Accepted Manuscript

Title: Protective effects of natural and partially degraded konjac glucomannan on Bifidobacteria against antibiotic damage

Authors: Yu-Heng Mao, Ang-Xin Song, Zhong-Ping Yao,

Jian-Yong Wu

PII: S0144-8617(17)31239-0

DOI: https://doi.org/10.1016/j.carbpol.2017.10.083

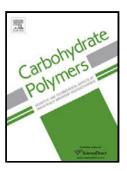
Reference: CARP 12932

To appear in:

Received date: 29-8-2017 Revised date: 10-10-2017 Accepted date: 23-10-2017

Please cite this article as: Mao, Yu-Heng., Song, Ang-Xin., Yao, Zhong-Ping., & Wu, Jian-Yong., Protective effects of natural and partially degraded konjac glucomannan on Bifidobacteria against antibiotic damage. *Carbohydrate Polymers* https://doi.org/10.1016/j.carbpol.2017.10.083

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.



ACCEPTED MANUSCRIPT

Submitted to: Carbohydrate Polymers

(Original Research MS) Revised CARBPOL-D-17-02922

Protective effects of natural and partially degraded konjac glucomannan on Bifidobacteria against antibiotic damage

Yu-Heng Mao, Ang-Xin Song, Zhong-Ping Yao,* Jian-Yong Wu *

State Key Laboratory of Chinese Medicine and Molecular Pharmacology (Incubation), The Hong Kong Polytechnic University Shenzhen Research Institute, Shenzhen, PR China; Department of Applied Biology & Chemical Technology, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong

* Corresponding authors:

Tel: +852 3400 8671; E-mail address: jian-yong.wu@polyu.edu.hk (J.Y. Wu). zhongping.yao@polyu.edu.hk (Z.P. Yao)

Highlights

- ♦ Konjac glucomannan (KGM) were partially degraded by ultrasound and further by acid.
- ♦ Native and degraded KGM were applied to bifidobacterial cultures exposed to antibiotics.
- ♦ US-degraded KGM most effectively protected Bifidobacteria against antibiotic inhibition.
- ◆ The protection was attributable to adsorption of antibiotics and formation of biofilm.

Abstract

This study was to evaluate the protective effects of a dietary fiber, konjac glucomannan (KGM) from the plant tuber of *Amorphohallus konjac* on *Bifidobacteria* against antibiotic damage. KGM (~8.8×10⁸ Da) was partially degraded with high-intensity ultrasound to KGM-US (~1.8×10⁶ Da) and then hydrolyzed with trifluoroacetic acid (TFA) to KGM-AH (1369).

1

Download English Version:

https://daneshyari.com/en/article/7784519

Download Persian Version:

https://daneshyari.com/article/7784519

<u>Daneshyari.com</u>