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全胚胎培养技术及其应用研究进展

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中文摘要: 体外全胚胎培养技术是以体外胚胎替代整体动物进行实验的技术, 主要用于研究早期器官的生长发育和化学物质的胚胎毒性及造成胚胎毒性的机制等。本文就大鼠和小鼠的全胚胎培养技术及其应用进行综述, 着重介绍了全胚胎培养技术的发展概况, 应用全胚胎培养技术的注意事项及全胚胎培养技术在生长发育研究、环境污染物和重金属的胚胎毒性研究、药物安全性评价、中药的胚胎毒性及其机制研究领域的应用, 并就该技术在中药生殖毒性研究中的应用前景进行了讨论。

中文关键词: [全胚胎培养](#) [胚胎发育](#) [生殖毒性](#) [安全性评价](#)

Research progress of whole embryo culture tool and its application

Abstract: Whole embryo culture (WEC) is an experimental tool, which is made use of embryos in vitro to replace whole animals to investigate the growth and development of early organs, the embryo toxicity of chemical materials and the mechanism of the occurrence of embryo toxicity. Compared with experiment with whole animals, WEC could reduce the number of experimental animals, shorten experimental time, decrease experimental expenses, eliminate disturbing factors and control dosage more exactly. So it is generally received that WEC tool is a good experimental method to match the principles of replacement, reduction, refinement and responsibility. This article is a review of the WEC tool of rat and mouse, including the development of this tool, announcements, and the application in the development of organs, the embryo toxicity of environmental pollution and heavy metal, safety evaluation of medicine and the embryo toxicity of traditional Chinese medicine and its mechanism. There is also a discussion of the application of this tool in the investigation of the embryo toxicity of traditional Chinese medicine.

keywords: [whole embryo culture \(WEC\)](#) [embryonic development](#) [reproductive toxicity](#) [safety evaluation](#)

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