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The effect of cell pretreatment on cell surface topology studied via atomic force microscopy

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Abstract

Atomic force microscopy allows distinctively interpret the results of cell structure research together with another techniques using, at that, the same biological preparations. However, there are still discussion situation concerning application of atomic force microscopy with fixed cells. In this work, using spectroscopy and atomic force microscopy techniques, we investigated morphometric parameters of cells in conditions of fixation with various chemical preparations as well as at drying and staining. We calculated phenomenological parameters and obtained histograms of distribution of adhesion forces of the probe toward a surface of cell membranes. The minimal disturbing effects were detected in the cases of a simple cell drying without fixation and staining. © IDOSI Publications, 2012.

Keywords

Atomic Force Microscopy, Cell Membranes, Fixed Cells