This article was downloaded by:

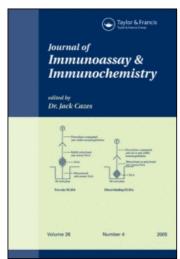
On: 16 January 2011

Access details: Access Details: Free Access

Publisher Taylor & Francis

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-

41 Mortimer Street, London W1T 3JH, UK



Journal of Immunoassay and Immunochemistry

Publication details, including instructions for authors and subscription information: http://www.informaworld.com/smpp/title~content=t713597271

The Book Corner

Online publication date: 10 November 2004

To cite this Article (2005) 'The Book Corner', Journal of Immunoassay and Immunochemistry, 25: 4, 411 - 413

To link to this Article: DOI: 10.1081/IAS-200033859 URL: http://dx.doi.org/10.1081/IAS-200033859

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: http://www.informaworld.com/terms-and-conditions-of-access.pdf

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

JOURNAL OF IMMUNOASSAY & IMMUNOCHEMISTRY Vol. 25, No. 4, pp. 411–413, 2004

The Book Corner

Advances in Protein Chemistry, Volume 65, Proteome Characterization and Proteomics, Richard D. Smith and Timothy D. Veenstra, Eds., Academic Press, New York, 2003, 413 pages. Price: \$130.00.

Proteome Characterization and Proteomics is a timely book that is written by experts in their fields. The book comprises 13 chapters totaling 413 pages. It is Volume 65 of Advances in Protein Chemistry.

The proteome describes the entire complement of proteins expressed by a cell at a point in time. Recently, there have been significant efforts to develop methods that will enable the analysis of cellular proteome. This is easier said than done. A cell may express up to 20,000 proteins with a concentration dynamic range of 10^{10} . No single chromatographic or electrophoretic procedure is capable of resolving such a complex mixture with varying physical and chemical properties.

Many attempts have been made using different electrophoretic, chromatographic, and a combination of both techniques in a two- or three-dimensional format, off-line or on-line, to separate such complex protein/peptide mixtures. Analytical chemists have attempted to develop sample fractionation, separation, concentration, and detection methods that possess sufficient resolution to separate large numbers of peptides/proteins, as well as be sensitive enough to detect those peptides of proteins that are present in low abundance; however, no method currently exists that can be used to separate, detect, and quantify all the proteins within a given proteome. Current liquid-phase proteome analysis strategies are based on initial digestion of the proteins into peptides, fractionation of the peptides, followed by a single- or two-dimensional separation procedure of each fraction, and

411

DOI: 10.1081/IAS-200033859 Copyright © 2004 by Marcel Dekker, Inc. 1532-1819 (Print); 1532-4230 (Online) www.dekker.com

412 The Book Corner

mass spectrometry for peptide sequencing and identification. Fractionation is an important aspect of mass spectral detection of peptides because mass spectrometers can perform mass measurements on few but not on many co-eluting peptides.

The book summarizes the current state of proteome analysis and presents a wealth of information. It is recommended for protein chemists, biochemists, and analytical chemists. The editors are commended for a job well done.

Table of Contents

- Chapter 1. Proteomics in the Postgenomic Age, R. S. Morrison, Y. Kinoshita, M. D. Johnson, and T. P. Conrads, (1).
- Chapter 2. The Tools of Proteomics, J. A. Loo, (25).
- Chapter 3. Proteomic Analysis by Two-Dimensional Polyacrylamide Gel Electrophoresis, M. Zhou and L.-R. Yu, (57).
- Chapter 4. High-Performance Separations and Mass Spectrometric Methods for High-Throughput Proteomics Using Accurate Mass Tags, R. D. Smith, G. A. Anderson, M. S. Lipton, C. Masselon, L. Pasa-Tolic, H. Udseth, M. Belov, Y. Shen, and T. D. Veenstra, (85).
- Chapter 5. Current Strategies for Quantitative Proteomics, T. P. Conrads, H. J. Issaq, and V. M. Hoang, (133).
- Chapter 6. Proteome Analysis of Post-translational Modifications, T. D. Veenstra, (161).
- Chapter 7. Mapping Protein Modifications with Liquid Chromatography—Mass Spectrometry and the SALSA Algorithm, D. C. Liebler, B. T. Hansen, J. A. Jones, H. Badghisi, and D. E. Mason, (195).
- Chapter 8. Emerging Role of Mass Spectrometry in Structural and Functional Proteomics, S. Naylor and R. Kumar, (217).
- Chapter 9. Application of Separation Technologies to Proteomics Research, H. J. Issaq, (249).
- Chapter 10. Proteomics of Membrane Proteins, J. P. Whitelegge, S. M. Gomez, and K. F. Faull, (271)
- Chapter 11. Proteomics in Drug Discovery, R. M. Hewick, Z. Lu, and J. H. Wang, (309).

The Book Corner 413

Chapter 12. From Clone to Crystal: Maximizing the Amount of Protein Samples for Structure Determination, C. M. Koth and A. M. Edwards, (343).

Chapter 13. Proteomics and Bioinformatics, C. S. Giometti, (353).

Reviewed by Jack Cazes, Ph.D. Florida Atlantic University Boca Raton, Florida, USA