

FIBERCOLL-FLEX® BIOINKS

Discover the ultimate freedom in bioprinting

As the only fibrillary collagen bioinks in the market, our Fibercoll-Flex® products consist of pure type I collagen fibers with high mechanical strength that enable easy printing without a methacrylation curing step.

The stable 3D models are highly biocompatible and represent in vivo like scaffolds for cell adherence & remodeling in tissue engineering or regenerative medicine.

Viscofan
BIOENGINEERING
Your partner for medical collagen

Fibercoll-Flex-N®

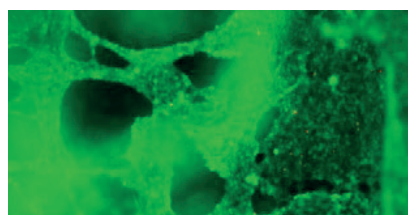
Easy 3D model printing with encapsulated cells at physiological conditions

Made of acidic collagen fibers, the Fibercoll-Flex-N® is neutralized before printing, enabling the generation of bioprints with encapsulated cells at physiological conditions. The self-supporting models with high shape fidelity and proven biocompatibility can be immediately handled and cultured after printing. The native fibrillary collagen type I represents an excellent in vivo like scaffold that promotes cell performance.

Parameter	Specification
Base component	Acidic collagen type I fibers from bovine dermis (triple helix native structure, average fiber length 200-800 µm with diameter ~20 µm)
Printing temperature	20 – 37°C
Appearance	Transparent fibrous hydrogel
Sterility	Aseptic processing
Tunable stiffness	Final collagen concentration adjustable to obtain different stiffness & viscosity between 0.2 – 0.9 kPa
Quality & Use	Produced under ISO 9001 quality management system, for research use only (RUO)



Printing at physiological conditions and submersion of the bioprint model in culture medium promotes cell survival and enables immediate handling of the scaffold.



Intact L929 mouse fibroblasts growing in Fibercoll-Flex-N® bioprints (2% collagen) labeled on day 5 by calcein staining in a live/dead assay.

KEY BENEFITS

High biocompatibility

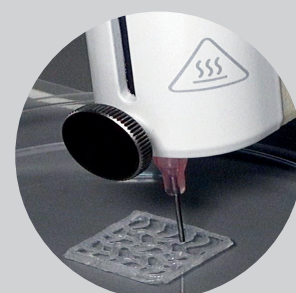
- ✓ Print at physiological conditions (pH & temperature)
- ✓ Enhanced cell survival, adhesion and proliferation

Excellent biomechanics

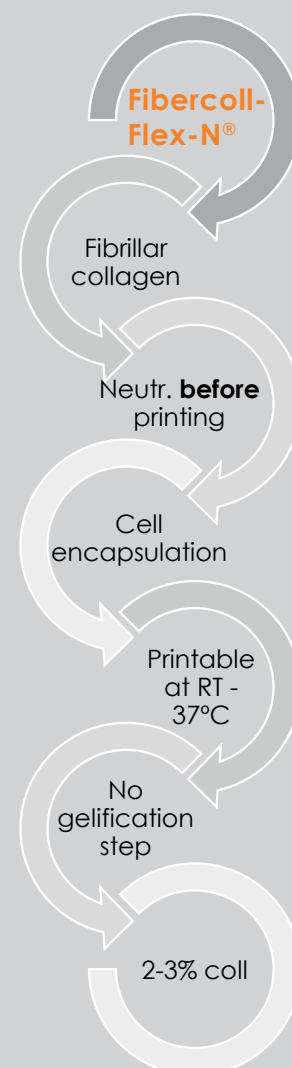
- ✓ Self-supporting 3D structure
- ✓ Excellent shear thinning behavior, high print resolution
- ✓ Easy stiffness regulation in flexible range

Broad range of applications

- ✓ Any 3D bioprint with encapsulated cells, e.g. tissue, tumor or screening models.



Fibercoll-Flex-N® enables bioprints at physiological conditions



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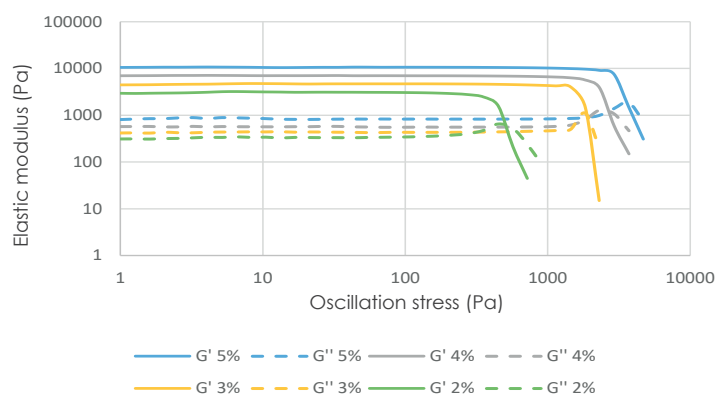
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Fibercoll-Flex-A®

Robust 3D collagen scaffolds with optimal mechanical properties

The acidic Fibercoll-Flex-A® bioink enables the printing of solid forms with exceptional shape fidelity at a higher stiffness range than the Fibercoll-Flex-N®. 3D models are neutralized after printing and cells seeded on top of the scaffold. The native fibrillary collagen type I represents an excellent in vivo like scaffold that promotes cell performance.

Parameter	Specification
Base component	Acidic collagen type I fibers from bovine dermis (triple helix native structure, average fiber length 200-800 µm with diameter ~20 µm)
Printing temperature	20 – 37°C
Appearance	Transparent fibrous hydrogel
Sterility	Aseptic processing
Tunable stiffness	Final collagen concentration adjustable to obtain different stiffness & viscosity between 2 – 10 kPa
Quality & Use	Produced under ISO 9001 quality management system, RUO



The Fibercoll-Flex-A® features excellent rheological properties for flexible use. The graph shows the data of an oscillatory strain amplitude sweep measurement, demonstrating the high and modulable elastic modulus of four different collagen concentrations.

KEY BENEFITS

Excellent biomechanics

- ✓ Robust 3D structure
- ✓ Excellent shear thinning behavior, high print resolution & shape fidelity
- ✓ Easy stiffness regulation in flexible range

High biocompatibility

- ✓ Enhanced cell survival, adhesion and proliferation

Broad range of applications

- ✓ Any 3D model as cell scaffold



EASY ORDERING

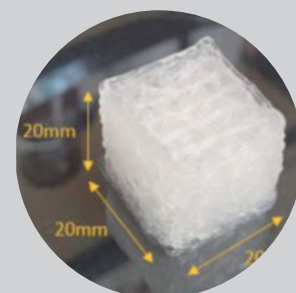
VWR-US Cat. No.	Description
76628-718	500069016 FIBERCOLL-FLEX-N® NEUTRAL BIOINK KIT – 3 ML
76628-720	500069011 FIBERCOLL-FLEX-A® ACIDIC BIOINK KIT – 3 ML

The Fibercoll-Flex® bioinks are delivered as 3 mL units in individually packed syringes.

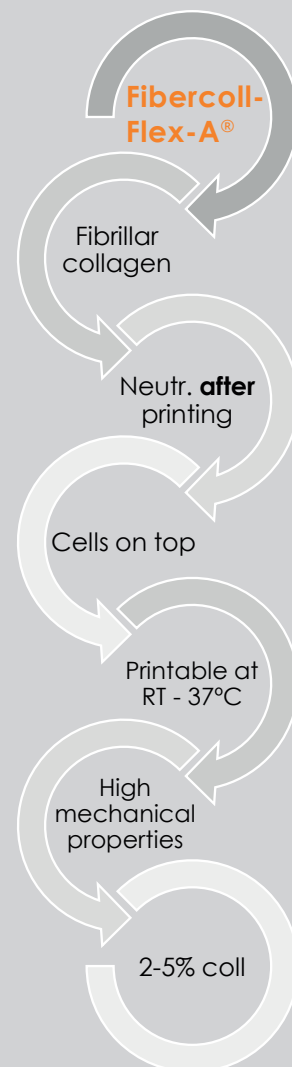
Fibercoll-Flex-N®



Fibercoll-Flex-A®



Print robust 3D collagen scaffolds with Fibercoll-Flex-A®



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