Molecular Diagnostics, Third Edition

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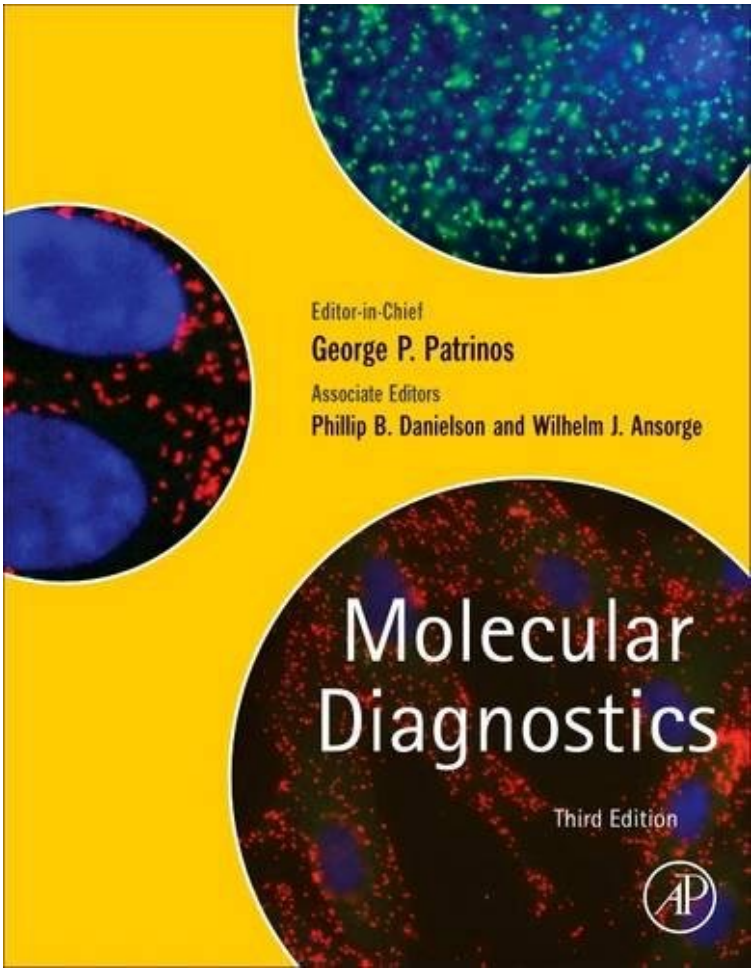

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From Academic Press : Molecular Diagnostics, Third Edition before purchasing it in order to gage whether or not it would be worth my time, and all praised Molecular Diagnostics, Third Edition:

Molecular Diagnostics, Third Edition, focuses on the technologies and applications that professionals need to work in, develop, and manage a clinical diagnostic laboratory. Each chapter contains an expert introduction to each subject that is next to technical details and many applications for molecular genetic testing that can be found in comprehensive reference lists at the end of each chapter. Contents are divided into three parts, technologies, application of those technologies, and related issues. The first part is dedicated to the battery of the most widely used molecular pathology techniques. New chapters have been added, including the various new technologies involved in next-generation sequencing (mutation detection, gene expression, etc.), mass spectrometry, and protein-specific methodologies. All

revised chapters have been completely updated, to include not only technology innovations, but also novel diagnostic applications. As with previous editions, each of the chapters in this section includes a brief description of the technique followed by examples from the area of expertise from the selected contributor. The second part of the book attempts to integrate previously analyzed technologies into the different aspects of molecular diagnostics, such as identification of genetically modified organisms, stem cells, pharmacogenomics, modern forensic science, molecular microbiology, and genetic diagnosis. Part three focuses on various everyday issues in a diagnostic laboratory, from genetic counseling and related ethical and psychological issues, to safety and quality management.Presents a comprehensive account of all new technologies and applications used in clinical diagnostic laboratoriesExplores a wide range of molecular-based tests that are available to assess DNA variation and changes in gene expressionOffers clear translational presentations by the top molecular pathologists, clinical chemists, and molecular geneticists in the field

About the AuthorDr. George Patrinos is an Associate Professor at the University of Patras School of Health Sciences (Department of Pharmacy) in Patras, Greece with Adjunct positions in Rotterdam, the Netherlands and Al-Ain, United Arab Emirates. His research interests span the fields of molecular diagnostics, high-throughput mutation screening, the development of online mutation diagnostic tools, and the implementation of genomics in healthcare, particularly for health systems in developing countries. George Patrinos has published more than 170 scientific papers in peer reviewed journals on topics related to genetics, genomic medicine, pharmacogenomics, molecular diagnostics, and social and economic evaluation for genomic medicine. Dr. Patrinos is also the co-author of Economic Evaluation in Genomic Medicine (2015) and co-Editor of Molecular Diagnostics, Second Edition (2009), both published by Elsevier, and serves as Communicating Editor for the journal Human Mutation. Additionally, he is co-organizer of the international meeting series Golden Helix Symposia and Golden Helix Pharmacogenomics Days.Prof. Dr. Wilhelm Ansorge is a Senior Research Scientist and coordinator of the Biochemical Instrumentation Programme at the European Molecular Biology Laboratory in Heidelberg, Germany. His research interests include the development of the first complete Human Genome microarray, with numerous applications in gene expression studies and high-throughput Molecular Diagnostics.Phillip B. Danielson is Professor of Molecular Biology at the University of Denver and is the Science Advisor for the National Law Enforcement and Corrections Technology Center - Rocky Mountain Region. He received research training at the University of Tokyos Department of Biochemistry and Biophysics, the University of Colorado at Boulders Department of Molecular, Cellular and Developmental Biology and the University of Denvers Department of Biological Sciences. He currently oversees a forensic research and development program, serves as a forensic DNA consultant and also teaches courses in Forensic Science, Infectious Human Disease, Immunology and Molecular Biology. Danielsons primary research focus is in the field of forensic genetics emphasizing the analysis and resolution of mitochondrial DNA mixtures and the use of comparative proteomics to facilitate the identification of biological stains. Together with the Colorado District Attorneys Council, the Office of the Alternate Defense Counsel and State Crime Laboratories, he has also developed training programs on the identification, collection and use of DNA evidence in criminal investigations. His work is funded by the National Institute of Justice and has been featured in academic and professional journals as well as the popular press including the Proceedings of the National Academy of Sciences, The Scientist magazine, USA Today and Law Enforcement Technology magazine. Danielson also has 12+ years of experience in the development of instructional workshops to familiarize precollege instructors and students with many aspects of modern biology including the use of inquiry-driven student laboratory exercises. He has been involved in a diversity of science education outreach activities through the University of Denvers Life Sciences Curriculum Center, the BSCS Keys to Science Program, the Leaders in Learning: Goals 2000 Program, the High School Human Genome Project and the NSFs Math Science Partnership Program.