

Carboxymethyl chitosan as an antifungal agent on gauze

Publons ID	36612334
Wos ID	WOS:000447682100020
Doi	10.1016/j.ijbiomac.2018.07.038
Title	Carboxymethyl chitosan as an antifungal agent on gauze
First Author	Kurniasih, Mardiyah; Purwati; Cahyati, Thika; Dewi, Ratna Stia;
Last Author	
Authors	Kurniasih, M; Purwati; Cahyati, T; Dewi, RS;
Publish Date	NOV 2018
Journal Name	INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES
Citation	53
Abstract	<p>Chitosan is a biopolymer that has antifungal activity against <i>C. albicans</i>. Chemical modification of chitosan can provide it with new functional properties for a wide range of biological and biomedical applications. Carboxymethyl chitosan is a derivative of chitosan obtained by etherification of alkaline chitosan with monochloroacetic acid. Carboxymethyl chitosan has a higher solubility than chitosan; therefore it is more readily applicable for use in various fields. Chitosan also has antifungal activity against <i>C. albicans</i>. This study evaluated carboxymethyl chitosan as a gauze-coating material to be used for its antifungal properties. This study also optimized the coating process. Gauze was coated with carboxymethyl chitosan then characterized by Fourier Transform Infra-Red Spectrophotometer (FTIR), X-ray diffraction and scanning electron microscopy (SEM). The antifungal activities of gauze-coated samples were then tested by the diffusion method. The results show that the optimum conditions for the process of coating gauze with carboxymethyl chitosan are dipping ten times at a concentration of 1% for 50 s. Antifungal activities of carboxymethyl chitosan-coated gauze as measured by the diameter of the growth inhibition area are 0.30 cm higher than chitosan-coated gauze, which has a growth-inhibition diameter of 0.12 cm. (C) 2018 Elsevier B.V. All rights reserved.</p>
Publish Type	Journal
Publish Year	2018
Page Begin	166
Page End	171
Issn	0141-8130
Eissn	1879-0003
Url	https://www.webofscience.com/wos/woscc/full-record/WOS:000447682100020
Author	Dr RATNA STIA DEWI, S.Si, M.Sc.