Chemogenomics: Knowledge-Based Approaches to Drug Discovery

Integrates reviews of the latest cutting-edge research by leaders in the various disciplines, providing a general, knowledge-centric overview of the different chemical, biological and informatics components.

In the post-genomic era, one of the key challenges for drug discovery is making optimal use of the comprehensive genomic data available after the elucidation of the human genome and others in order to identify effective new medicines. Addressing this challenge, chemogenomics aims to identify systematically all ligands and modulators for all the gene products expressed and allows the accelerated exploration of their biological function. The subject brings together diverse disciplines including chemistry, genetics, chemo- and bioinformatics, structural biology, and biological screening in phenotypic and target-based assays.

Unlike existing publications, this book focuses on how these disciplines interact efficiently for the rapid discovery of new targets and their effector molecules simultaneously. Examples of chemogenomics approaches pursued in academia as well as in biotech and pharmaceutical companies are also provided.