

# Collagen Methacrylate – PhotoCol® - Lifeink® 100

As the most abundant protein in the body, collagen is a key component for cell culture. Collagen methacrylate can be used as a rapidly self-assembling type I collagen to form cross-linked hydrogels for tissue engineering<sup>[1]</sup>. It has been used with mesenchymal stem cells<sup>[2]</sup>, fibroblasts, adipose derived stem cells, epithelial cells, and many more. Collagen methacrylate is useful for forming scaffolds with varying degree of stiffness, by altering collagen concentration or the dose of UV-light exposure<sup>[2]</sup>. It is also being extensively characterized for its usefulness in 3D bioprinting (extrusion, inkjet, and photolithographic<sup>[3]</sup>).

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2. Kathryn E. Drzewiecki et al, A thermoreversible, photocrosslinkable collagen bio-ink for free-form fabrication of scaffolds for regenerative medicine, *TECHNOLOGY* (2017).
3. Drzewiecki, K. E. et al. Methacrylation Induces Rapid, Temperature-Dependent, Reversible Self-Assembly of Type-I Collagen. *Langmuir* 30, 11204–11211 (2014).
4. Gaudet, I. D. & Shreiber, D. I. Characterization of Methacrylated Type-I Collagen as a Dynamic, Photoactive Hydrogel. *Biointerphases* 7, 25 (2012).