTOMIZED: With the ability to control cell types (donor ethnicity, genetically modified cells, cancer, etc.) and tissue sizes, custom-made skin tissue assays that meet exact your research needs and budget.

REPEATABLE: Create quality tissue samples with reproducibility of the 3D bioprinting technology.

Diverse Biofabrication Platforms

3D Bioprinting is considered as an inevitable driving force in the 4th industrial revolution and it's greatly influencing the traditional medical field to shift into a new paradigm. ROKIT Healthcare has developed innovative therapeutic 4D Biofabricating platforms to improve the quality of life of individuals who suffer from a serious disease.

HumaTein™

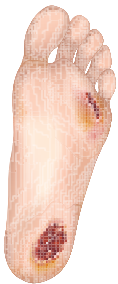


HumaTein™ is a primary human cell-derived whole extracellular matrix(ECM). It is an ideal coating material, comprised of more than 300 proteins and associated cytokines. Its application includes chronic wound healing/skin regeneration, cell culture (spheroids, ipsc cultures, organoid, and other cells).



DFURegen

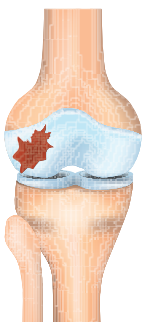
Diabetic Foot Ulcer(DFU) Regeneration Platform



ROKIT Healthcare has developed an innovative treatment for diabetic foot ulcer patients using our MA-ECM(Minimally manipulated Autologous ECM) with Dr.INVIVO. The efficacy has been proved from our clinical study, resulting in 100% epithelization within 4-6 weeks by a single treatment of 4D bio-printed MA-ECM.



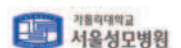
Cartilage Regeneration Platform



ROKIT Healthcare has combined 3D bioprinting technology with tissue engineering science to provide a total regenerative therapeutic solution that can be customized to treat every cases of osteoarthritis. We have significantly reduced operation time and eliminated any potential risk of immune rejection.



ROKIT REFERENCES





PRE-ORDER NOW

For more Information, price quotation and ordering

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