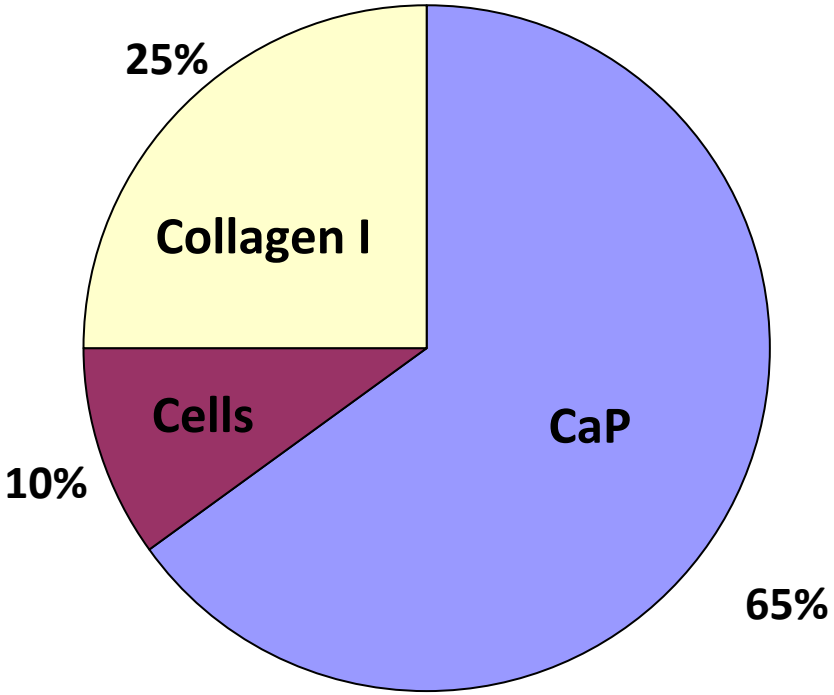
Experimentelle Plastische Chirurgie
Klinik für Plastische Chirurgie und Handchirurgie

Technische Universität München

Cell-Matrix Interaction

A.F. Schilling

Tissue is mainly extracellular matrix (ECM)

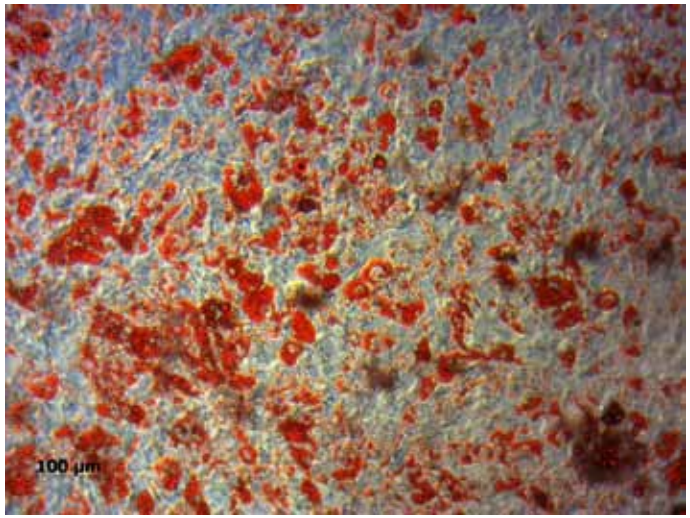


Bone

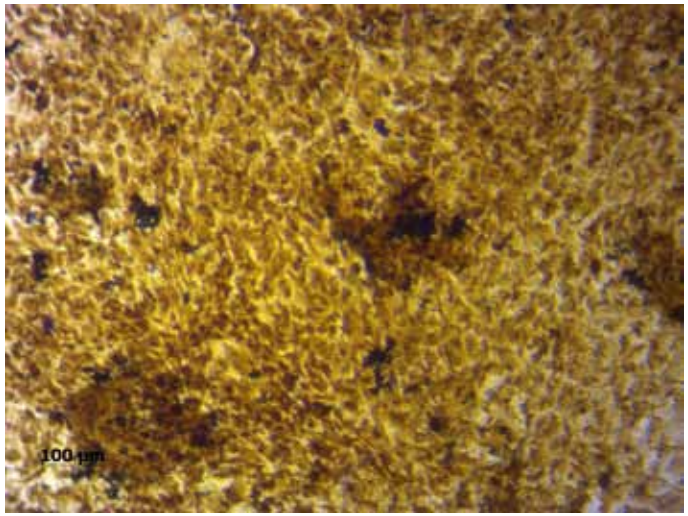
Cells build ECM

Undifferentiated (phase contrast)

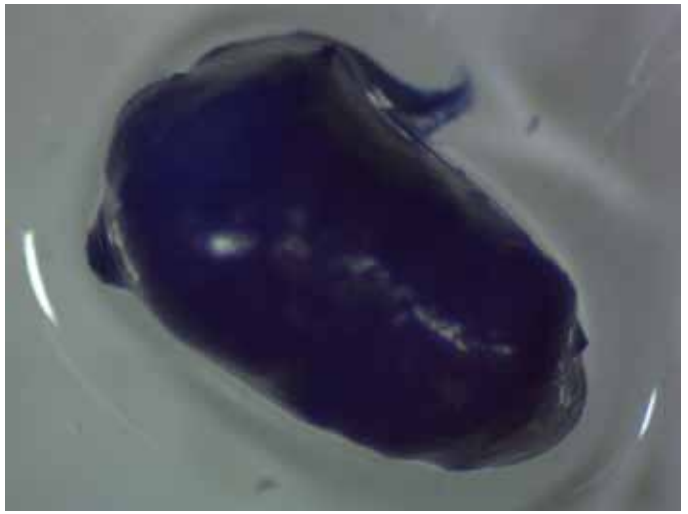
Fat (Oil red-staining)



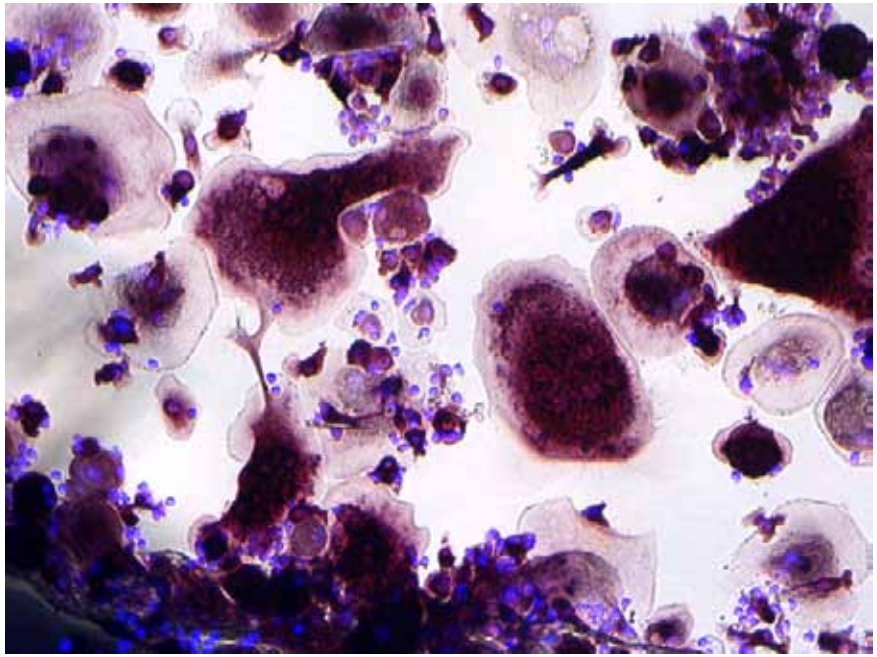
Bone (von Kossa-staining)

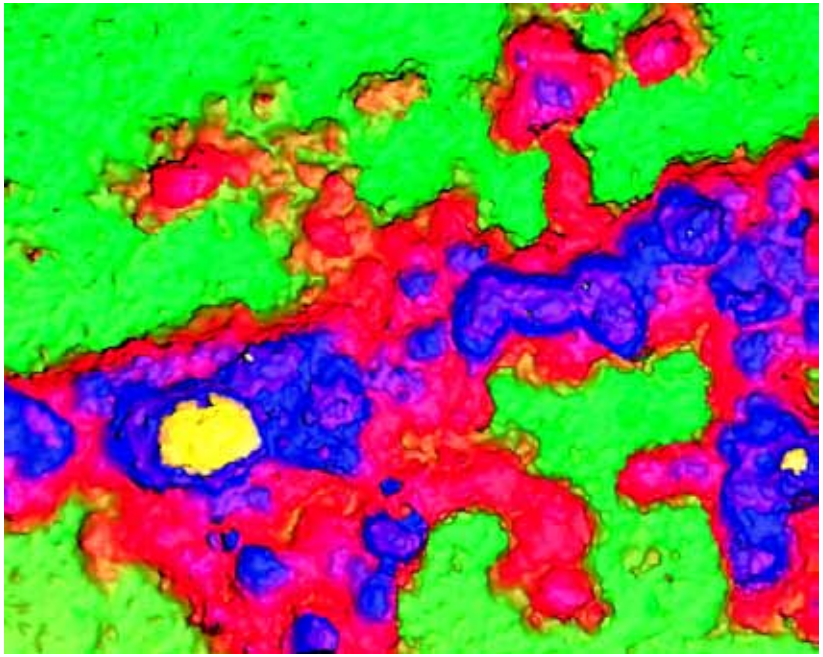


Cartilage (Alcian blue-staining)

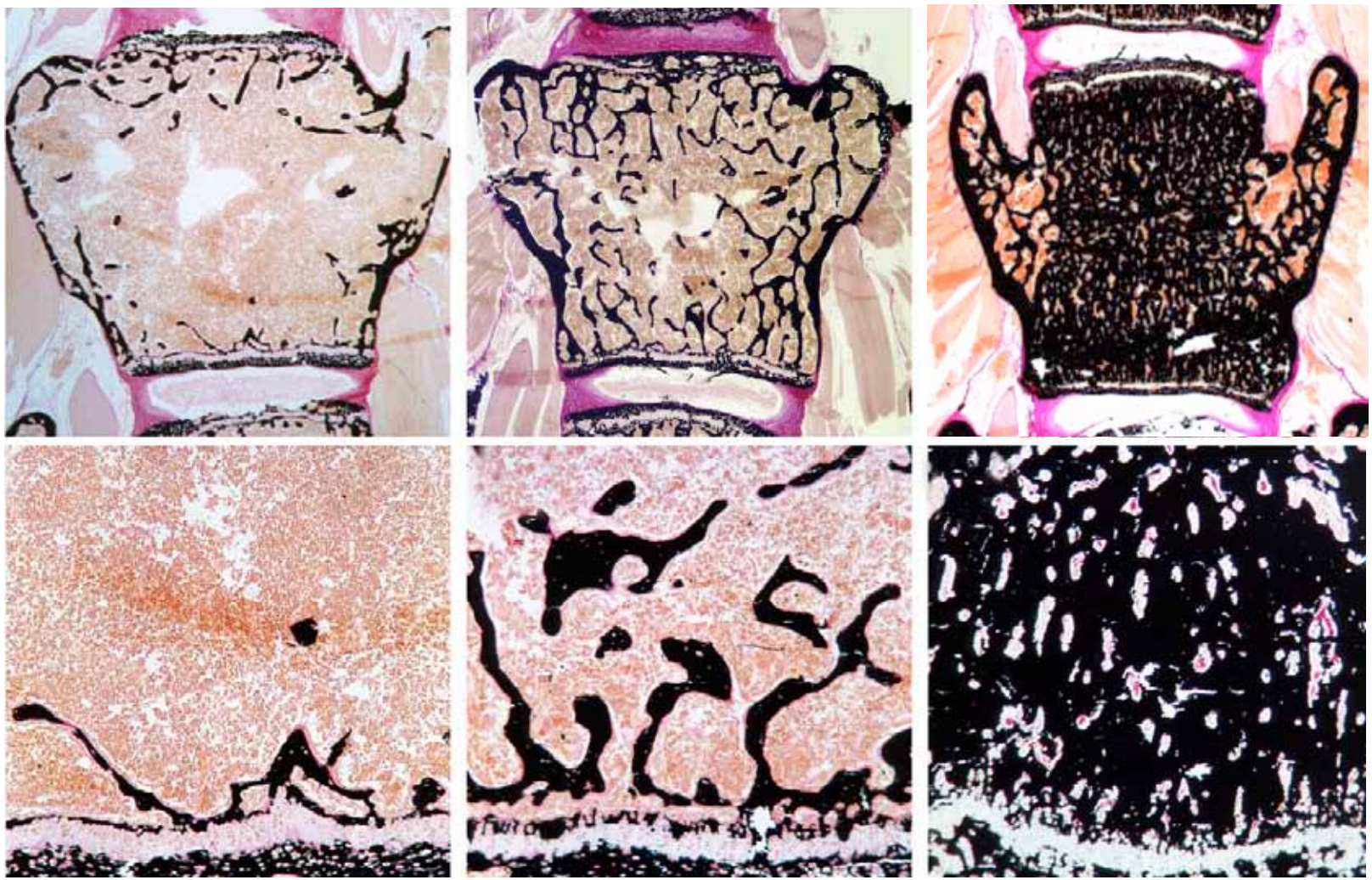


Cells destroy the ECM





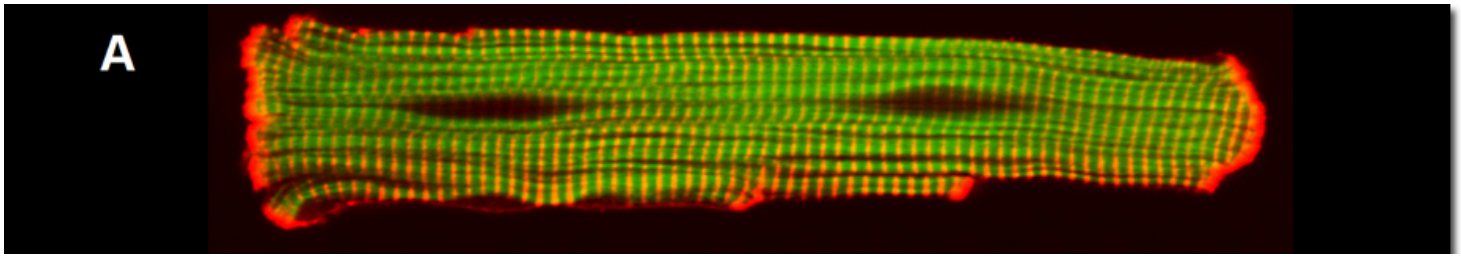
Finding the right balance

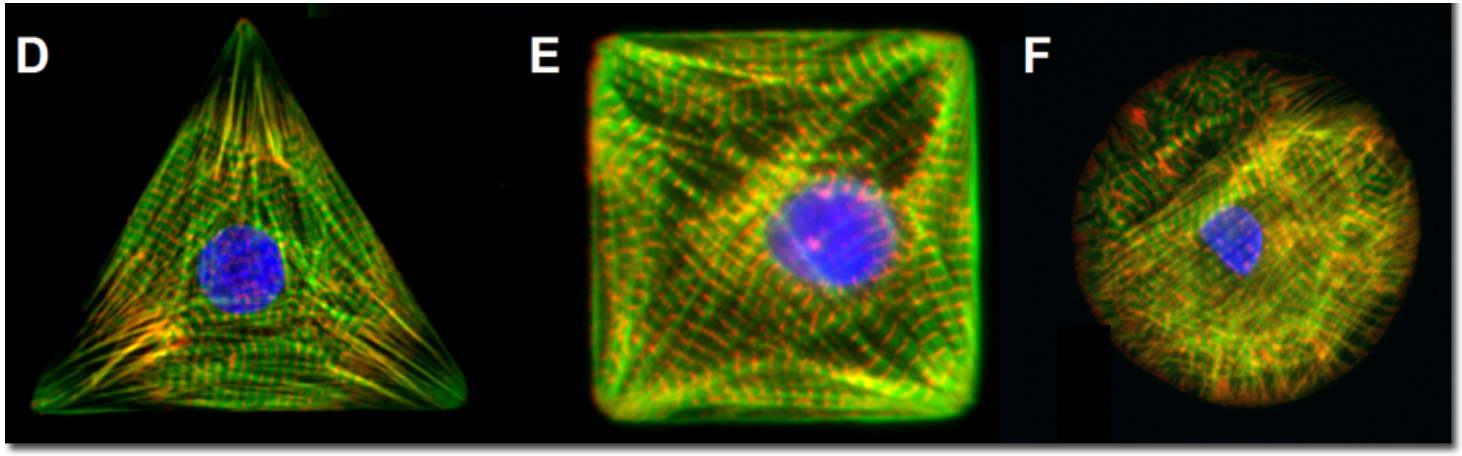


Resorption **Normal** **Formation**

Schilling et al. 2001

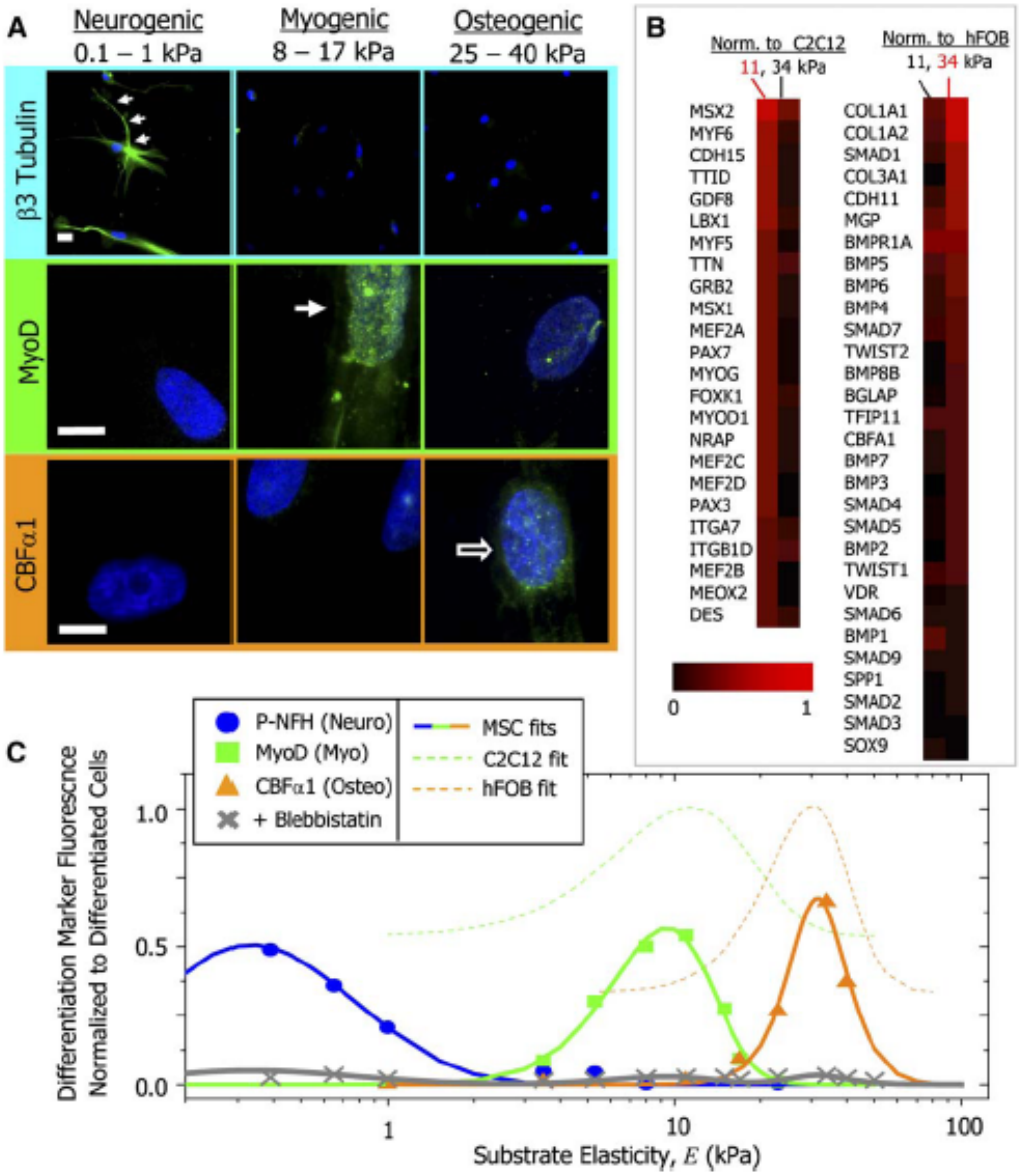
Context matters





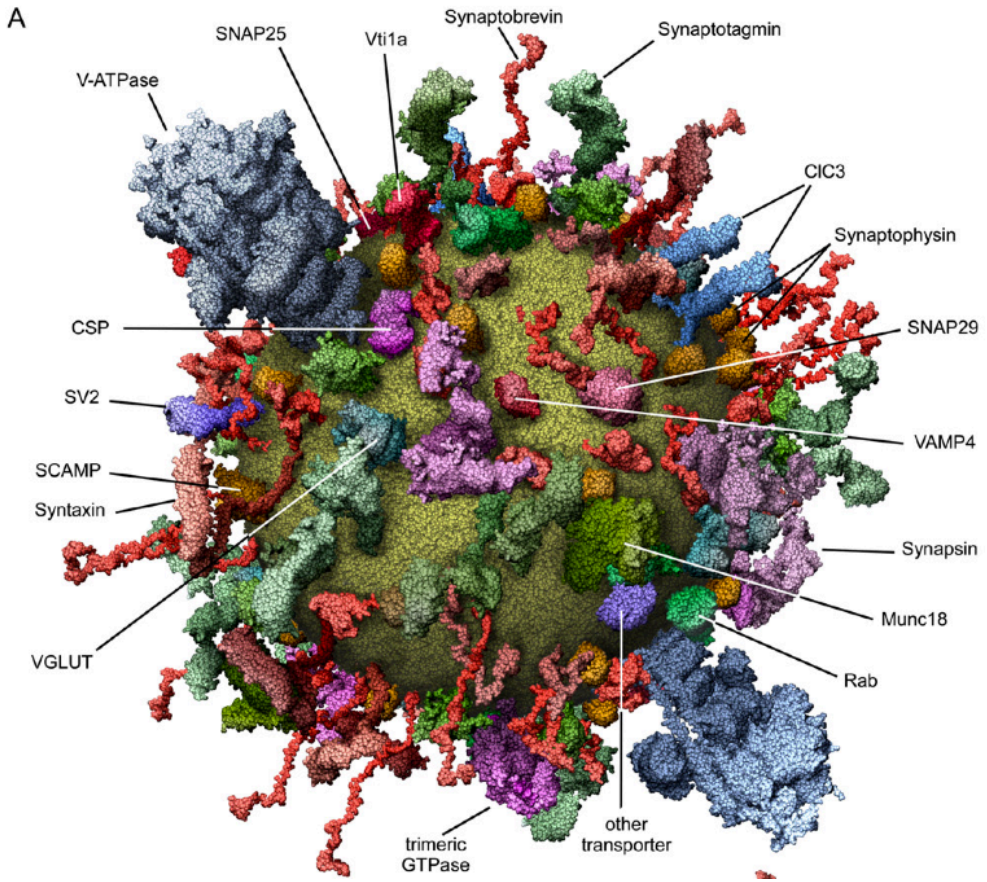
Parker Faseb 2002

Context matters



Engler et al 2006, Cell

Cells interact with the environment

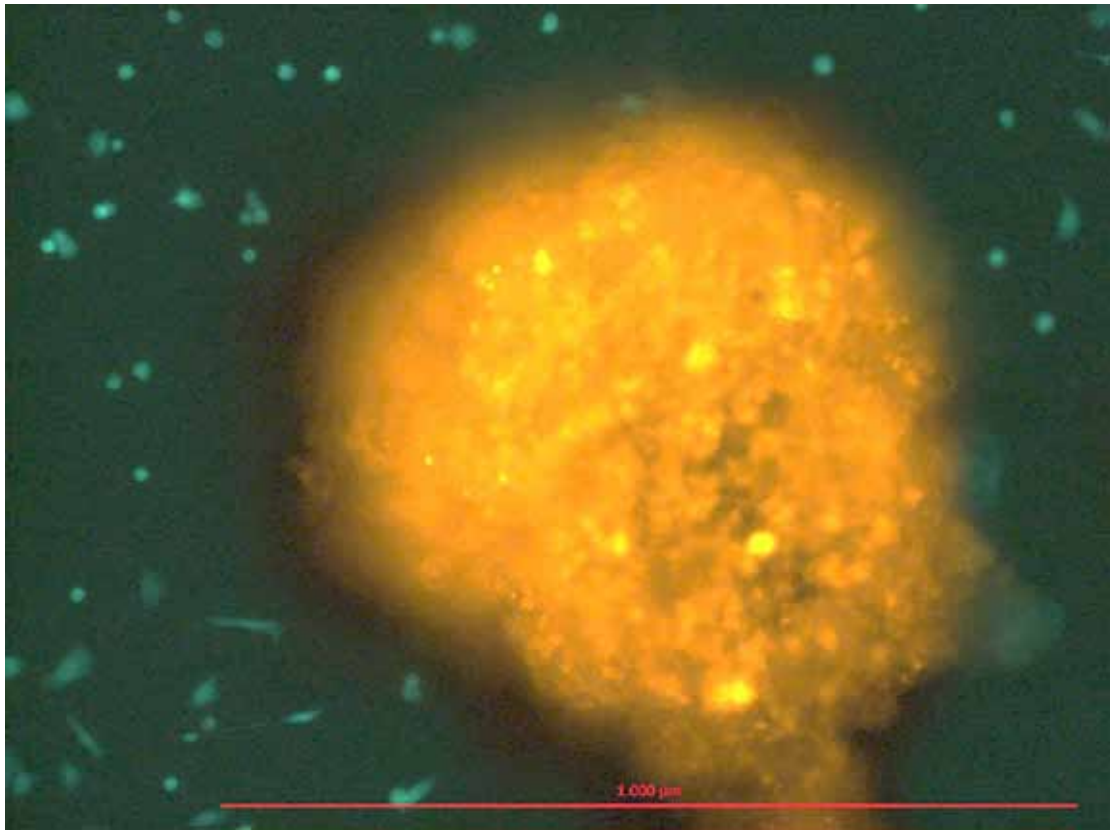


Takamori et al. Cell 2006

Cancer

IndianJCancer.com

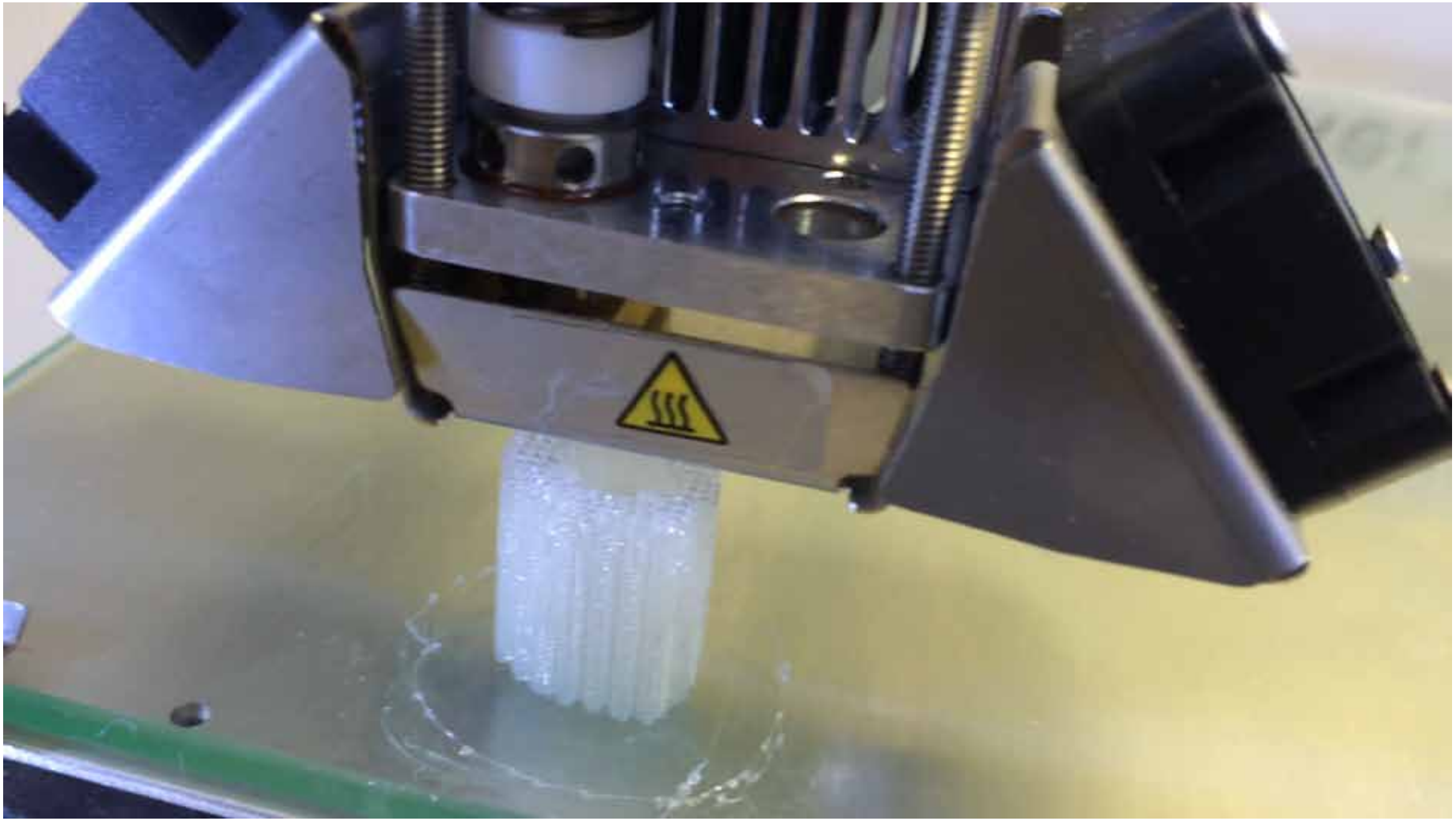
Cancer and environment



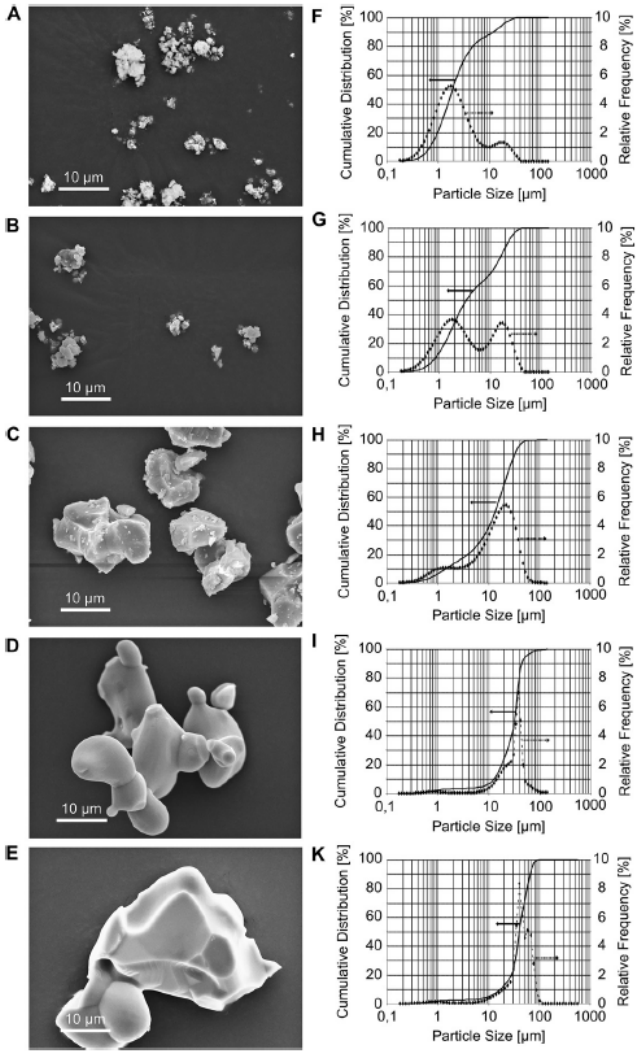
3D-Tumor-Spheroid

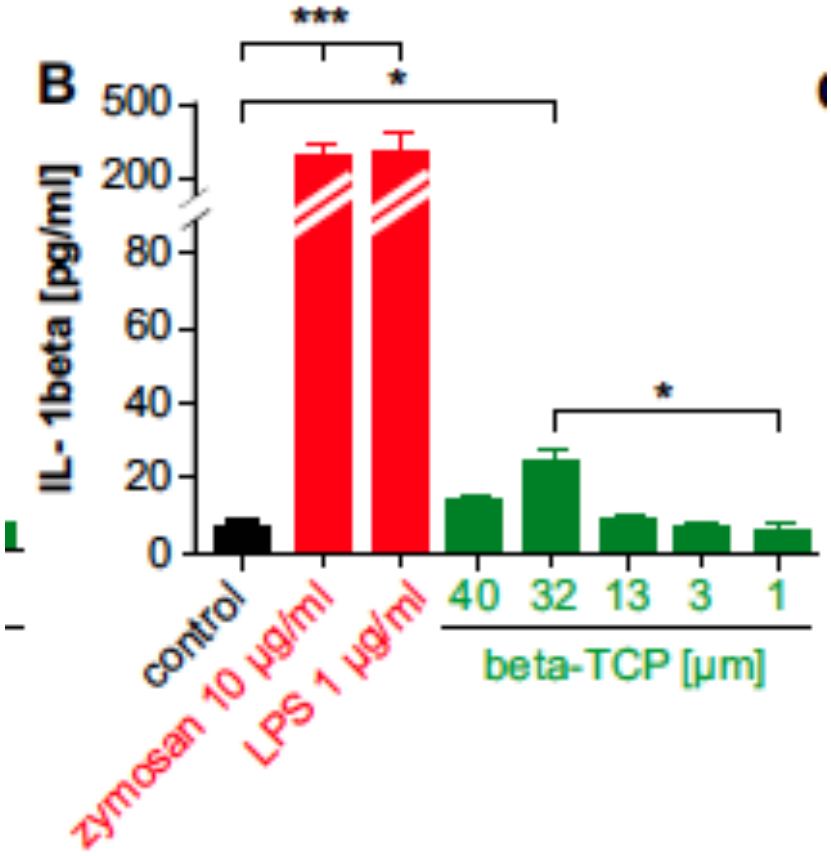
Biomaterials

3D Printing



Size matters





Future challanges

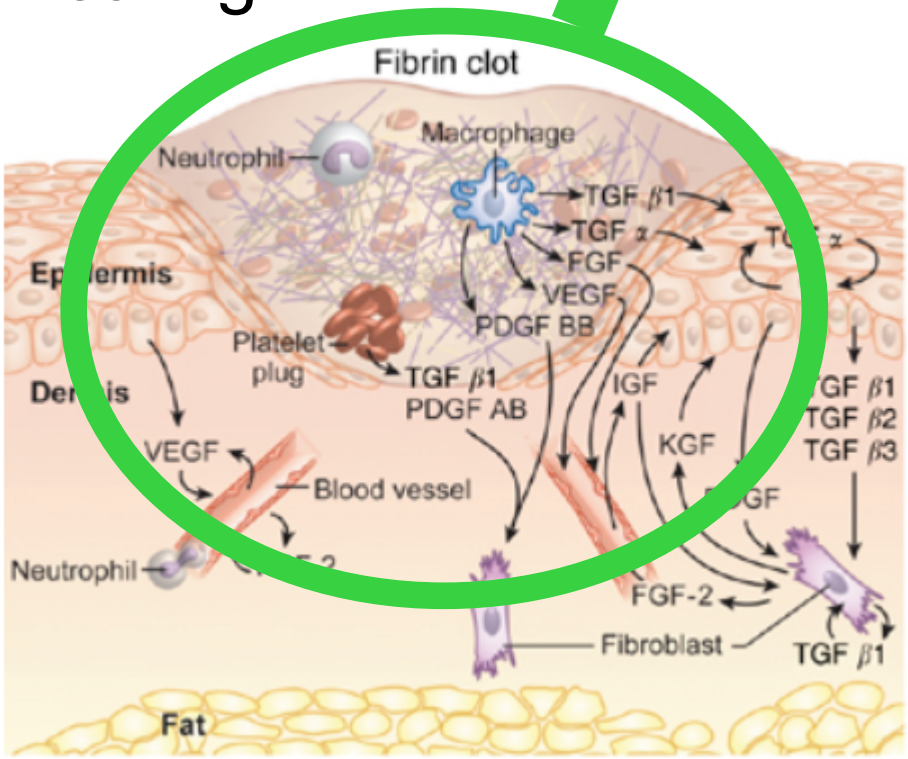
bild.de

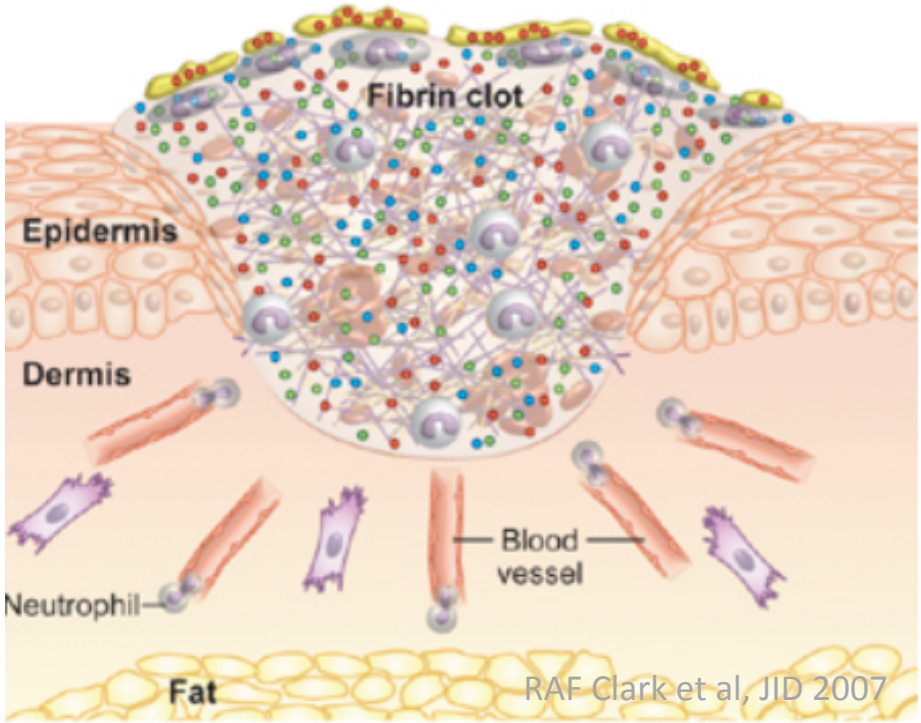
Wound healing

P atient‘s
I ndividual
A ngiogenesis

healing

chronic





RAF Clark et al, JID 2007

Wound healing

P atient‘s
I ndividual
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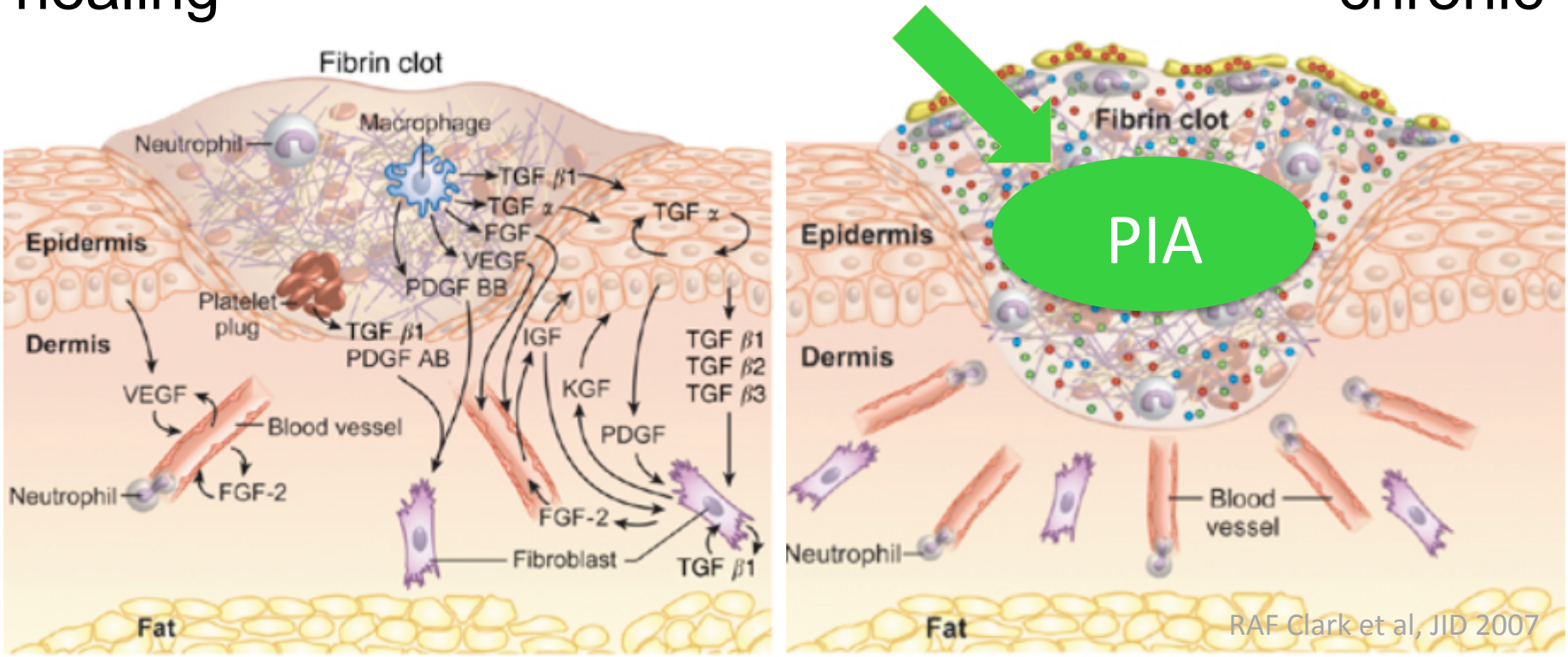

RAF Clark et al, JID 2007

Wound healing

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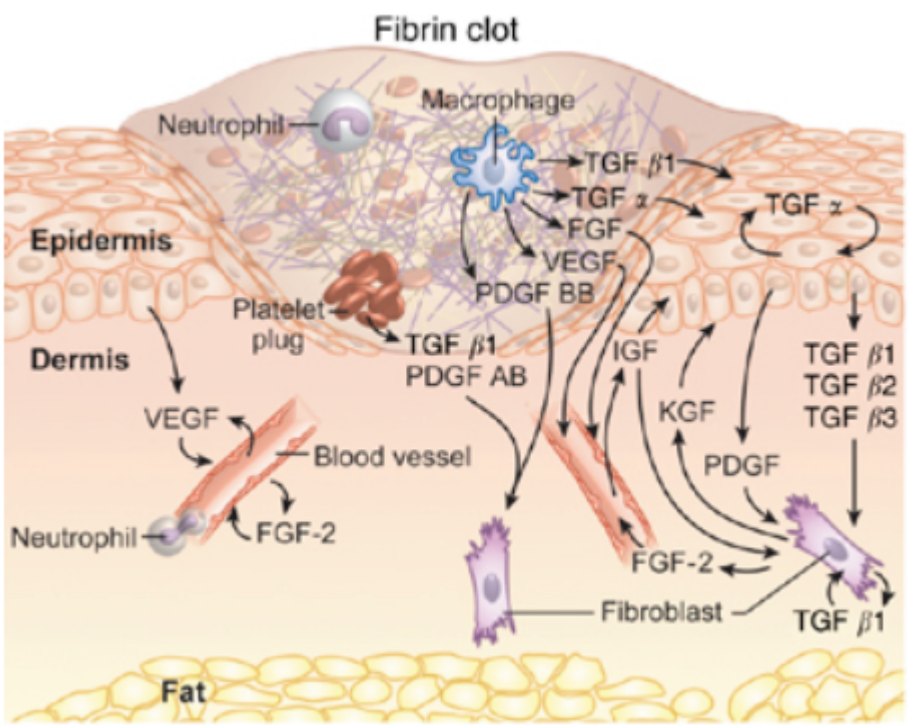
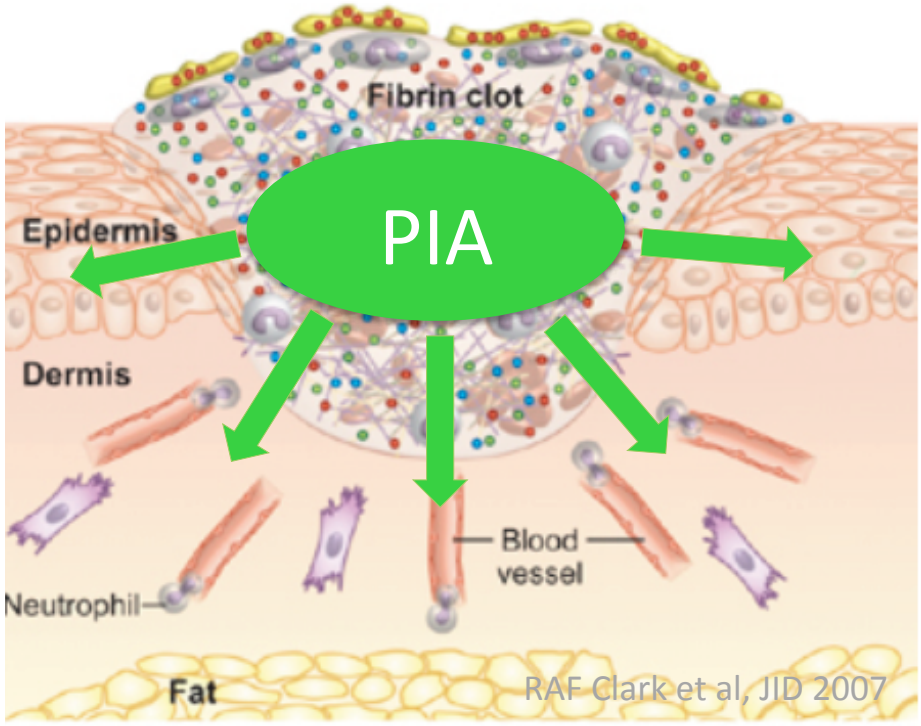
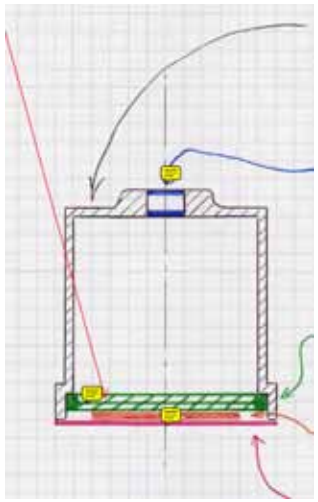
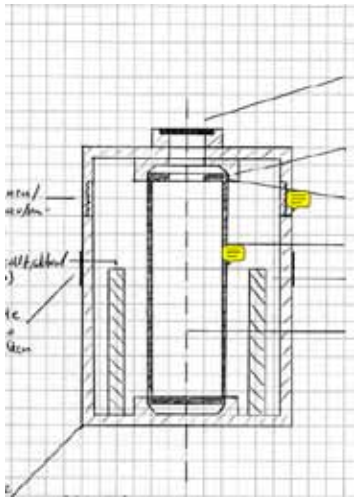


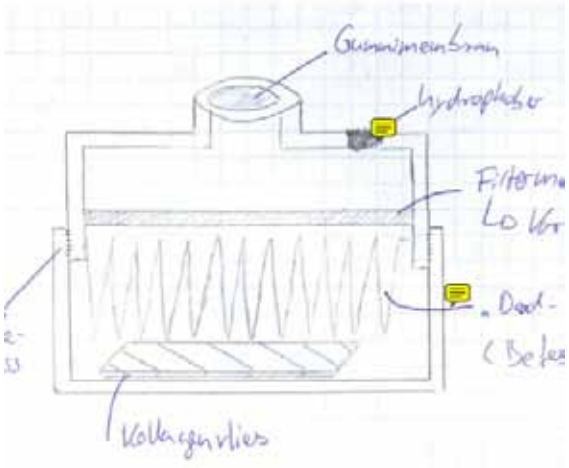


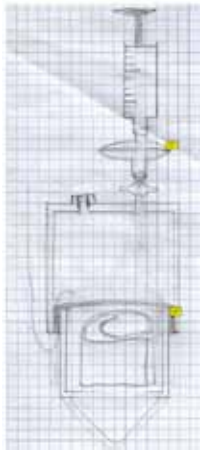
RAF Clark et al, JID 2007

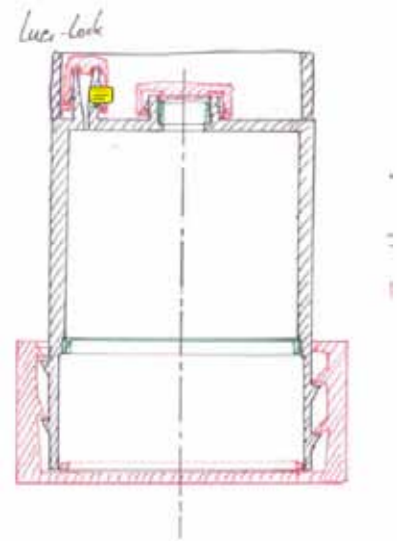
Wound healing

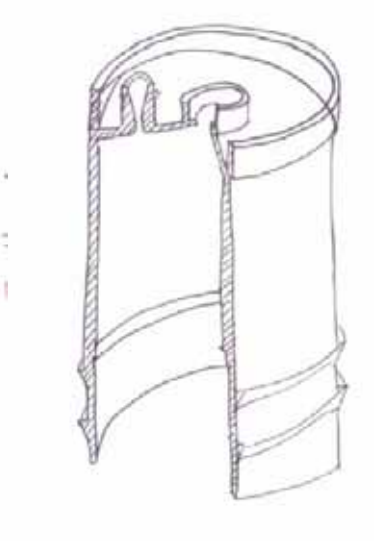


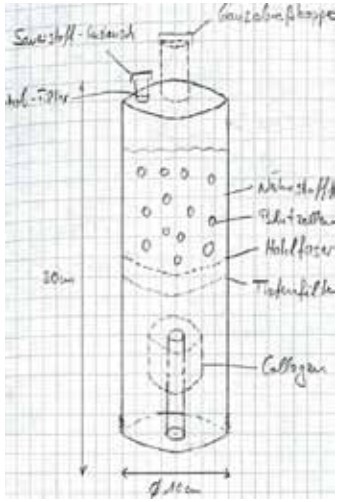


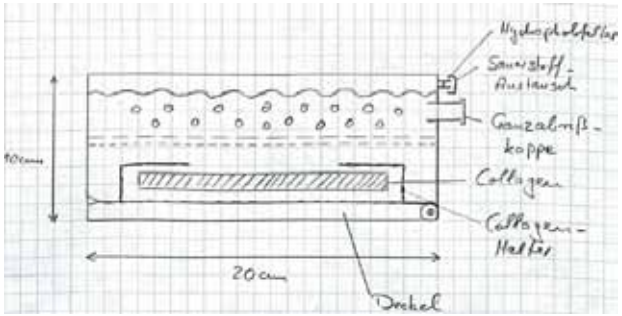








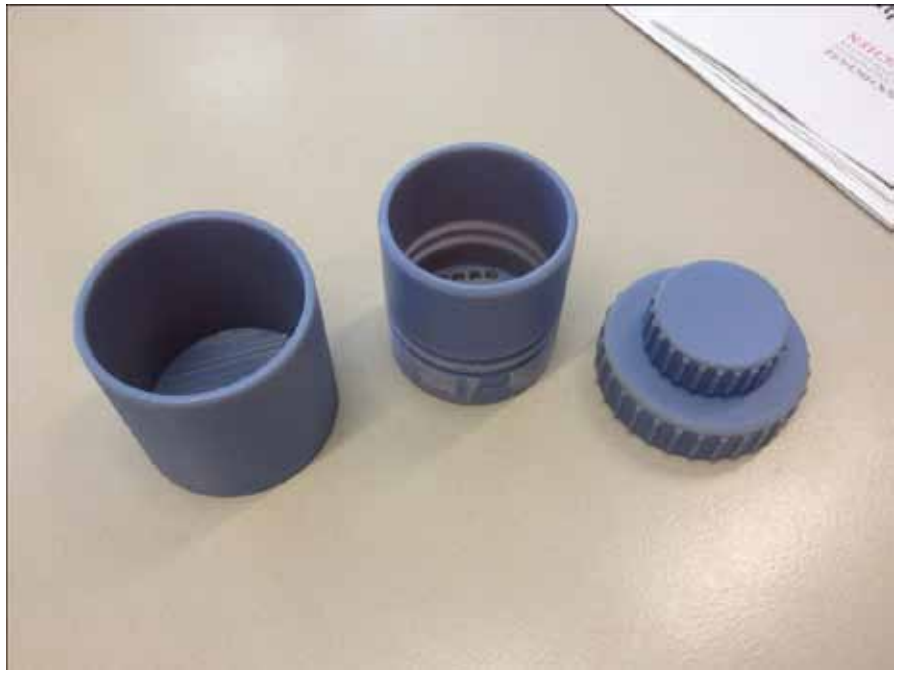




Extracorporeal Hematoma (Ectoma)

Patent pending

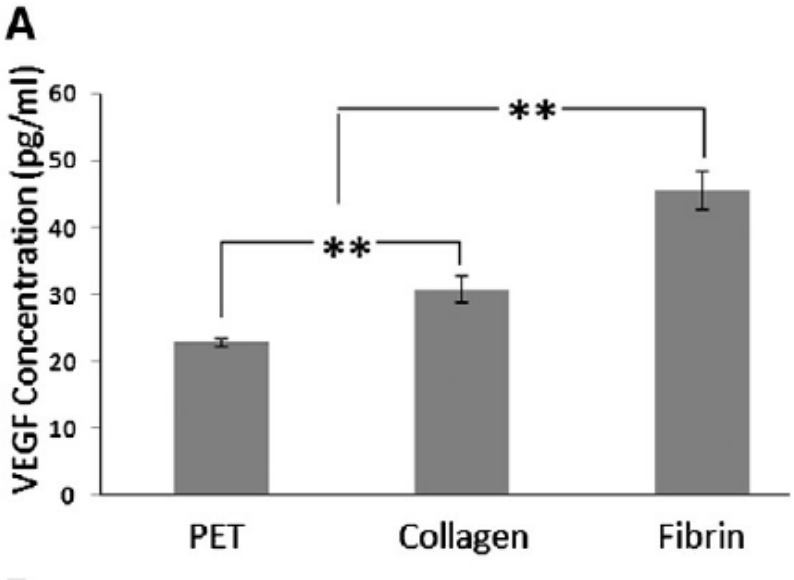
Ectoma: Prototype I

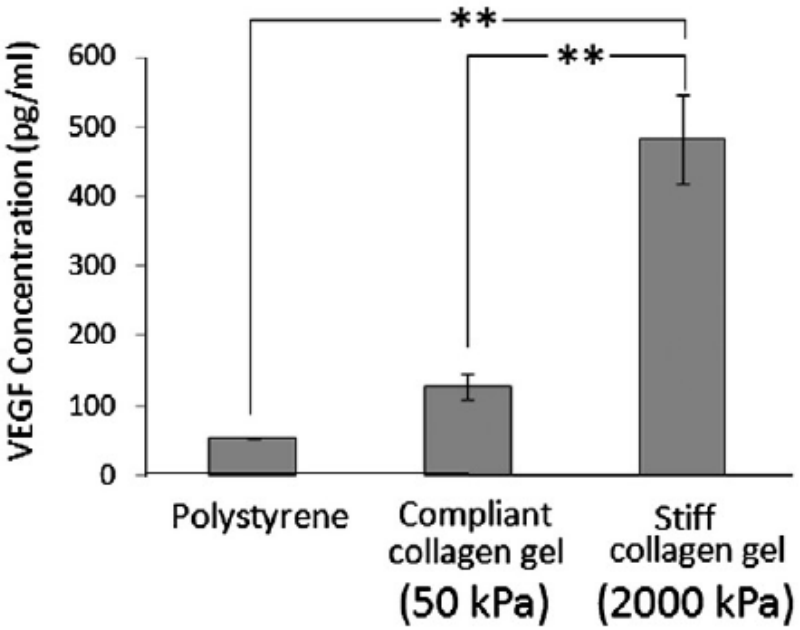


Not bio-compatible

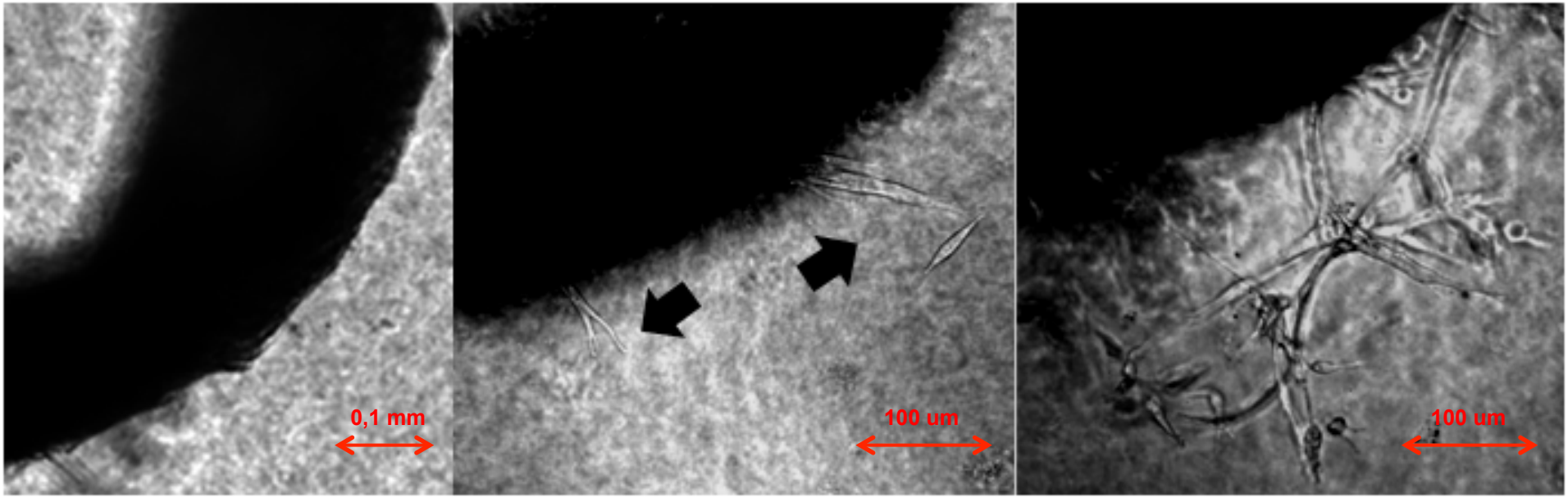
Ectoma: Prototype II

Matrix and wound healing



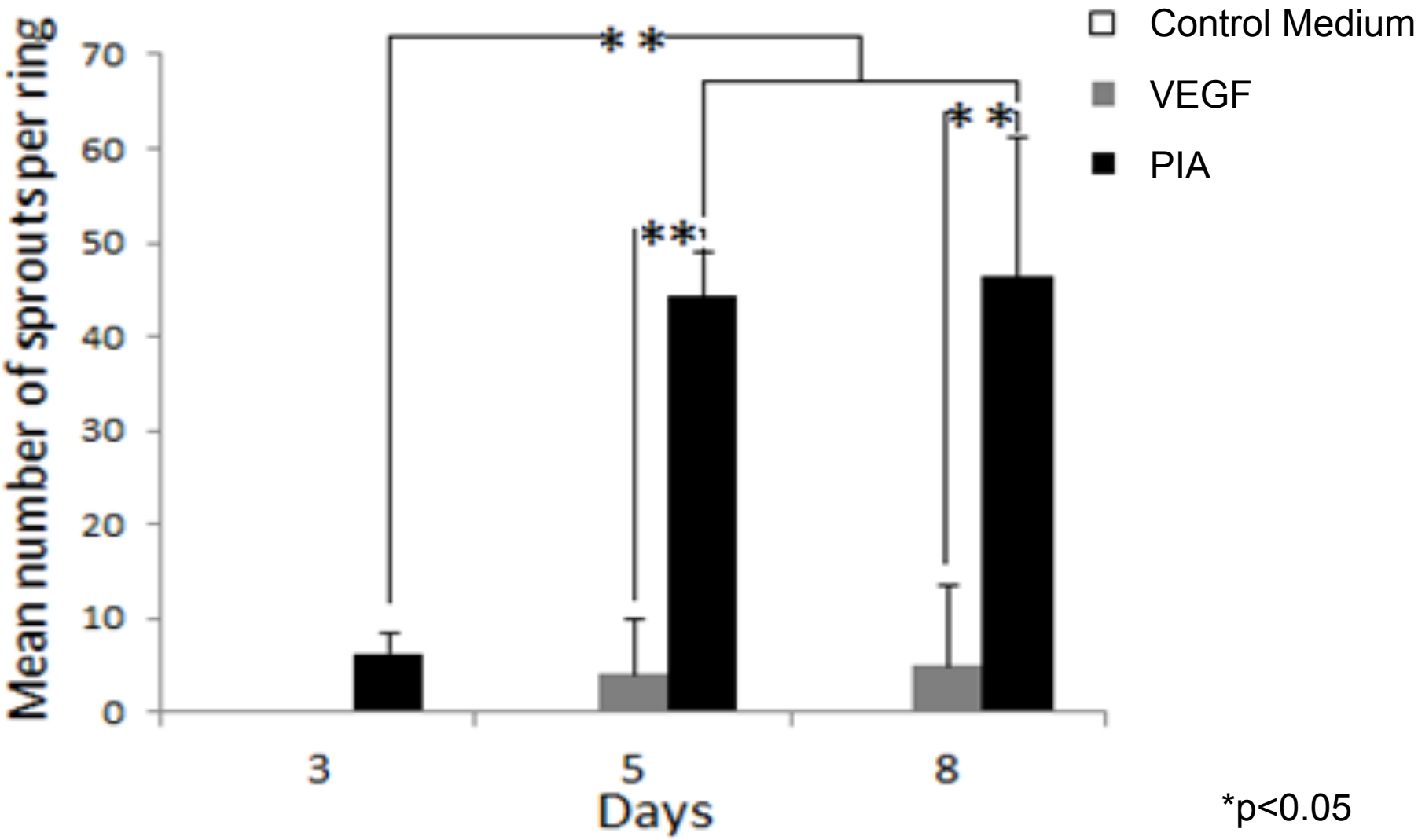


Angiogenesis



Neg. Control VEGF PIA

Angiogenesis

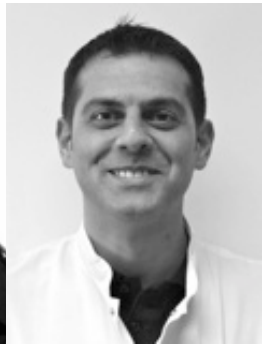


*p<0.05

Thank you!


E. Hadjipanayi


A. Bauer


H. Kükrek


L. Mirzoyan


C. Reinshagen


P. Moog


U. Hopfner


J.T.Schantz


L.Bauer


X. Dai


C.Saracel


M. Kirsch


A. Schlüter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