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Raquel Silva[1], Raminder Singh[2,3], Bapi Sarker[1], Dimitrios G. Papageorgiou[4,5], Judith A. Juhasz-Bortuzzo[1], Judith A. Roether[6], Iwona Cicha[2], Joachim Kaschta[6], Dirk W. Schubert[6], Konstantinos Chrissafis[4], Rainer Detsch[1], and Aldo R. Boccaccini[1*]

[1] Institute of Biomaterials, Department of Materials Science and Engineering, University of Erlangen-Nuremberg, 91058 Erlangen, Germany

[2] Cardiovascular Nanomedicine Unit, Section of Experimental Oncology and Nanomedicine, ENT Department, University Hospital Erlangen, 91054 Erlangen, Germany

[3] Laboratory of Molecular Cardiology, Medical Clinic 2, University Hospital Erlangen, 91054 Erlangen, Germany

[4] Solid State Physics Section, Physics Department, Aristotle University of Thessaloniki, 541 24 Thessaloniki, Greece

[5] School of Materials and National Graphene Institute, University of Manchester, Oxford Road, M13 9PL Manchester, United Kingdom.

[6] Institute for Polymer Materials, Department of Materials Science and Engineering, University of Erlangen-Nuremberg, 91058 Erlangen, Germany

*Corresponding author: Aldo R. Boccaccini and Raquel Silva
e-mail: aldo.boccaccini@ww.uni-erlangen.de
University of Erlangen-Nuremberg
Institute of Biomaterials, Department of Materials Science and Engineering
91058 Erlangen, Germany, Tel: +49(0)9131 85-28601

Abstract

Hydrogels from natural polymers are widely used in tissue engineering due to their unique properties, especially when regarding the cell environment and their morphological similarity to the extracellular matrix (ECM) of native tissues. In this study, we describe the production and characterization of novel hybrid hydrogels composed of alginate blended with elastin from bovine neck ligament. The properties of elastin as a component of the native ECM were combined with the excellent chemical and mechanical stability as well as biocompatibility of alginate to produce two hybrid hydrogels geometries, namely 2D films obtained using sonication treatment and 3D microcapsules produced by