

实验报道

体外微量法测定恶性疟原虫对抗疟药敏感性的影响因素

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摘要

目的探讨体外微量法测定恶性疟原虫对抗疟药敏感性的影响因素。方法采用现场测试用的培养基和抗疟药涂药板为材料, 用实验室连续培养多年的恶性疟原虫FCC-1/HN株及恶性疟现症病人含虫血进行测定, 观察其各种影响因素。结果4℃保存, 安瓿封装液体培养基和冰冻干燥培养基分别在2个月和1年内效果不变, 超过上述时间, 培养基支持疟原虫生长发育的能力将下降。氯喹板2年内、哌喹板6个月内效果稳定, 咯萘啶板和青蒿琥酯板保存期超过3个月, 效果将会变化。密封涂药板的胶带纸只可1次启封使用, 否则会影响测定结果。制作涂药板的塑料应选择对疟原虫生长发育无影响的原材料。4℃保存的药液超过2wk其浓度会发生变化。用于测定的疟原虫应为同步环状体阶段疟原虫, 密度以1000~80000个/μl血为宜, 含虫血室温保存不超过1h, 4℃保存不超过48h。操作技术需熟练, 应严格按照操作规范进行, 否则会影响测定结果的准确性。结论涂药板、培养基、密封胶带纸、疟原虫及操作技术等均可影响体外微量法测定结果。为体外微量法所用材料及操作技术的标准化和规范化提供参考。

关键词 [抗疟药](#) [恶性疟原虫](#) [体外微量法](#) [敏感性](#) [影响因素](#)

分类号

Factors Affecting the In vitro Microtest for Drug Sensitivity of Plasmodium falciparum

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Abstract

Objective To explore factors influencing the results of in vitro microtest for drug sensitivity of Plasmodium falciparum. Methods Handy media, microplates predisposed with antimalarial drug, cultured Pf parasites (FCC-1/HN isolate) and blood samples from patients were used to evaluate the factors influencing the in vitro determination of drug sensitivity of Pf. Results Liquid medium and lyophilized medium stored at 4℃ for 2 months and 1 year respectively could keep their effect unchanged. The effect of the drug-coated plates was not changed within the following period of storage: plates coated with chloroquine and piperazine stored at 4℃ for 2 years and 6 months respectively; plates coated with pyronaridine and artesunate stored at 4℃ for 3 months. The adhesive paper of the sealed plate could be unsealed once only. The plastic plate must be harmless to the growing of parasites. The drug liquid should not be stored over 2 wk at 4℃, otherwise the drug concentration was changed. Parasites tested were at synchronous ring stage, with a density of 1 000-80 000/μl blood, stored at room temperature for 1 h, and at 4℃ for 48 h. Operation needed to follow strictly the standard technical procedure. Conclusion Drug plates, media, adhesive paper, parasites and operation technique can affect the result of in vitro microtest for drug sensitivity of P. falciparum. Standardized materials and operational procedure should be used to guarantee a reliable result of the test.

Key words [antimalarial drug](#) [Plasmodium falciparum](#) [in vitro microtest](#) [sensitivity factor](#)

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