
BOOK REVIEW

Capillary Electrophoresis of Carbohydrates

(Thibault, P., and Honda, S., eds., Humana Press, 2003, 320 p., \$99.50)

During the last decade, capillary electrophoresis has become one of the most important methods for analysis of various natural compounds. The book *Capillary Electrophoresis of Carbohydrates* is a collective monograph written by internationally distinguished authors. It consists of 5 sections that include 16 chapters.

The first section begins with a Preface, in which G. Hart describes structural and functional features of glycoconjugates. Special attention is given to heterogeneity of these biopolymers compared with proteins and nucleic acids.

The second section deals with methods of sample preparation for capillary electrophoresis. It consists of three chapters. The list of approaches used for capillary electrophoresis includes chemical and enzymatic degradation of glycoproteins, carbohydrate derivatization, and degradation of sulfated glycoaminoglycans by means of bacterial enzymes.

Methods of analysis of mono- and oligosaccharides using capillary electrophoresis are described in the third section. Here authors describe the abilities of such variations of capillary electrophoresis as zonal electrophoresis, capillary isoelectrofocusing, capillary isotachopheresis, capillary gel-electrophoresis, and micellar electrokinetic chromatography.

Methods of analysis of native glycoconjugates and their derivatives after minimal chemical or enzymatic modifications are described in the fourth section. Special attention is given to successful application of capillary electrophoresis for structural analysis of protein glycoforms and separation of bacterial glycolipids and glycoproteins from various sources.

The fifth section deals with other variants of application of capillary electrophoresis: for assay of glycosyl transferase activity and determination of association constants in protein-carbohydrate interactions.

The last section (Appendix) is a supplement containing the most common structures of simple and complex carbohydrates found in animals and bacteria.

The book contains a useful alphabetical index that helps the reader rapidly find material of interest.

In conclusion, I should say that this book comprehensively summarizes knowledge on carbohydrate analysis by means of capillary electrophoresis. It is a very useful tool for specialists working in the fields of glycobiology, biochemistry, proteomics, biotechnology, and post-translational protein modification. This book will be very useful for students and their teachers specializing in the above-mentioned fields.

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