

Diagnostic Pathology – Molecular Oncology

Guo RJ* and Harada S*

Department of Pathology, University of Alabama at Birmingham, 1720 2nd Ave S, Birmingham, AL 35233, USA

*Corresponding authors: Guo RJ and Harada S, Department of Pathology, University of Alabama at Birmingham, 1720 2nd Ave S, Birmingham, AL 35233, USA, Tel: 205 934 5321; E-mail: rguo@uabmc.edu, sharada@uabmc.edu

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Book Review

Molecular oncology is a newly emerging and rapidly progressing field, which involves collaboration among individuals with different kinds of expertise, including molecular and surgical pathologists, geneticists and oncologists. The ability to correlate a patient's clinical features, tumor histopathology and molecular alterations is the essential attribute and skill which is required for a pathologist to understand and practice cutting edge medicine. In large part due to rapid advances in the field, unfortunately, only a few books are available to help meet this requirement, in contrast to the enormous demand. Just at the right juncture, diagnostic pathology – molecular oncology enters the scene.

This book best functions as a concise reference for practicing pathologists. The book consists of an introductory section, followed by sections describing common techniques for molecular analysis and molecular genetic tests for different type of tumors. This is followed by a brief review of the molecular pathology of selected diseases and a summary section dealing with quality assurance and regulatory issues. The first four sections provide a great overview to our understanding of the basics of molecular diagnostics and sections 5-8 (molecular pathology of different diseases) are perfectly placed to be used as a great reference source. In these sections, for each entity, the content is sequentially classified and organized into distinct categories, entitled terminology, etiology/pathogenesis, clinical issues, macroscopic features, molecular pathology, microscopic pathology, ancillary tests, differential diagnosis, diagnostic checklist and selected references. Each category is arranged in a bullet style with an ample number of tables and illustrations. These include those highlighting molecular tests and histologic features, as well as illustrations of molecular pathways. The histologic pictures are of high quality. Illustrations of

molecular tests include wide range of techniques ranging from classical gel electrophoresis through cytogenetics to next generation sequencing and SNP array analysis. The detailed Information correlates very well to the clinical features of the entity discussed as well as its morphology, molecular and genetic alterations. For each entity, this book also gives key facts, which briefly summarizes the key points.

The technologies as well as mechanistic information regarding molecular alterations in each disease are up to date. Many of the authors are practicing pathologists who are well recognized leaders in the field and have the expertise in molecular genetic pathology as well as surgical pathology/cytology/hematopathology to provide the gravitas required. Further, they address clinical issues from a practical point of view. Therefore, we think highly of this work and believe it to be a great quick reference for practicing pathologists and house officers who have an interest in this field.

To be balanced, on the negative side, the list of molecular genetic tests in the hematopoietic tumors section (section 3) is slightly disjointed in its order and the list of the tests included in the solid tumors (section 4) is somewhat limited in this rapidly expanding field. However, there is enough information in the section describing each individual tumor for the practitioner needing only a brief modern update. The longest section (section 8; molecular pathology of solid tumors) is somewhat hard to navigate as there is no sub-chapter break, although there is a clear index at the beginning of the section. Overall, this book is well written although we did find rare simple typographical errors. Never-the-less, the overall quality of the book is excellent and it is highly recommended to pathologists as well as trainees as a great reference source.

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