
In the 6 years since the publication of the first edition there have been significant advances in immunoassay. The second edition brings this volume up to the current state-of-the-art. The editors have kept to their successful formula of putting together a collection of papers by active participants in the development of immunoassays. Except for a couple of chapters, the material has been significantly revised and expanded. The number of chapters has increased by 3 to a total of 25. The book focuses on the components and methodologies of immunoassays with specific application to the clinical laboratory. However, this is not a laboratory manual, but rather more of a source manual. Each chapter is heavily referenced, with the majority of the references published within the last 10 years.

Upon first opening the book, I was delighted to see three pages of abbreviations prior to the first chapter; a welcome addition. The first third of the book concerns itself with the production and characterization of antibodies for use in immunoassays. Included here are chapters on the utilization of surface plasmon resonance in the evaluation of antibody kinetics and a chapter on antibody engineering that lucidly describes the binder (antibody)—chemical literature—that is, as defined in the stock of antibodies and how they can be “engineered” to produce well-behaved antibodies and antibody components. As would be expected, the section on monoclonal antibodies has been significantly updated, and a new chapter introduces “molecularly imprinted polymers” as alternatives to antibodies. Following chapters address the performance and monitoring of immunoassays in the clinical laboratory, much of which material also appeared in the first edition. The chapter on Standardization of Immunoassays has been expanded to include an excellent discussion of problems and interferences with specific assays (e.g., for steroids, glycoproteins).

Not until halfway through the volume are labels discussed. Much of the first edition material is included here with significant literature updating. One chapter of note, Direct Immunosensors, is greatly expanded in this edition. A disappointment here was that the chapter covering chemiluminescence was “down-sized” and most of the references cite literature published before 1990. In contrast, the section on light-scattering immunoassays was expanded. This is probably a regional perspective determined by the makeup of the contributors, most of whom are from the UK and Europe.

The final third of the text concentrates on detection methods, new commercial assays, and some state-of-the-art applications. Ekins and Chu have rewritten some of the material on Microspot® assays and put it into a separate chapter. Finally, film, dry-reagent, and point-of-care devices are examined.

A negative feature I found in this volume was the indexing, which often made it difficult to find specific information. For example, chimeric antibodies are discussed in the chapter “Antibody Engineering” but are neither indexed nor defined. The term “hook effect” is indexed, but none of the references indicates its meaning or source. While this may not be of concern to the veteran in the field, the novice would need a little help. As noted earlier, the Editors drew mostly from European authors. Thus some of the comments might reflect a different perspective in their terminology than is common in North America. These are, for the most part, trivial but can sometimes be confusing. For example, in one chapter the term “ligand” (also not indexed) is used as defined in the chemical literature—that is, as describing the binder (antibody)—rather than the analyte, as is understood in the biochemical literature.

Overall, the editors have put together a comprehensive text of current fundamental concepts that is very readable. With its extensive and up-to-date reference lists it would be a solid asset to anyone seriously involved, or planning to be involved, in immunoassays.

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Books Received


