

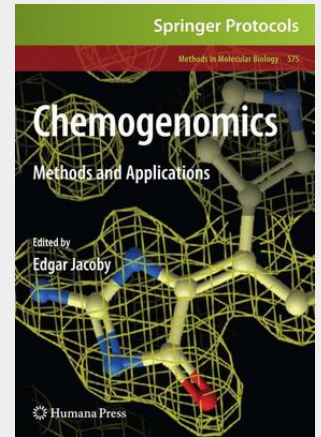
Jacoby

## Chemogenomics

Methods and Applications

Chemogenomics aims toward the systematic identification of small molecules that interact with the products of the genome and modulate their biological function. The establishment, analysis, prediction, and expansion of a comprehensive ligand–target SAR (structure–activity relationship) matrix has followed the elucidation of the human genome and presents a key scientific challenge for the twenty-first century. The annotation and knowledge-based exploration of the ligand–target SAR matrix is then expected to impact science greatly. Progress alongside this challenge without a doubt will contribute to further the fundamental understanding of the biological function of the individual proteins and ultimately provide a basis for the discovery of new and better therapies for diseases. While historically the chemogenomics approach is based on efforts that systematically explore target gene families, today broader in vitro and in silico approaches are available to encompass wider genomes. In this book, experts from academia and industry outline relevant aspects of chemistry, biology, and molecular informatics which are the cornerstones of chemogenomics. General introductory chapters are combined with chapters describing methods and protocols, which are the gold standard of the Methods in Molecular Biology book series.

The establishment, analysis, prediction, and expansion of a comprehensive ligand–target Structure-Activity Relationship (SAR) in the post-genomic era presents a key research challenge for this century. In Chemogenomics: Methods and Applications, experts from academia and industry explore cutting-edge in vitro and in silico approaches available today and outline the relevant aspects of chemistry, biology, and molecular informatics which are the cornerstones of chemogenomics, thus combining introductory concepts with detailed methods and protocols. Covering topics such as target family-oriented compound library design, drug discovery targeting the purinome and co-factor binding sites, as well as the pocketome engine and molecular interaction field approaches, the book emphasizes systemization as an advantage to furthering the difficult science of drug discovery. As a volume in the highly successful Methods in Molecular Biology™ series format, this work provides the kind of detailed description and implementation advice that is crucial for getting optimal results. Authoritative and practical, Chemogenomics: Methods and Applications presents content which will be of enormous value to those striving for the discovery of new and better therapies for diseases.



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