

More effective breast cancer treatments through microcapsules that transport an antitumor drug

LOCATION: Granada

LENGTH: 1'36"

SUMMARY: Scientists have used microgels for the first time, developed using gold spheres, in order to better the treatment of breast cancer. Investigators at the universities of Granada and Malaga have managed to transport an antitumor drug in these hollow microcapsules and have successfully tested this on cultures of tumour cells.

VTR:

Investigators at the universities of Granada and Malaga have managed to transport an antitumor drug in hollow microcapsules. The drug is one of the most effective fronts against breast cancer, but its side effects limit its use. With this system of transporting the drug, side effects would be avoided.

José Carlos Prados
University of Granada Professor

"We have developed a series of microgels that were able to encapsulate this drug. I like to call them nanotransporters or nanacapsules, which have improved the efficiency of this drug."

The hollow microgels are generated with a gold nucleus.

Juan Manuel López
University of Granada Professor

"We generate those particles on the basis of a gold nucleus, then we eliminate the gold nucleus and obtain a hollow particle in which we can encapsulate, insert, the drug. In order to send a letter by mail you need to put it into an envelope. It's something similar to that. The drug is put into the envelope, which is the nanoparticle. Why? Because it protects it and allows us to send it."

The drug also increases activity and permits penetration in a more effective way on the tumour mass. They have successfully tested this on cultures of breast cancer tumour cells.

José Carlos Prados
University of Granada Professor

"We are still in an experimental phase, so it can't be tested on patients yet. They are biocompatible. This means that they don't show any toxicity neither in regular cells nor in blood cells, that's why we will be able to use it in vivo. Secondly, we have been able to prove that they increase the effectiveness of the drug against breast cancer."

Now they are working to add electromagnetic particles to their compounds in order to be able to monitor the drug and better direct it toward the tumour cells.

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