

Preface to the fourth edition

There can be few scientific disciplines that have advanced as rapidly as molecular biology in the years since the last edition. Thus, our hope that the improvements made to the last edition would make future changes simpler was rather naïve. Our revisions and updates to the fourth edition have been major and have involved all Sections and Topics; such has been the rate of progress. The first two Sections of the third edition have been combined and simplified to reduce overlap with other titles in the *Instant Notes* series, whereas other Sections have been reorganized and restructured in a more logical fashion. This has created room for the consideration of advances in topics such as 'next-generation' DNA sequencing and genomics, global gene expression analysis, regulatory RNAs, proteomics, stem cells, systems biology, and many other areas. One difficulty has been judging what to leave out in order to accommodate new material. As knowledge expands and technology advances, and the old-ways of doing things fall out of favor, the challenge is to keep the reader excited with new discoveries and with the power of new methods while keeping enough of the traditional background story to allow complete understanding of a topic. We are also well aware that this is an introductory textbook and so we have tried to avoid unnecessary complexity and detail. We hope we have achieved our aims. As always, we are most grateful to those many reviewers who made suggestions for improvements to the previous edition and are particularly indebted to Liz Owen and Vicki Noyes for their patience and understanding during the revision process.

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