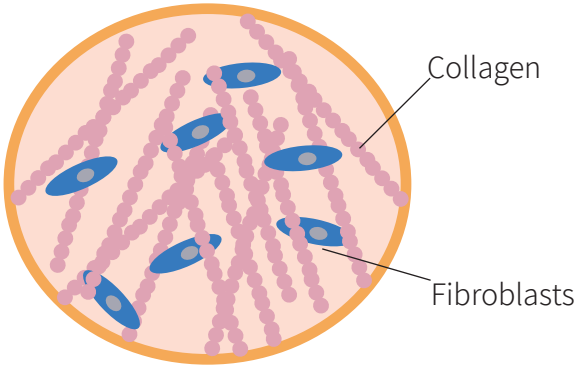
ologen™

About ologen™ Collagen Matrix

ologen™ Collagen Matrix (ologen™ CM) is an advanced wound care device composed of a porous matrix of cross-linked atelocollagen (90%) and glycosaminoglycan (GAG) (10%).

ologen™ CM is specifically designed to promote scar-free wound healing by guiding random fibroblast ingrowth in a wide range of ophthalmic surgeries.

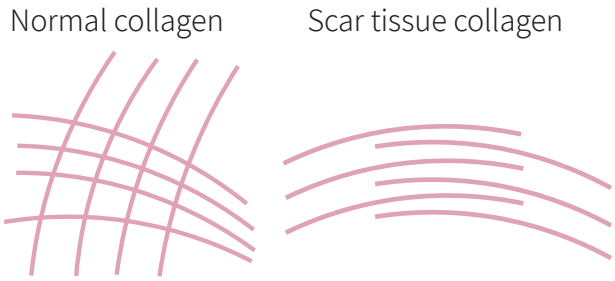
Collagen fibers are produced by fibroblasts



Simplified representation of dermal fibroblasts environment

In the dermis, the fibroblasts are randomly distributed and produce collagen fibers in a random way.

Collagen fibers are integral part of scar tissue

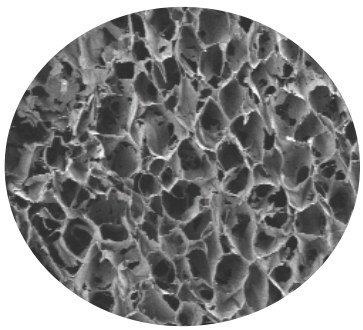


Basketweave pattern

Parallel collagen fibers

Scar tissue develops when the fibroblasts, in absence of a scaffold, deposit their collagen fibers parallel.

ologen™ CM is a biodegradable 3D scaffold



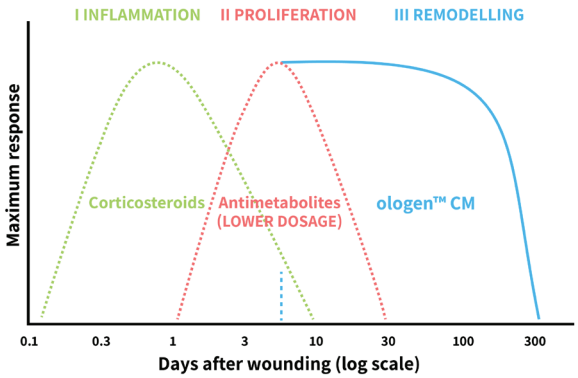
Scanning Electron Microscopy image of the cross-section of ologen™ CM (200x). Pore diameter 10-300 um.

Mainly composed by collagen, ologen™ CM provides a collagen rich environment. Similarly to what occurs in the natural tissue, this environment is favorable to fibroblasts ingrowth.

ologen™ CM is biodegraded in 3 to 6 months.

Mechanism of action in glaucoma surgery in combination with low dose anti-metabolites

Wound healing process modulation



Adapted from S. Enoch, P. Price. World Wide Wounds, 2004

By using ologen™ CM in combination with low dose anti-metabolites, the proliferation and remodelling phases of the wound healing process are modulated:

II. Proliferation phase

Fibroblast proliferation is controlled by the use of anti-metabolites in a low dose.

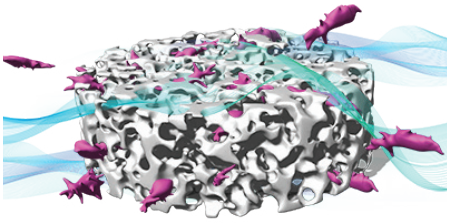
III. Remodelling Phase

ologen™ CM guides fibroblast ingrowth and collagen deposition in a random way thus avoiding scar formation.

The combined use of low dose anti-metabolites and ologen™ CM reduces the formation of scarring tissue by controlling fibroblast proliferation and creating a random and relatively loose re-organization of the myofibroblasts and collagen extracellular matrix.

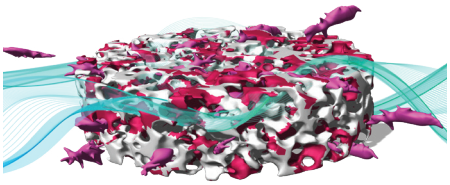
Modulation of scar formation process

1.



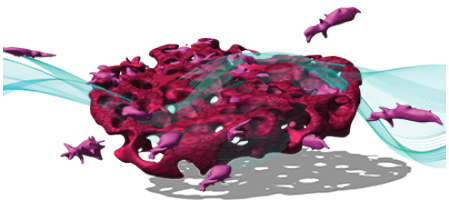
Myofibroblasts that are involved in the remodelling phase of wound healing migrate inside the ologen™ CM scaffold, and settle and adhere.

2.



While a new collagen matrix is being produced by the myofibroblasts, the ologen™ CM starts to degrade.

3.



ologen™ CM degradation process continues and the scaffold is replaced by myofibroblast-produced matrix.

Product shape	Model number	Size
	830601	6.0 mm (D) x 2.0 mm (H)
	862051	12.0 mm (D) x 1.0 mm (H)
	870051	10.0 mm (W) x 10.0 mm (L) x 2.0 mm (H)

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