



## Porcine Collagen Application Note - 3D bioink

Ver 1.1

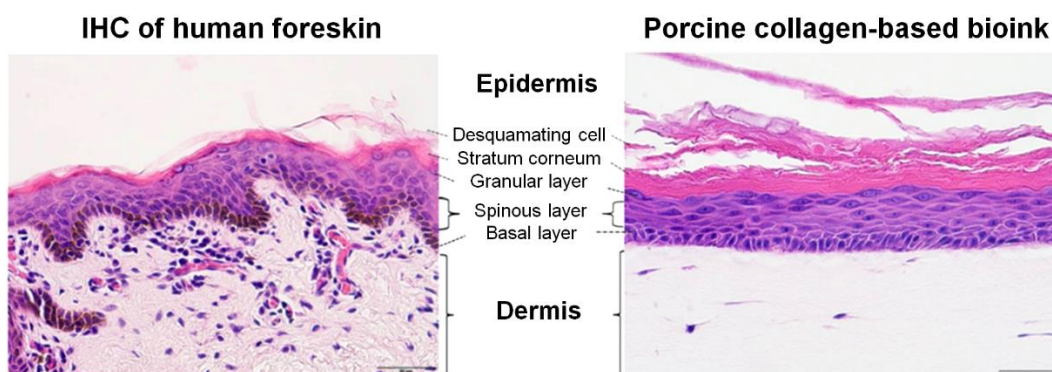
3D bioprinting is a revolutionary technology with a wide range of applications in regenerative medicine and tissue engineering. This cutting-edge approach combines biocompatible biomaterials with living cells, collectively referred to as "bioink," and utilizes a layer by layer method to create intricate tissue-like structures. Bioink matrices can consist of both synthetic polymers and native proteins, with collagen emerging as a particularly popular choice due to its biocompatibility and low immunogenicity properties.

Expercy Medical Ltd. specializes in providing high-quality type 1 collagen sourced from porcine tendons, prized for its exceptional tensile strength. This collagen can undergo a transformation into a gel like substance, taking shape at physiological temperatures.



Gel-type > 35°C

Image below showcases an in vitro reconstructed skin model created using our porcine collagen as the foundational matrix for the bioink. This compelling example underscores the tremendous potential of collagen-based bioinks in advancing the field of 3D bioprinting.





### Feature

- More human-like collagen source
- High tensile strength with quick polymerization properties
- Various formulation available for wide applications
- Adjustable to neutral pH level

### Specification

<b>Endotoxin LAL</b>	<0.5 EU/ml or <1.0 EU/ml
<b>Purity</b>	≥ 95% Collagen contained with $\alpha$ , $\beta$ and $\gamma$ , < 5% Collagen contained within bands traveling faster than $\alpha$ (SDS PAGE electrophoresis, instant blue staining)
<b>pH</b>	2.0 – 4.0
<b>Osmolality</b>	≤ 35 mOsmo H <sub>2</sub> O/Kg
<b>Sterility (USP modified)</b>	Sterile filtered
<b>Cell Attachment</b>	Pass

We also cooperate with our customer to co-develop formulations, components, and finished products. If you would like to know more about our services or have any other questions, please contact us.