

A BIOLOGIST'S GUIDE TO ANALYSIS OF DNA MICROARRAY DATA

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Microarrays are low-density arrays of DNA molecules that permit many hybridization experiments to be performed in parallel. A *Biologist's Guide to Analysis of DNA Microarray Data* is the first authoritative text to focus on analysis (as opposed to technology) in diverse biological and medical applications of microarrays.

Written for biologists without special training in data analysis and statistics, the *Guide* takes over where the image analysis software that accompanies DNA array equipment typically leaves off—with a file of signal intensities and fold changes compared to a control. The broad spectrum of established analysis approaches is covered, including cluster analysis, function prediction, and principal component analysis. A thorough, critical review of software programs is presented, and criteria for selecting programs are discussed. Each chapter contains a Further Reading section categorized by topic as well as a summary, and highlights numerous real examples to illustrate the key concepts. Chapter topics include:

- Basic data analysis
- Visualization by reduction of dimensionality
- Cluster analysis of expression data
- Molecular classifiers
- Genotyping chips
- Software issues and data formats

A Biologist's Guide to Analysis of DNA Microarray Data meets the needs of research professionals, students, and trainees alike for a compact yet thorough guide to analyzing microarray data.

