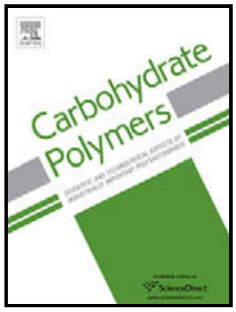

Title: Chitosan as an effective inhibitor of multidrug resistant Acinetobacter baumannii

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Chitosan as an effective inhibitor of multidrug resistant *Acinetobacter baumannii*

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Highlights

- Chitosan inhibited the planktonic and sessile growth of a MDR *A. baumannii* strain
- *A. baumannii* MIC's varied between 0.5 and 1 mg/mL
- *A. baumannii* MBIC's were only 8 to 16x higher than the MICs
- Chitosan effectively reduced *A. baumannii* adhesion and biofilm growth

Abstract

Over the last two decades worldwide levels of antibiotic resistance have risen leading to the appearance of multidrug resistant microorganisms. *Acinetobacter baumannii* is a known skin pathogen which has emerged as a major cause of nosocomial outbreaks due to its capacity to colonize indwelling medical devices and natural antibiotic resistance. With chitosan being an effective antimicrobial agent against antibiotic resistant microorganisms, the aim of this work was to access its potential as an alternative to traditional antimicrobials in the management of *A. baumannii* growth. What the results showed was that both chitosan MW's tested were active upon *A. baumannii*'s planktonic and sessile growth. For planktonic growth MICs and MBCs were obtained at relatively low concentrations (0.5 – 2 mg/mL) while for sessile growth chitosan proved to be a effective inhibitor of *A. baumannii*'s adhesion and biofilm formation.