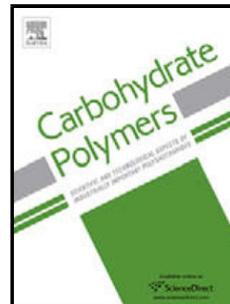


Accepted Manuscript

Title: Production of heparin and λ -carrageenan anti-heparanase derivatives using a combination of physicochemical depolymerization and glycol splitting

Authors: Nicolas Poupard, Hugo Groult, Justine Bodin, Nicolas Bridiau, Stéphanie Bordenave-Juchereau, Frédéric Sannier, Jean-Marie Piot, Ingrid Fruitier-Arnaudin, Thierry Maugard



PII: S0144-8617(17)30160-1

DOI: <http://dx.doi.org/doi:10.1016/j.carbpol.2017.02.040>

Reference: CARP 12019

To appear in:

Received date: 9-10-2016

Revised date: 23-1-2017

Accepted date: 12-2-2017

Please cite this article as: <http://dx.doi.org/>

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1 **Production of heparin and λ -carrageenan anti-heparanase**
2 **derivatives using a combination of physicochemical**
3 **depolymerization and glycol splitting**

4

5 **Nicolas Poupard, Hugo Groult, Justine Bodin, Nicolas Bridiau, Stéphanie Bordenave-**
6 **Juchereau, Frédéric Sannier, Jean-Marie Piot, Ingrid Fruitier-Arnaudin, Thierry**
7 **Maugard***

8

9 Université de La Rochelle, UMR CNRS 7266, LIENSS, Equipe Approches Moléculaires
10 Environnement-Santé, Département de Biotechnologies, Avenue Michel Crépeau, 17042 La
11 Rochelle, France.

12 **Author for correspondence (Address: Université de La Rochelle, UMR CNRS 7266, LIENSS,*
13 *Equipe Approches Moléculaires Environnement-Santé, Département de Biotechnologies,*
14 *Avenue Michel Crépeau, 17042 La Rochelle, France. Fax: +33 546458277; E-mail:*
15 *(tmaugard@univ-lr.fr)*

16

17 Highlights

18

- 19 - Ultrasonic-assisted radical depolymerization gave LMW- λ -Carrageenan
20 - Depolymerization associated with glycol splitting helped modulate biological
21 activities
22 - Lead to interesting heparanase inhibitors with low-anticoagulant properties.
23 - RD-GS- λ -Carrageenan most interesting candidate as potent antiangiogenic.
24 - Same heparanase inhibition as UF-heparin but with no anticoagulant properties.
25

26 Keywords: Heparin, Carrageenan, heparanase, Glycol split, angiogenesis, depolymerization

Abbreviations :

Low Molecular Weight, LMW; Heparan Sulfate, HS; Extracellular matrix, ECM;
Unfractionated, UF; depolymerized with radical hydrolysis assisted by ultrasound, RD
Hexuronic Acid, HexA; Glycol split, GS; depolymerized then glycol splitted, RD-GS; Glycol
splitted then depolymerized, GS-RD; Number average molecular weight, Mn; Weight average
molecular weight, Mw; Human Skin MicroEndothelial Cells, HsKMEC.

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