Improving peptide quantification in chitosan nanoparticles

Maycon Carvalho Ribeiro, Viviane Lopes Rocha Corrêa, Francenya Kelley Lopes da Silva, Jerônimo Raimundo de Oliveira Neto, Ariádine Amorim Casas, Liliana Borges de Menezes, André Corrêa Amaral

PII: S0141-8130(18)33116-7
DOI: doi:10.1016/j.ijbiomac.2018.07.119
Reference: BIOMAC 10163

To appear in: *International Journal of Biological Macromolecules*

Received date: 23 June 2018
Revised date: 18 July 2018
Accepted date: 19 July 2018

Please cite this article as: Maycon Carvalho Ribeiro, Viviane Lopes Rocha Corrêa, Francenya Kelley Lopes da Silva, Jerônimo Raimundo de Oliveira Neto, Ariádine Amorim Casas, Liliana Borges de Menezes, André Corrêa Amaral , Improving peptide quantification in chitosan nanoparticles. Biomac (2018), doi:10.1016/j.ijbiomac.2018.07.119

Improving peptide quantification in chitosan nanoparticles

Maycon Carvalho Ribeiro[1], Viviane Lopes Rocha Corrêa[1], Francenya Kelley Lopes da Silva[1], Jerônimo Raimundo de Oliveira Neto[2], Ariádine Amorim Casas[1], Liliana Borges de Menezes[3], André Corrêa Amaral[1, *]

[1]Laboratory of Nano & Biotechnology, Instittute of Tropical Pathology and Public Health, Universidade Federal de Goiás, Goiânia GO 74605-050, Brazil.

[2]Laboratory of Quality Control of Medicine, Faculty of Pharmacy, Universidade Federal de Goiás, Goiânia GO 74605-220, Brazil.

[3]Pathology, Institute of Tropical Pathology and Public Health, Universidade Federal de Goiás, Goiânia GO 74605-050, Brazil.

[*]Corresponding author: Universidade Federal de Goiás, Instituto de Patologia Tropical e Saúde Pública (IPTSP), Rua 235, s/n, Setor Universitário, Goiânia, GO, 74605-050, Brazil. Tel.: +55-62-998171-9282; Fax: +55-62-3209-6103; E-mail: amaral.nanobio@gmail.com

Abstract

The objective of the present study was to evaluate different methodologies for peptide quantification in the supernatant of chitosan nanoparticles by removing the unliked polymer in the suspension. The ionic gelation method was used to prepare the chitosan nanoparticles encapsulating a 5.3 kDa peptide. Three different methodologies for the processment of the solutions were compared before subjecting the samples to the Bradford protocol or Qubit® kit for protein detection. For the quantification, it was necessary to create a standard peptide