

论著

巢湖水有机污染物的遗传毒性及对饮用水水质的影响

王 维, 赵 影, 黄晓沐, 王志强, 杨志平

安徽省疾病预防控制中心, 安徽 合肥 230061

收稿日期 修回日期 网络版发布日期:

摘要 背景与目的: 探讨巢湖水有机污染物的遗传毒性及其对饮用水水质的影响, 为综合评价巢湖水的污染状况提供科学依据。材料与方法: 用Ames试验、微核试验、单细胞凝胶电泳(SCGE)试验组合, 分别对巢湖源水及以其为水源的自来水厂各生产过程水样及出厂水样中的有机提取物进行了研究。结果: Ames试验提示水源水有可疑致突变性(直接、间接), 经高锰酸钾处理及混凝沉淀不能消除, 经二次加氯的出厂水仍有间接致突变性存在。微核试验表明巢湖源水、水厂滤前水、滤后水、出厂水有机污染物10 µg/g剂量组在金鲤鱼的红细胞微核率均有增高; SCGE试验提示巢湖源水、水厂滤前水、滤后水、出厂水有机污染物引起的金鲤鱼的红细胞慧星细胞率均有升高。结论: 巢湖水有机污染物具有可疑致突变性, 其对饮用水水质及人群健康的影响应该引起高度重视。 文章编号: 1004-616X (2004) 06-0352-03

关键词 [巢湖; 有机污染物; 饮用水; 遗传毒性](#)

Genotoxicity Organogenic Pollutants of Chaohu Lake and Effects on Drinking Water Quality

WANG Wei, ZHAO Ying, HUANG Xiao-mu, et al

Anhui Center for Disease Control and Prevention, Hefei Anhui 230061, China

Abstract BACKGROUND & AIM: To evaluate the genotoxicity of water organic pollutants of Chaohu Lake and the effects on drinking water quality. MATERIAL AND METHODS: Ames test, micronucleus test and single-cell gel-electrophoresis(SCGE) test were carried out in the water samples from Chaohu Lake water and the finished water plants which use water source from Chaohu Lake. RESULTS: Ames test indicated that the raw water presented suspectable mutagenicity which couldn't be eliminated by coagulation and chlorination. The rates of red cell micronucleus were increased significantly at dose level of 10 µg/g. The result of SCGE showed that the frequencies of comet cells in headwater, unfiltered water, filtered water and product water groups were significantly higher than that of negative group. CONCLUSION: The water organic pollutants of Chaohu Lake has potential mutagenicity. We should pay more attention to its genotoxicity and the effects on drinking water quality which related public health.

Keywords [Chaohu Lake](#) [organic pollutants](#) [genotoxicity](#) [drinking water](#)

DOI

通讯作者 王 维

扩展功能

本文信息

- ▶ [Supporting info](#)
- ▶ [\[PDF全文\]\(627k\)](#)
- ▶ [\[HTML全文\]\(26k\)](#)
- ▶ [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“巢湖; 有机污染物; 饮用水; 遗传毒性”的 相关文章](#)
- ▶ [本文作者相关文章](#)

- [王维](#)
- [赵影](#)
- [黄晓沐](#)
- [王志强](#)
- [杨志平](#)