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论文

Fura-2/AM 法和 MTT 法筛选多药抗药性逆转剂的比较

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摘要:

为了验证新方法Fura-2/AM法筛选多药抗药性逆转剂的效果,以新方法Fura-2/AM法与传统方法MTT法进行筛选多药抗药性逆转剂的比较研究。结果显示Fura-2/AM法与MTT法的筛选结果基本一致(相关系数γ=0.86,P<0.01),且Fura-2/AM法有操作简单、快速、灵敏、重复性好及测定过程不需无菌操作等的特点,适用于大规模的筛选。

关键词: 钙离子荧光指示剂(Fura-2/AM) 多药抗药性

COMPARED STUDY ON Fura-2/AM ASSAY AND MTT ASSAY FOR SCREENING MULTIDRUG RESISTANT MODULATORS

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Abstract:

To explore the difference of screening results of reversing multidrug resistance (MDR) by modulators between Fura-2/AM assay and MTT assay, 25 compounds which have active structure were studied for MDR reversal activity with both methods. The fold of MDR reversal was shown to have remarkable relation with the amount of Fura-2 accumulation (Y=-3.66+17.5X,γ=0.86, P<0.01). On the other hand, Fura-2/AM assay has several advantages as compared with MTT assay. Fura-2/AM assay needs shorter time (4 h) than MTT assay (96 h), and the MTT assay needs more steps than the Fura-2/AM assay. Furthmore, Fura-2/AM assay was more reliable than MTT assay for screening MDR modulators because MTT assay was dependent on the viable cells, while Fura-2/AM assay was dependent on the function of P-gp. The results suggest that Fura-2/AM assay may replace MTT assay in the screening of MDR modulators on a large scale.

Keywords: Multidrug resistance Fura-2/AM

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