

Accepted Manuscript

Macroporous click-elastin-like hydrogels for tissue engineering applications

Alicia Fernández-Colino, Frederic Wolf, Hans Keijder, Stephan Rutten, Thomas Schmitz-Rode, Stefan Jockenhoevel, J. Carlos Rodríguez-Cabello, Petra Mela



PII: S0928-4931(17)33528-2
DOI: doi:[10.1016/j.msec.2018.03.013](https://doi.org/10.1016/j.msec.2018.03.013)
Reference: MSC 8434
To appear in: *Materials Science & Engineering C*
Received date: 1 September 2017
Revised date: 15 February 2018
Accepted date: 15 March 2018

Please cite this article as: Alicia Fernández-Colino, Frederic Wolf, Hans Keijder, Stephan Rutten, Thomas Schmitz-Rode, Stefan Jockenhoevel, J. Carlos Rodríguez-Cabello, Petra Mela , Macroporous click-elastin-like hydrogels for tissue engineering applications. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Msc(2017), doi:[10.1016/j.msec.2018.03.013](https://doi.org/10.1016/j.msec.2018.03.013)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Macroporous Click-Elastin-Like Hydrogels for Tissue Engineering Applications.

*Alicia Fernández-Colino,¹ * Frederic Wolf,¹ Hans Keijdenner,¹ Stephan Rutten,² Thomas Schmitz-Rode,¹ Stefan Jockenhoevel,¹ J. Carlos Rodríguez-Cabello,³ Petra Mela.^{1*}*

¹Department of Biohybrid & Medical Textiles (BioTex) at AME-Institute of Applied Medical Engineering, Helmholtz Institute & ITA-Institut für Textiltechnik, RWTH Aachen University, Pauwelsstr. 20, 52074. Aachen, Germany.

²Electron Microscopy Facility, Uniklinik RWTH Aachen, Pauwelsstrasse, 30, D-52074 Aachen, Germany

³Bioforge Lab, University of Valladolid, CIBER-BBN, Paseo de Belen 11, 47011 Valladolid, Spain.

* Corresponding Authors e-mail: fernandez@ame.rwth-aachen.de
mela@ame.rwth-aachen.de

ABSTRACT

Elastin is a key extracellular matrix (ECM) protein that imparts functional elasticity to tissues and therefore an attractive candidate for bioengineering materials. Genetically engineered elastin-like recombinamers (ELRs) maintain inherent properties of the natural elastin (e.g. elastic behavior, bioactivity, low thrombogenicity, inverse temperature transition) while featuring precisely controlled composition, the possibility for biofunctionalization and non-animal origin. Recently the chemical modification of ELRs to enable their crosslinking via a catalyst-free click chemistry reaction, has further widened their applicability for tissue engineering. Despite these outstanding properties, the generation of macroporous click-ELR

Download English Version:

<https://daneshyari.com/en/article/7866405>

Download Persian Version:

<https://daneshyari.com/article/7866405>

[Daneshyari.com](https://daneshyari.com)