Fundamentals of Molecular Diagnostics, 1e

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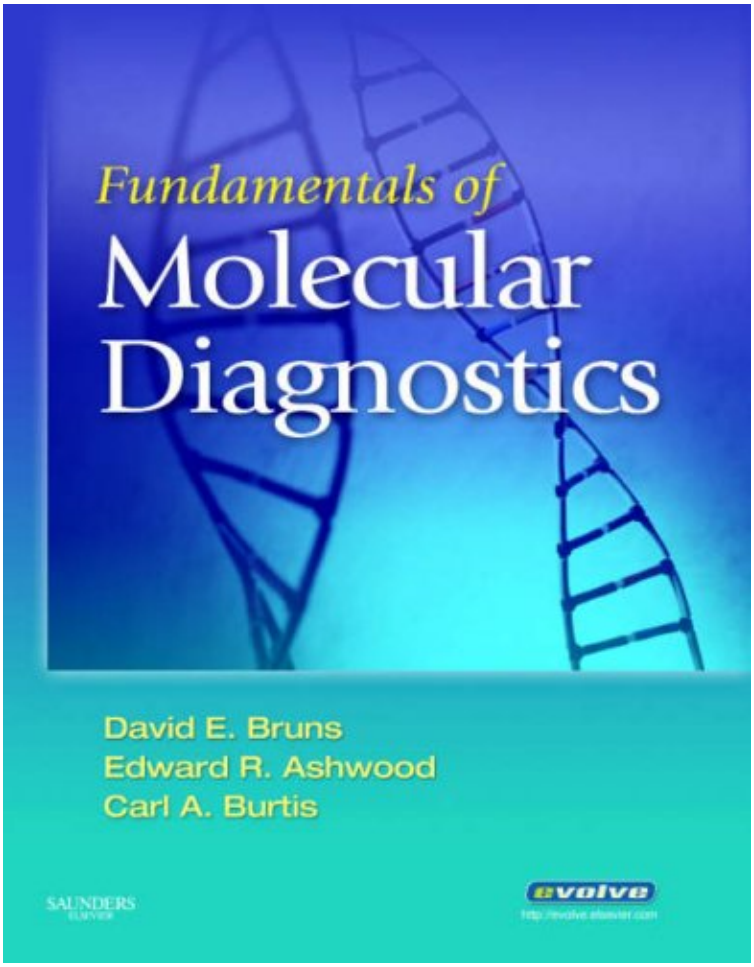

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David E. Bruns MD, Edward R. Ashwood MD, Carl A. Burtis PhD : Fundamentals of Molecular Diagnostics, 1e before purchasing it in order to gage whether or not it would be worth my time, and all praised Fundamentals of Molecular Diagnostics, 1e:

This book offers an introduction to the newest, fastest-growing field in laboratory science. Explaining and clarifying the molecular techniques used in diagnostic testing, this text provides both entry-level and advanced information. It covers the principles of molecular biology along with genomes and nucleic acid alterations, techniques and instrumentation, and applications of molecular diagnostics. Written by leading experts, this book includes illustrations, tables, and a colorful design to make information easy to find and easy to use.A full-color, 4-page insert shows realistic images of the output for many molecular tests.Learning Objectives open each chapter with an overview of

what you should achieve.Key Words are listed and defined at the beginning of each chapter, and are bolded in the text.Review Questions at the end of every chapter let you measure your comprehension.Advanced Concepts are included, but set apart from the rest of the text, for students who want a higher level of learning.Ethics boxes address ethical issues, allowing you to apply your knowledge to real-life scenarios.A glossary of all key words may be easily accessed in the back of the book.

FundEditors: David E Bruns, Edward I? Ashwood, and CarlBurtis. Publ. Saunders/ Elsevier 2007. First edition, 267 pp. ISBN 978- I-4160-3737-8 er: Joseph LopezThe three distinguished editors of this admirable and timely text correctly describe molecular diagnostics as the youngest and fastest growing field. They have assembled an outstanding group of authors, among whom are two from the Asia-Pacific region, to compile this book which is suitable for anyone with an interest in laboratory medicine, from students to teachers to practitioners of our profession.The book is divided into 4 sections. The first section of the book appropriately begins with chapters on the basic principles of molecular biology and nucleic acid chemistry, followed by a description of the genomic alterations interrogated in molecular diagnostic assays. The following section is on techniques, instrumentation and operational principles for a molecular diagnostics laboratory and succinctly describes the essentials needed for establishing a molecular diagnostics laboratory. The section includes discussions on specimen collection and processing, nucleic acid purification and amplification and detection techniques. The polymerase chain reaction, which is the dominant analytical technique, is presented in a state-of-the-art fashion. The inclusion of a chapter on evidence-based molecular diagnostics adds an important perspective that goes beyond the technical realm.The third section deals with applications. The chapter on inherited disorders provides an introduction to genetic testing that extends from single nucleotide alterations to full gene analysis to imprinting and mitochondrial genetics. The concept of genetic predisposition to disease is exemplified by discussions of inherited breast cancer and familial colon cancer. A chapter on identity assessment provides the reader with an understanding of how variations in the human genome are used, inter alia, in organ transplantation, parentage testing and forensics. Molecular diagnostics has had a tremendous impact on infectious diseases including HIV, and HCV and this is reflected on in the chapter on infectious diseases. A chapter is devoted to pharmacogenetics and the final chapter is concludes with an extensive review of genomic alterations that contribute to malignancies and that are assessed for diagnostic, therapeutic and monitoring purposes. Section IV which has been compiled by the editors themselves, contains reference information which includes FDA-approved molecular tests for bacterial and viral infections, the features of selected oncogenes and common recurrent chromosomal aberrations in human malignant lymphoma, leukaemia and soft tissue neoplasm's.The contemporary outlook of this book is seen in the discussion of bioterrorism and role of molecular of molecular diagnostics which is addressed in Section III. Additionally, and unique to this book, is the discussion of ethical issues raised by molecular diagnosis testing.Carl Burtis is perhaps the doyen of editors of books in clinical chemistry. As with our favourite novelists, there is always a temptation to accumulate every book that bears his name. Give in to this impulse and you will be well