

Integrating various technologies with informational systems provides vast improvements to the overall research and development that occur in the biopharmaceutical industry. One of the first books to explore this area, **Functional Informatics in Drug Discovery** examines all aspects of technology integration and information flow in a biopharmaceutical enterprise and outlines the specific technologies used at various stages of drug development.

With contributions from leaders in academia, information technology, and the pharmaceutical industry, each chapter illustrates how a particular area of biological science can benefit from the tools of informatics. The book first looks at intelligent automation, neurally based computational tools, and pharmacodynamic (PD) biomarkers. It then reviews a variety of novel technologies and approaches presently used in drug discovery at Johnson & Johnson. The text also describes how informatics can advance antibody technology and drug development for oncology. After focusing on forward genetic and reverse genetic strategies to identify relevant target genes for drug discovery, the book explains proteomic expression profiling and explores the application of laser microdissection in transcriptomics.

Taking a systematic approach, this volume examines the impact of informatics tools on various areas in biopharmaceuticals by presenting in-depth analyses of emerging trends and future opportunities.

#### Features

- Presents automation approaches for collecting and analyzing biological data
- Explains how to use PD biomarkers to accelerate drug development
- Discusses the clinical successes of antibody therapeutics for treating oncology cases
- Offers an integrated approach to unravel the complexities of human disease



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