Development of Fluopsin C. Liposomal: A Bioactive Compound to Control Pathogenic Bacteria

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Bacteria are extremely adaptable organisms and genetic mutations developing resistance against antibiotics. According to the World Health Organization (WHO), the inappropriate or excessive use of these drugs may drive the development of resistant infections. There are several problems with microbial antibiotic resistance and the development of new antibiotics, which increases mortality and the costs of the public health system. Among the most promising antimicrobials under study, Fluopsin C is a promising a new antimicrobial compound, which is from a natural source, produced by a bacteria: Pseudomonas aeruginosa. In order to make its clinical use feasible, this study aimed at controlled release and reduction of toxicity through the liposomal encapsulation of Fluopsin C and its benefits compared to the free compound. The liposomal encapsulation was realized and tested to point out its cytotoxicity and antimicrobial activity against Klebsiella pneumoniae ATCC 10031. Keywords: Antimicrobials; Klebsiella pneumoniae; Encapsulation; Antibacterial resistance.