

Evaluation of a method for the determination of antibacterial activity of chitosan

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Abstract

© 2016, Pleiades Publishing, Inc. A method for the determination of the antimicrobial activity of chitosan with the use of organic salts for the production of pH in the range of 5.5–8.2 was studied. The double-dilution method demonstrated the effectiveness of the determination of the antimicrobial activity of chitosan samples with different molecular weights and solubilities. It was found that the antibacterial activity increased at low pH values with increasing molecular weight, but chitosans with a molecular weight of 5–6 kDa showed higher activity at neutral and slightly alkaline pH levels. Determination of the antimicrobial activity of various chitosan samples at different pH values allowed a more reliable assessment of the potential biological activity of chitosan.

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Keywords

antibacterial activity, broth microdilution, buffer, chitosan