

专题研究

小鼠毒理基因芯片的设计和制作

敖琳¹; 曾志雄²; 方志俊²; 胡冉¹; 高利宏¹; 杨梦苏²; 曹佳¹

1. 第三军医大学预防医学系卫生毒理学教研室, 重庆 400038; 2. 香港城市大学基因组科技应用研究中心, 香港

收稿日期 2005-10-8 修回日期 2005-12-2 网络版发布日期:

摘要 背景与目的: 设计并制作一种用于毒理学实验研究的小鼠毒理基因芯片。材料与方法: 根据环境与毒理学研究的要求, 挑选各个生物学通路上的相关基因, 采用美国NIA(National Institute on Aging)小鼠cDNA文库克隆扩增所挑选的基因片段, 点样法制作芯片, 荧光染色法抽样检验芯片质量。结果: 设计的小鼠毒理基因芯片含1 796个基因, 涉及8种生物学功能; PCR扩增的目的基因片段95.12%为完全合格; Picogreen荧光染色实验可用于检验芯片的点样质量。结论: 目的基因扩增和芯片制作基本成功, 自行研制的毒理基因芯片为进一步用于毒理学相关研究创造了条件。

关键词 [基因芯片](#); [毒理学](#)

The Design and Fabrication of Mouse Toxicology Gene Chip

AO Lin¹; ZENG Zhi-xiong²; FANG Zhi-jun²; HU Ran¹; GAO Li-hong¹; YANG Meng-shu²; CAO Ji a¹

1. Department of Toxicology, College of Preventive Medicine, Third Military Medical University, Chongqing 400038, China; 2. Applied Research Center for Genomic Technology, City University of Hong Kong, Hong Kong, China

Abstract BACKGROUND & AIM: To design and fabricate a kind of mouse toxicology gene chip to be used in toxicology research. **MATERIAL AND METHODS:** Some genes related to different biological functions were chosen according to the requirement of environmental and toxicology research. NIA mouse cDNA clone sets were applied to copy and amplify the gene fragments which were dotted on the slide, and the Picogreen fluorescence staining was used to detect the quality of chip. **RESULTS:** We chose 1 796 genes involved in eight biological functions for the construction of the mouse toxicology gene chip. 95.12% of the PCR products had strong and single band, and the slides selected from each batch had good images with Picogreen dye detection. **CONCLUSION:** We have designed and fabricate the mouse toxicology. gene chip successfully. This could be applied in toxicology-related research.

Keywords [gene chip](#) [toxicology](#)

DOI

通讯作者 敖琳 caojia@tmmu.edu.cn

扩展功能

本文信息

▶ [Supporting info](#)

▶ [\[PDF全文\]\(707k\)](#)

▶ [\[HTML全文\]\(44k\)](#)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [Email Alert](#)

相关信息

▶ [本刊中包含“基因芯片; 毒理学”的相关文章](#)

▶ [本文作者相关文章](#)

· [敖琳;曾志雄;方志俊;胡冉;高利宏;杨梦苏;曹佳](#)