

论著

微囊藻毒素Microcystin-LR体外遗传毒性

詹立;张立实;王莉;张浩;朱玲;铃木孝昌;本间正充;吴德生

四川大学华西医院国家成都中药安全性评价中心, 四川 成都 610041

收稿日期 2005-1-17 修回日期 2005-3-6 网络版发布日期:

摘要 背景与目的: 应用人类淋巴母细胞TK6研究微囊藻毒素 (Microcystin-LR,MCLR)的体外遗传毒性。材料与方法: MCLR体外染毒TK6细胞4 h或24 h后检测细胞毒性、微核及tk位点突变频率。结果: 4 h染毒未引发明显细胞毒性, 24 h MCLR染毒导致TK6细胞相对存活率下降, 细胞微核率及TK基因突变频率明显上升, 并有剂量-反应关系。最高浓度组(80 µg/ml)的细胞微核率及TK基因突变频率分别是对照组的4.8及5.1倍。MCLR诱发tk位点两种不同表型的突变细胞集落, 即正常生长集落及缓慢生长集落, 并以后者为主。结论: 24 h染毒MCLR可以诱发TK6细胞微核及基因突变, 揭示MCLR可能是一种断裂剂。

关键词 [微囊藻毒素](#) [微核](#); [突变](#); [TK6细胞](#)

Genetic Toxicity Induced by Microcystin-LR in Vitro

ZHAN Li ;ZHANG Li -shi ; WANG Li ;ZHANG Hao; ZHU Li ng; TAKAYOSHI Suzuki ; MASAMITSU Honma; WU De-sheng

National Chengdu Center for Safety Evaluation of Traditional Chinese Medicine, West China Hospital , Sichuan University, Chengdu 610041, Si chuan, Chi na

Abstract BACKGROUND & AIM: Human lymphoblastoid cell line TK6 was used to investigate the in vitro genotoxicity of Microcystin-LR. **MATERIAL AND METHODS:** Cytotoxicity response, micronucleus(MN) and mutation frequency at tk locus induced by MCLR after 4 h or 24 h treatment were detected. **RERULTS:** Treatment with MCLR for 4 h did not induce a significant cytotoxic response at less than 80 µg/ml. Exposure to MCLR for 24h decreased relative survival(RS), induced both MN and TK mutation in a concentration-dependent manner. The maximum induction of MN and TK mutation were 4.8 and 5.1 times those of the control,respectively. Two distinct phenotypic colonies of TK mutants were generated , namely tk-NG and tk-SG mutant colonies but the latter dominated. **CONCLUSION:** MCLR was clastogenic in TK6 human lymphoblastoid cells .

Keywords [Microcystin-LR](#) [micronucleus](#) [mutation](#) [TK6 cell](#)

DOI

通讯作者 吴德生 dswwcums@mail.sc.cninfo.net

扩展功能	
本文信息	
▶ Supporting info	
▶ [PDF全文](718k)	
▶ [HTML全文](84k)	
▶ 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“微囊藻毒素”的 相关文章	
▶ 本文作者相关文章	
· 詹立;张立实;王莉;张浩;朱玲;铃木孝昌;本间正充;吴德生	