



脂质体镶囊的体内分布及载多柔比星镶囊的体外评价

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摘要 目的 研究脂质体镶囊的体内分布及载药后的体外药效。方法 运用共沉淀法和层层自组装技术将Cyanine5标记的牛血清白蛋白(Cy5-BSA)包裹在脂质体镶囊的内部,得到荧光标记的脂质体镶囊Cy5-Capsosome;裸鼠尾静脉注射Cy5-Capsosome,利用活体成像系统观察不同时间点其在裸鼠体内的分布情况;采用四甲基偶氮唑盐微量酶反应比色法(MTT)和细胞凋亡实验考查载多柔比星脂质体镶囊对B16F10细胞的细胞毒性和诱导凋亡的能力。结果 Cy5-Capsosome注射后1 h内即到达肺部,并在肺部蓄积,至少滞留12 h,在其他脏器的分布很少;空白脂质体镶囊细胞毒性较低,载多柔比星脂质体镶囊能明显抑制细胞的生长及诱导细胞的凋亡。结论 脂质体镶囊具有良好的肺被动靶向性,且具备作为药物载体的潜力。

关键词: 脂质体镶囊 体内分布 细胞毒性 多柔比星

Abstract: OBJECTIVE To study the tissue distribution of capsosomes *in vivo* and the efficacy of DOX-loaded capsosomes *in vitro*. METHODS Cy5-Capsosomes (capsosomes encapsulating Cy5-BSA molecules) were prepared by co-precipitation method and layer-by-layer assembly technique. After intravenously injected into nude mice via the tail vein, the tissue distribution of Cy5-capsosomes at defined time points were studied under Maestro *in-vivo* imaging system. The cytotoxicity of DOX-loaded capsosomes for B16F10 cells was identified by MTT, the apoptosis induced by DOX-loaded capsosomes was observed by means of fluorescent microscopy. RESULTS Cy5-Capsosomes achieved in the lung less than 1 h and accumulated there for more than 12 h. There was little Cy5-Capsosomes distributed in other organs. Capsosomes had low toxicity, while the DOX-loaded capsosomes had strong toxicity for B16F10 cells and induced apoptosis obviously. CONCLUSION The capsosome had favourable passive pulmonary targetability, and it can be used as a novel drug carrier in potential.

Keywords: capsosome, tissue distribution, cytotoxicity, doxorubicin

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