Carbon Nanoparticle Synthesis Method and Its Use for HUVEC Cancer Treatment

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Research Interests:

- Surface chemistry
- Spectroscopy
- Material science
- Chemistry education
- Science education
- Thin film
- Chemistry education

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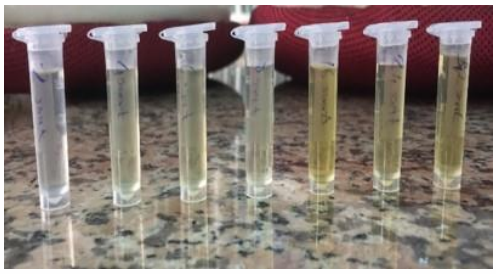
Field of the Invention

The invention is based on carbon nanoparticles, which are used as carriers for drugs for cancer cells such as breast cancer (MCF-7) and human osteosarcoma (Saos-2) and can be used in the process of cancer therapy, thanks to their cytotoxic effect on human umbilical vein endothelial cells (HUVEC) cell lines. is synthesis.

Abstract

In this invention, after turning the chitosan into a gel, it was caramelized in the microwave oven and left to natural diffusion from the animal intestine. Thus, a suitable method was developed for mass production with high concentration and low investment cost. Carbon nanoparticles produced in high quantities can be used directly for cancer treatment due to their cytotoxic effect on cancerous cells. It can be used to act as a carrier for drugs used in the treatment of cancerous cells. The tests were done in vitro, that is, in the laboratory environment, and showed a cytotoxic effect on cancerous cells. It can be used as a carrier for drugs applied in the treatment of cancer cells such as breast cancer (MCF-7) and human osteosarcoma (Saos-2). Carbon nanoparticles have been synthesized in human umbilical vein endothelial cells (HUVEC) cell lines that can be used in cancer treatment.



Advantages

- It is used as a drug carrier in breast cancer (MCF-7) and human osteosarcoma (Saos-2) cells.
- Used in cancer treatment in cancer cells in human umbilical vein endothelial cells (HUVEC) cell lines
- Ability to produce in high volumes

Usage Area

- Health sector
- Pharmaceutical Industry
- Pharmacy
- Hospitals

Stage of Development

TRL 4: Technology validated in lab

Patent Status: Tescil TR2020 18046B, PCT/TR2021/051158

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