

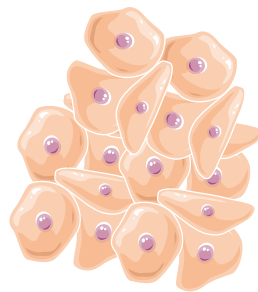
# Long-Term Mechanical Stability of Cellularized Gelatin-based Hydrogel

**Henri-Philippe KONAN, PhD**  
*Product Specialist – Cell Biology*

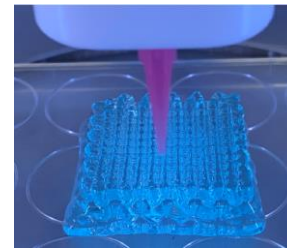


# Long-Term Mechanical Stability of Cellularized Gelatin-based Hydrogel

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Cells



Scaffold (Hydrogel)

**How do you analyze the Mechanical Stability of your cell-laden hydrogel ?**



# 3D matrix mechanical stability during HaCaT cell culture

HOW TO?

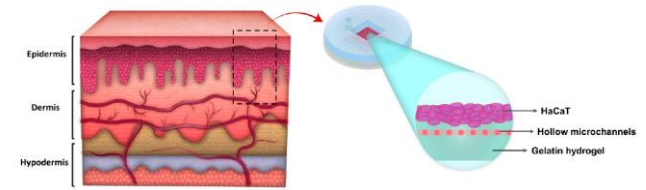
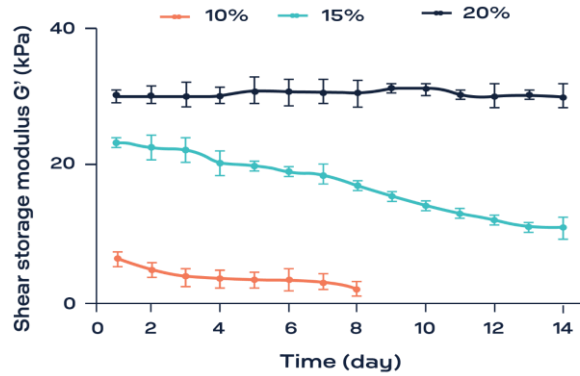
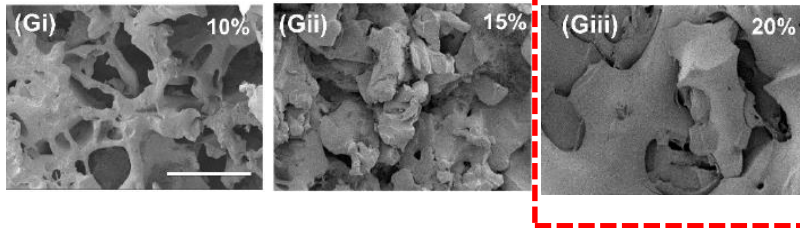
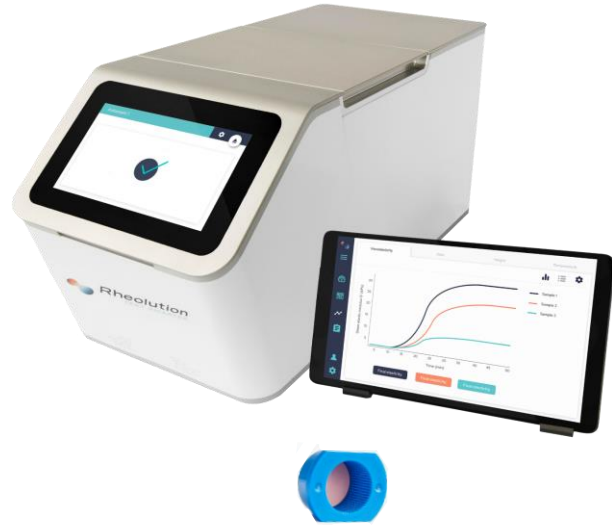


Figure 1. Simplified skin model including the epidermal layer as the first and main barrier of skin.



## 20% gelatin hydrogel:

- Strongly supported cell attachment and proliferation
- Showed less degradation compared to the lower concentrations.



# ElastoSens™ Bio

Soft matter Analytics made easy

**Non-destructive, Sterile, and Real-Time** viscoelasticity assays of Biomaterials

Peltier temperature advanced control



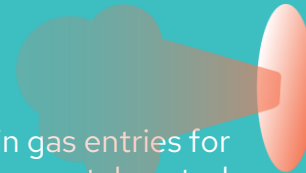
4 °C - 70 °C

3 Built-in photostimulation Sources



365nm, 385nm, 405nm + other

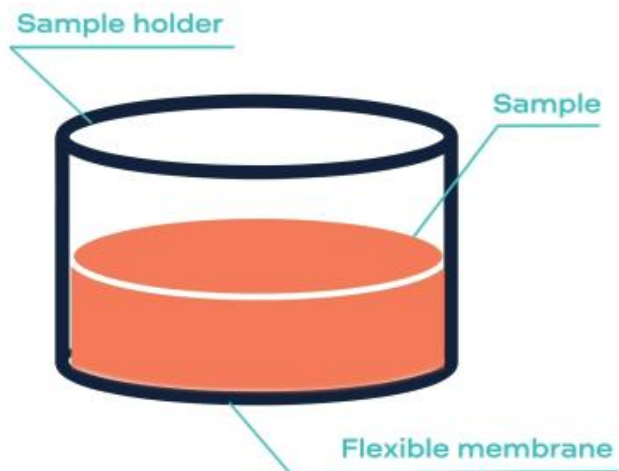
Built-in gas entries for environmental control



Bio mode allows for cell testing

37°C

## 1) Sample Loading



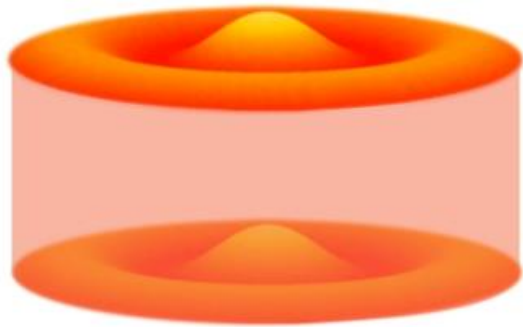
## ElastoSens Bio Technology

- 1 Sample contained in a detachable sample holders
- 2 Contact free vibrations are applied to sample
- 3 Sample resonance is processed to get the shear storage modulus ( $G'$ ) and shear loss modulus ( $G''$ )

2

## Vibration

Height sensor



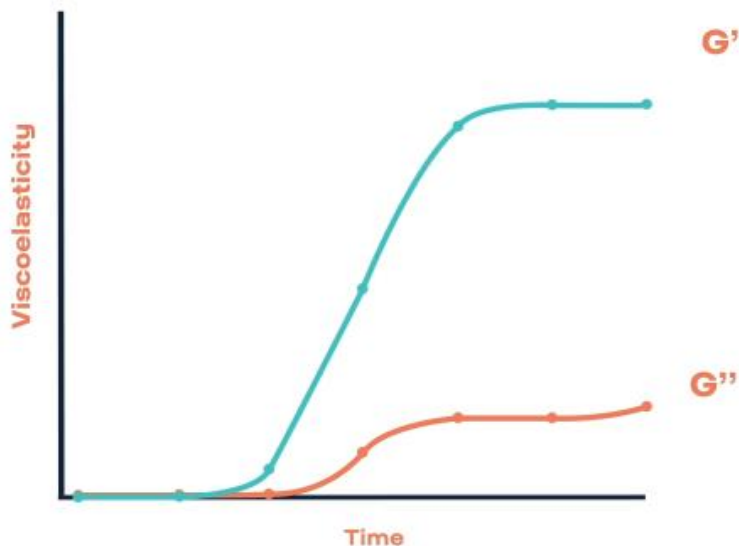
Laser displacement sensor

## ElastoSens Bio Technology

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3

## Data processing & display

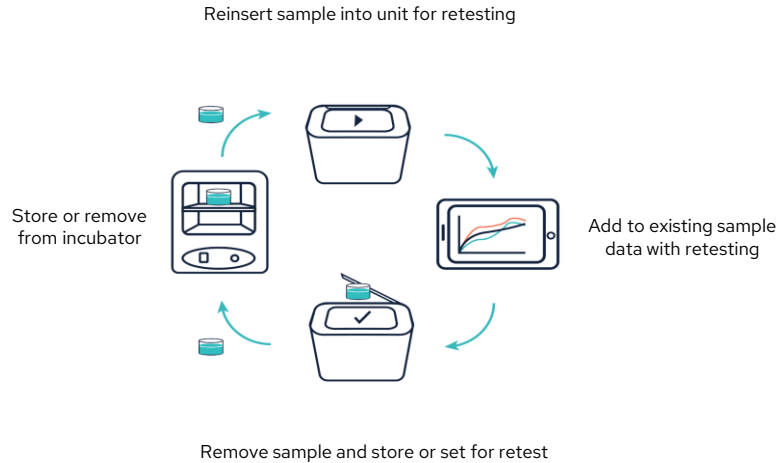


## ElastoSens Bio

### Technology

- 1 Sample contained in a detachable sample holders
- 2 Contact free vibrations are applied to sample
- 3 Sample resonance is processed to get the shear storage modulus ( $G'$ ) and shear loss modulus ( $G''$ )

## Enables Retesting of your sample



## ElastoSens Bio Technology

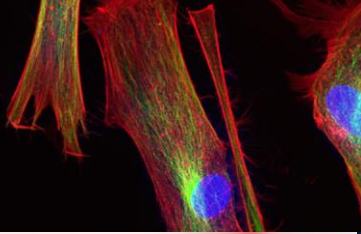
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Hydrogels



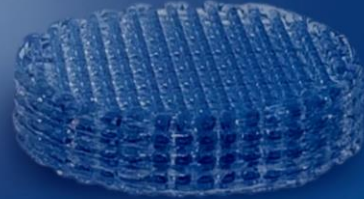
Tissue Engineering



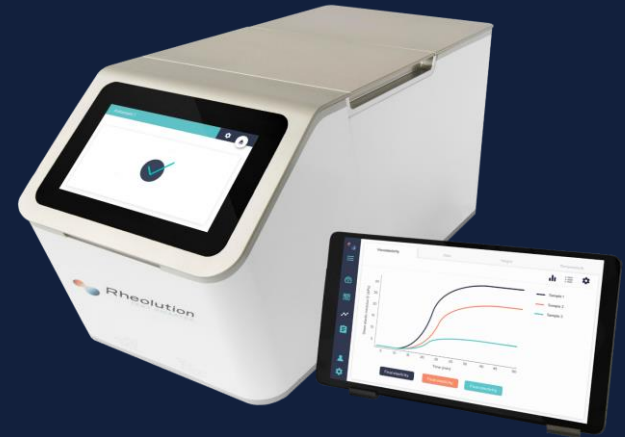
Hemostatic Agents



3D Bioprinting



Drug Delivery



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