## SUMMARY

In the first part of the present thesis some literature data concerning the tissue under study (human capsule) are presented and, in addition, the clinical significance of the tissue is highlighted. Also the importance of the mechanical properties of biological tissues is discussed as well as the proposed method of measurement, Atomic Force Microscopy. The potential of using the human lens capsule in Biotechnology as a substrate for the growth and cell culture is also examined. In the second experimental part of the thesis the methods of isolation, preparation and measurement of biological material are thorough analyzed. Finally, by means of force-distance curves, the mechanical properties of the human lens capsule are determined. Difficulties arising from the process of examining biological samples by atomic force microscopy (AFM) are also demonstrated.