Hit and Lead Profiling. Identification and Optimization of Drug-like Molecules, Volume 43. Methods and Principles in Medicinal Chemistry

Description: The enormous cost incurred when a candidate drug fails in a clinical trial because of poor pharmacological parameters or severe side effects makes it imperative to screen for “safe” drugs in the very early stages of drug development. Various biochemical and other in vitro assays are thus used in conjunction with the analysis of physicochemical properties of the potential drug molecules, enabling an informed selection of drug development candidates before they enter clinical trials.

By addressing both drug efficiency and drug safety, this modern practical reference shows how each individual aspect figures in shaping the key decisions on which the entire drug development process hinges. The result is a complete toolbox for assessing the risk/benefit ratio for any novel compound, using both in vitro and in silico methods.

Following a brief introduction to the necessities of filtering and risk assessment, the two equally important aspects of pharmacological (ADME) and safety (toxicity) profiling are covered in separate parts. The whole of the fourth and final part is devoted to organ-specific toxicity assays for the liver, heart, kidney and blood, as well as profiling for autoimmune reactions.

Invaluable know-how for every medicinal chemist and drug developer.

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