

This thesis is concerned with the detection of posttranslational modification of proteins. These proteins are identified using liquid chromatography and capillary electrophoresis, their coupling and coupling to mass spectrometry.

The first part of the theoretical chapter is devoted to the structure, classification and metabolite changes of proteins in the human body. Major attention is focused on collagen, its structure and individual collagen types. The second part considers the problems of nonenzymatic glycation and its influence on the body and on the products of posttranslational modification. The third part summarizes the individual separation procedures and analysis of posttranslationally modified proteins.

The second chapter describes experimental parameters, including chemicals, instrumentation, materials and methods. The preparation of individual samples is also described.

All results and findings are summarized and discussed in the last chapter. This chapter is divided in two parts. The first part focuses on problems of in vivo experiments. The second part focuses on problems of in vitro experiments.