Enzyme and Microbial Technology

Volume 25, Issues 3â€“5, August 1999, Pages 161-171

Reviews

The dielectric properties of biological cells at radiofrequencies: applications in biotechnology

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https://doi.org/10.1016/S0141-0229(99)00008-3

Abstract

The study of the dielectric properties of cells in the radiofrequencies is increasingly leading to new practical applications, including online techniques for biomass measurements and novel techniques for the electrokinetic separation, manipulation, and characterization of single cells. In this review, we will discuss the dielectric properties of cells and their components and the electrical techniques that use them. This will be done mainly in the context of biotechnology but some applications in medicine will also be highlighted.

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Keywords

Dielectrics; Interfacial polarization; Dielectric spectroscopy; Electrokinetics

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