Gene Family Targeted Molecular Design

Description: A gene family focused approach to molecular design

Gene Family Targeted Molecular Design enables scientists to design small molecules that target proteins and minimize interactions with other protein classes by focusing on major gene family targets. Bringing together and synthesizing the latest findings in the field, this book guides readers through compound design methods for generating small molecules that interact with important biological targets in G–protein coupled receptors/7–transmembrane receptors, ion channels, integrins, kinases, proteases, protein–protein interactions, transporters, and nuclear receptors. Each chapter covers all the critical issues to help readers design their own therapeutic small molecules, including:

- Affinity for the intended target
- Mechanism of the interaction
- Examples of small molecules
- Ways to change the molecule to attenuate activity
- Pros and cons of different discovery methods

Gene Family Targeted Molecular Design begins with an introduction to drug discovery by gene family, which includes a list of suggested readings that provide more in-depth coverage of the functional areas of drug discovery that contribute to this stage of research. All chapters have been contributed by one or more leading researchers in small molecule design and include references to the primary literature. Many chapters feature case studies highlighting successful drug discovery efforts.

Synthetic, structural, computational, and medicinal chemists in academia, biomedical companies, and the pharmaceutical industry will all benefit from this gene family focused approach to molecular design.

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