In the past two decades, cell biomechanics has become an emerging field owing to a strong link between mechanical properties and alterations observed in various pathologies. Despite substantial evidence showing the feasibility of atomic force microscopy (AFM) for identifying cells with distinct elastic and adhesive properties, the use of this technique as a complementary diagnostic method still remains controversial. This is primarily due to the relatively high complexity of the apparatus, experiment, and data analysis and the lack of a basis for the rapid verification of results.

The measurement of living cells by AFM is not an easy task, but this book facilitates AFM measurements and data analysis. It is a practical textbook that teaches in an easy-to-understand manner how to assess the mechanical characteristics of living, individual cells by AFM. Following a step-by-step approach, it introduces the methodology of measurements in both determination of elastic properties and quantification of adhesive properties.

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