

磁性幾丁聚醣/四氧化三鐵微奈米粒子於納豆激酶之研究

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摘要

本研究以低溫噴霧乾燥法製備磁性幾丁聚醣/四氧化三鐵/納豆激酶 L 奈米粒子，再以人類口腔鱗狀癌細胞 (KOSC-3) 做為體外模式試驗，探討磁性微奈米粒子對納豆激酶 ' b 細胞間輸送之影響。首先取納豆激酶 * 誑翩 A 分別與 0.5、1、1.5% (w/v) 三種不同濃度之幾丁聚醣/四氧化三鐵複合懸浮液進行混合，再以低溫噴霧乾燥法製備成微奈米粒子。經場發射掃描式電子顯微鏡分析得知，各樣本其顆粒平均粒徑值介於 767 nm 至 2.1 μm 之間。將各樣本粉末分別與 KOSC-3 進行 MTT 細胞毒性評估，發現磁性幾丁聚醣/四氧化三鐵/納豆激酶 L 奈米粒子對 KOSC-3 並無明顯的毒性反應。利用細胞電阻測定儀 (TEER) 來觀察各樣本在 KOSC-3 細胞層的穿透能力，結果顯示各樣本皆有開放細胞間隙的能力；而 TEER 測定的同時，於 insert 外層取出複合培養基，以 QuantiPro™ BCA Assay Kit 進行納豆激酶 _ 孺躉恣敵 e 分析，由多段式電磁鐵收集器收集之顆粒，以外加磁鐵吸引進行實驗，結果顯示對於輸送有較好的效果。而最大與最小顆粒的釋放結果不盡相同，這值得後續進一步的探討研究。

關鍵詞：幾丁聚醣、四氧化三鐵、納豆激酶、KOSC-3、藥物傳輸。

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