Genome Analysis - A Practical Approach

Edited by K.E. Davies
(Series editors: D. Rickwood and B.D. Hames)

IRL Press; Oxford, 1988

192 pages. £27.00, $54.00

This book describes the available techniques for cloning and analysing large pieces of DNA. The book can be divided into two sections with the first considering topics such as mammalian genome transfer, chromosome jumping and pulsed-field gels, whilst the second part discusses the ways in which small alterations in DNA can be detected in, for example, the mapping of complex genetic traits.

All the chapters in the book are written clearly but with a reasonable knowledge of molecular biology assumed. Attention is given, where appropriate, to the possibility that the techniques described may not give the desired result by the provision of trouble shooting sections. This is particularly true of the chapter on pulsed-field gels by Smith and co-authors, where the chapter is finished with a series of photographs of failed gels. I am sure that some of these will be painfully familiar to many readers, and possible remedies are provided with each photo.

Chapters five and six deal with the ways in which single base changes in DNA sequences can be detected. Much attention has been focussed recently on the PCR (polymerase chain reaction) not least because of its use in the early detection of viral disorders, including HIV infection. The chapter on this exciting new development by Saiki and others is complemented by the adjacent account of the use of ribonuclease cleavage to detect single base changes in a method reminiscent of S1 mapping: the PCR can make available sufficient amounts of a particular sequence for this technique when amounts of material are limiting.

The final chapter by Eric Lander is a very readable account of the problems encountered by human gene mappers in the face of complex genetic disorders. Incomplete penetrance, phenocopies and genetic heterogeneity are just some of the issues discussed in this section.

Overall the book is well presented with a spiral binding so it lies nice and flat for use at the bench. Don't spill your phenol on it though; at £27 a copy it is not cheap!

Keith Dudley

Molecular Basis of Inherited Disease

By K.E. Davies and A.P. Read

IRL Press; Oxford, 1988

77 pages. £5.95

The complexity of DNA technology has produced a flourish of excellent large laboratory manuals often lacking introductory theory and summaries of techniques.

Medical and science students and newcomers in research often need to grasp new methods such as the polymerase chain reaction, disease gene tracking etc. and this book aims to give such students an understandable view of the strategy of the molecular investigation of genetic disease. It is a

PDF | On Mar 1, 2013, Satendra Singh and others published Genome Analysis using a Computational Approach | Find, read and cite all the research you need on ResearchGate.Â Learn more. In book: Advances in Biotechnology: A Practical Approach, Edition: 1, Chapter: 1, Publisher: Nova Science Publishers, Editors: Harish Kumar Dhingra, P.N. Jha and P. Bajpai, pp.1-14. Cite this publication. Satendra Singh.Â Comparative analysis of predicted protein sequences encoded by the genomes of Caenorhabditis elegans and Saccharomyces cerevisiae suggests that most of the core biological functions are carried out by orthologous proteins (proteins of different species that can be traced back to a common ancestor) that occur in comparable numbers. Genome Mapping: A Practical Approach. P.H. Dear, IRL Press at Oxford University Press, 1997, 370 pp., soft cover. Supporting the explosive growth in genome analysis, this volume describes current methods for genome mapping, organized in order of increasing resolving power: from linkage analysis to restriction map-ping. Applications to animal (including human) and plant genomes include mapping of quantitative trait loci, HAPPY mapping, fluores-cence in situ hybridization, contig assembly, chromosome walking, and long-range restriction mapping.Â Genome Analysis: Laboratory Manual Series Volume 1: Analyzing DNA ISBN 0-87969-496-3. Volume 2: Detecting Genes. B. Birren, Cold Spring Harbor Laboratory Press, 1998, 463 pp., comb bound. A Practical Approach to Microarray Data Analysis pp 91-109 | Cite as. Singular Value Decomposition and Principal Component Analysis. Authors.Â Singular value decomposition for genome-wide expression data processing and modeling. Proc Natl Acad Sci 97:10101â€“06.PubMedCrossRefGoogle Scholar. Berry M.W. (1992).Â Cluster analysis and display of genome-wide expression patterns. Proc Natl Acad Sci 95:14863â€“68.PubMedCrossRefGoogle Scholar. Everitt B.S., Dunn G. (2001).