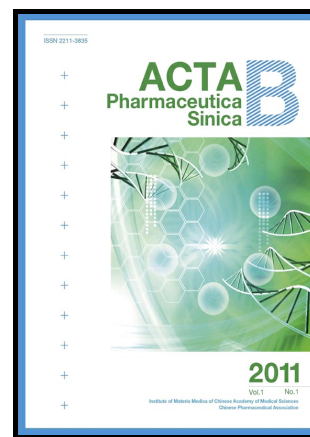


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Drug metabolism in drug discovery and development

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REVIEW

Drug metabolism in drug discovery and development

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Abstract Drug metabolism as a discipline plays an important role in drug discovery and development and the effects of drug metabolism on pharmacokinetics (PK), pharmacodynamics (PD), and safety should be carefully considered. This communication provides an overview of common strategies in the area of drug metabolism for improving PK/PD and safety profiles of drug candidates; these include, but are not limited to, collaboration with medicinal chemists on Structure–activity relationships (SAR) to overcome high clearance, using deuterium replacement to further optimize a lead, prodrug approaches to circumvent formulation and delivery difficulties, and addressing issues such as species differences in metabolism, drug–drug interactions (DDI) and formation of reactive metabolites.

KEY WORDS Bioactivation; Drug discovery and development; Drug metabolism; Metabolite; Pharmacokinetics; Pharmacodynamics; Safety; Toxicity

1. Introduction

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