

Bio-nanotechnology to kill cancer cells

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The University of Surrey has been awarded a grant of £420,000 to utilize nanotechnology to develop cancer treatments. The grant is part of an international project: “Multifunctional Carbon Nanotubes for Biomedical Applications (CARBIO)” supported by the European Union under the Marie Curie scheme.

Carbon nanotubes have already found applications in engineering but so far any biological application has been hampered by their poor interaction with biological systems.

The Surrey team has overcome this problem by wrapping DNA and RNA around carbon nanotubes making them biocompatible. The aim of the project is to attach additional molecules to the RNA-wrapped carbon nanotubes to target them towards cancer cells. In combination with laser treatment the carbon nanotubes may then be used to kill the cancer cells.

Although there is still a long way to go before any new drugs based on this technology are developed, the scientists hope that their work will eventually lead to more effective treatments for cancer.

The multidisciplinary project involves biologists, engineers and physicists from the University of Dresden in Germany, the University of Toulouse, France, the University of Linz, Austria, the University of Twente, The Netherlands and the University of Surrey.

Further information is available from the CARBIO website www.carbio.eu/ . The work at Surrey is headed by Professor Johnjoe

McFadden, Professor Ravi Silva, and Dr Helen Coley from the disciplines of Electronic Engineering, Biology and Medicine, respectively.

Source: University of Surrey

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