

Book Review

Cell and Molecular Biology: Essential Data **edited by D. Rickwood and D. Patel**

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This text is a compilation of information generally relevant to the fields of biology, biochemistry, microbiology, molecular biology, and biomedical science. The intention is to provide the basic physical, chemical, and biological information pertinent to a multitude of experiments. Information is provided in a succinct, tabular format. The entire book is only 225 pages and is produced in a convenient pocket-style format to promote frequent use. Overall, this text is a valuable source of important information.

Each chapter begins with a brief description of the information provided in subsequent tables. Chemical structures and other graphical information are provided in various figures. One figure, for example, illustrates different graphical representations of data associated with enzyme kinetics (e.g., Michaelis-Menten plots, Lineweaver-Burke plots).

Chapter 1 is entitled "Buffers and Solutions" and provides information about buffers, chelating agents, denaturing agents, thiol reagents, and detergents. Chapter 2 provides information concerning the properties of small molecules such as nucleic acids and their derivatives, amino acids and their derivatives, coenzymes, sugars and their derivatives, lipids, and steroids. Both chemical structure and chemical properties are provided for these compounds. Properties of nucleic acids, proteins, polysaccharides, and proteoglycans are covered in Chapter 3. Examples of the type of information provided include tables of melting temperatures for oligonucleotides, molecular mass and isoelectric points for selected proteins, and a listing of common enzyme inhibitors. Chapter 4 covers information pertinent to the care and characterization of cells and subcellular fractions. Balanced salt solutions, composition of selected animal cell culture media, selected animal cell lines, fixative and stains for light microscopy, composition and characterization of membranes and organelles,

genome values of selected eukaryotic cells, and the genetic code are covered. Chapter 5 presents various fractionation and analytical methods including centrifugation, chromatography, gel electrophoresis, radioisotope analysis, and the use of isotopic and nonisotopic methods. A multitude of numerical data are provided in Chapter 6. Information includes a periodic table of the elements, atomic weights, a listing of accepted units and conversions, a discussion of presentation and statistical analysis of experimental data, and various mathematical formulas. Safety issues are presented in Chapter 7 with specific headings of international safety symbols, chemical hazards, biological hazards, and radioisotope safety. Finally, Chapters 8 and 9 provide other sources of information including a listing of reference books and databases, and a listing of common manufacturers and suppliers. A detailed table of contents, lengthy list of literature citations, comprehensive listing of common abbreviations, and useful index complete this reference text.

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