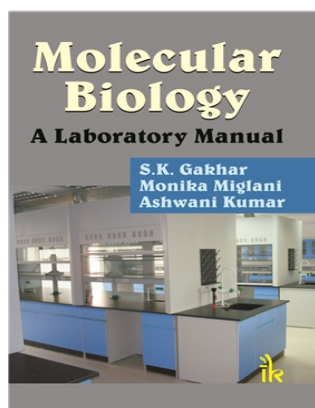


Molecular Biology: A Laboratory Manual, 1/e

S.K. Gakhar, Ashwani Kumar & Monika Miglani



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About the Book

The field of molecular biology continues to be the most exciting and dynamic area of science and is predicted to dominate the 21st century. Only at the molecular level, it is possible to understand various biological processes in detail. Such understanding is vital for advances in medicine, and the pharmaceutical industry that produces new drugs and thus cure is greatly dependent upon molecular biology. Molecular biology also contributes to our understanding of what human beings are and how they fit into this universe.

The objective of this manual is to train young teachers from colleges and research institutions so that methodologies could be used by them in their research in various fields of biology. This would also help all the beginners and students at B.Sc. & M.Sc. level to learn the various techniques on molecular biology. This book contains four chapters giving the step-wise protocols for various practicals. In addition, it has general instructions for safety procedures, viz., biosafety, radiation safety, hazardous chemicals, personal protection and also the preparation of various stock and working solutions for molecular biology practicals.

Salient Features

- ▶ This laboratory manual explains the techniques that are used to understand the complex macromolecules in molecular biology.
- ▶ Spread in four chapters, it gives step-wise treatment of various practical techniques, with annotations at appropriate places.
- ▶ Various techniques ranging from plasmid DNA isolation to PCR amplification, techniques of DNA polymorphism analysis and hybridization protocols for DNA and RNA blot analysis have been covered in detail.
- ▶ One dedicated chapter on general laboratory instructions comprising safety procedures, general & personal precautions, etc has been included.
- ▶ Provides David's Life Chart II, conversion factors, and Nucleases and Inhibitors in the appendix.

Table of Contents

- ▶ Nucleic Acids
- ▶ Proteins
- ▶ Bioinformatics
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About the Author

S.K. Gakhar :- S.K. Gakhar is a Professor of Biotechnology, Dean, Faculty of Life Sciences, Maharshi Dayanand University, Rohtak. He has served the University in various positions like Director, Directorate of Distance Education; Director, Computer Section, Director of Public Relations. At present he is also holding the charge of Director, Centre for Bioinformatics and Centre for Medical Biotechnology. He is associated with teaching of molecular biology for the last 25 years at Post- graduate level and engaged in research in the field of malaria parasite & mosquito vector interactions.

Ashwani Kumar :- Ashwani Kumar, Professor, Department of Botany, University of Rajasthan, Jaipur, has earned gold medal in M.Sc. and obtained Ph.D. from Rajasthan University. He also has the distinction of being an Alexander Von Humboldt Fellow (Germany). He was the Honorary Director at the School of Life Sciences, University of Rajasthan. The author's repertoire of published works spreads across 150

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Monika Miglani :- Monika Miglani is working in the Centre for Biotechnology, Maharshi Dayanand University, Rohtak. She has been actively engaged in research in the field of Insect Genetic Engineering. She has submitted novel sequences in the GenBank database. She has published papers nationally and internationally. She has also worked as "Course Instructor" in Short term Training Course on Molecular Biology organized by C.B.T, M.D.U. sponsored by D.B.T, Govt. of India.