

综述

高内涵分析在新药发现毒理学中的应用进展

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摘要 在新药发现早期开展发现毒理学研究是提高新药研发效率的重要策略之一。高内涵分析(HCA)是基于高效新药筛选需求发展起来的一项新技术,其主要特点是基于活细胞、多参数、实时、高通量,能够实现化合物多种生物活性、毒性的早期、快速地检测,为发现毒理学研究提供了高效的技术手段。目前,HCA已用于多种靶器官细胞毒性、遗传毒性、神经毒性、血管毒性、生殖毒性等检测以及毒理学分子机制的研究,本文就HCA在新药发现毒理学方面的应用进展进行综述。

关键词 [高内涵分析](#) [发现毒理学](#) [药物毒性](#)

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Application progress of high content analysis in discovery toxicology

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Abstract

One important strategy for improving efficiency of new drug research and discovery is applying discovery toxicology earlier in the drug development process. High content analysis (HCA), a new technology based on efficient drug screening, employs image based cellular assays in a real-time, high throughput and multi-parameter analysis format, allowing identify a variety of biological and toxicological activity of compounds rapidly and early. Thus HCA provides a high-efficient technique for the discovery toxicology study. Currently, HCA has been applied in testing various cytotoxicity, genotoxicity, neurotoxicity, vessels toxicity, reproductive toxicity *etc*. In addition to those, the molecular mechanism of toxicology could also be studied with HCA. This paper reviewed the progressing of HCA in discovery toxicology.

Key words [high content analysis](#) [discovery toxicology](#) [drug toxicity](#)

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