

# BIOFACTORY® FOR TISSUE ENGINEERING

## CREATE COMPLEX TISSUE STRUCTURES WITH IN VIVO-LIKE MORPHOLOGY



The BioFactory® is a versatile and cell friendly three-dimensional manufacturing instrument that allows researchers to pattern cells, bio-molecules and a range of soft and rigid materials in desirable 3D composite structures in order to mimic natural environments.



### A POWERFUL TISSUE ENGINEERING INSTRUMENT TO MIMIC NATURE

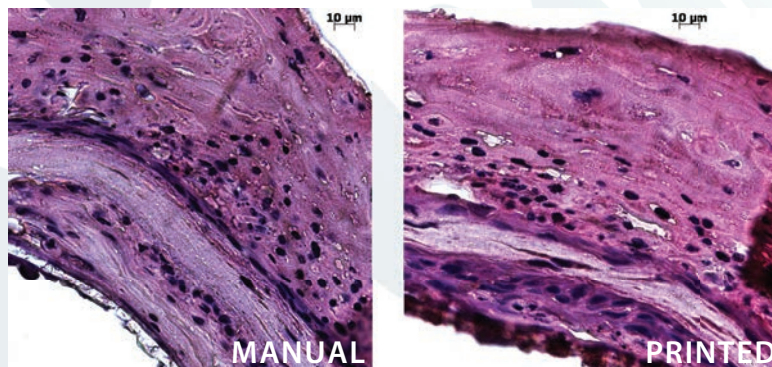
It has been well documented that cell culture in tissue culture plates and flasks don't mimic the in vivo cell growth and has poor correlation with in vivo animal as well human clinical data. The BioFactory® instrument provides a powerful tool for tissue engineering to create organotypic tissues with in vivo like morphology that better mirrors the environment experienced by cells in vivo, better reflecting cell behavior, intercellular interactions and differentiation processes.

**BioFactory®**

### 3D MODELS TO STUDY AND IDENTIFY BIOLOGICAL PROCESSES

- Cell-cell communication
- Differentiation
- Drug metabolism
- Expression (gene, protein)
- Response to stimuli
- Environment
- Extracellular matrix contacts
- In vivo relevance
- Response to stimuli
- Morphology
- Proliferation
- Viability

### EPIDERMAL SKIN MODEL MANUFACTURED WITH BIOFACTORY®



Histological slices of skin models prepared by manual procedure versus BioFactory®, stained by hematoxylin/eosin, after 7 days of epidermis maturation.

### KEY ADVANTAGES

- Printing under physiological conditions
- Laser units for photo polymerization/ biomolecule immobilization
- Modularity: Selection of multiple dispensing technologies
- Biomanufacturing within a sterile laminar flow hood
- Micrometer-scale process repeatability
- Fast and easy tissue modelization via BioCAD software
- Important customization options

