Abstract Submitted
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Carbon Nanotubes as Anti-Cancer Drug Delivery Agents[1] ANVESH BOMMOJU, TRUNG HOANG, BAZLUR RASHID, PAUL WITHEY, None — Cancer or Malignant neoplasm is the uncontrolled cell growth which is the leading cause of mortality worldwide. Carbon nanotubes (CNT) emerged as promising materials in the field of nano medicine, where they hold great importance in drug delivery, therapeutics and medical imaging. The unique properties of CNT's like size, their tubular shape and high surface area makes them a suitable tool for drug delivery purpose. In this work we have studied the effect of various concentrations of block copolymer Pluronic F127 on the dispersion of nanotubes. We examined the effect of different concentrations of polymer on different concentrations of nanotubes and selected 3 good dispersions based on the results from NIR spectroscopy. Doxorubicin hydrochloride (DOX), a potent anticancer drug was non-covalently attached to these nanotube dispersions and the cell viability was tested on HEK 293 cells. The results showed a decreased cell viability with the DOX-CNT complex compared to that of pure DOX, which indicates that nanotubes enhance cell death by carrying a high amount of drug to the cells.

[1]University of Houston - Clear Lake

Anvesh Bommoju
None

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