One step closer to chemotherapy with reduced side-effects

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Researchers have created a tiny device that triggers reactions in cells.

The technology could enable cancer drugs to be activated at the site of a tumor.

Targeting drug treatment where it is needed could safeguard the rest of the patient's body.

This approach could help curb side-effects associated with chemotherapy such as hair loss, sickness and weakened immunity.

The device delivers tiny quantities of palladium.

This metal is not naturally found in human cells, but helps to trigger reactions in the cell.

The palladium works without altering everyday cell functions, such as producing proteins and metabolizing energy.

Researchers encased tiny particles of palladium in a harmless coating that is able to enter live cells.

They found that, in the lab, the metal was able to trigger specific reactions in the cell without having any effect elsewhere.

Although the research is at an early stage, scientists believe the technique

will allow the therapeutic use of palladium to manipulate cell activity.

This could produce substances, such as drugs, without affecting the rest of the body.

The discovery could pave the way for delivering therapies to where they are needed in the body, scientists say, and could also be used to deliver dyes to organs for diagnostic tests

More information: The study, published in *Nature Chemistry*, was carried out in collaboration with the Universiti Kebangsaan Malaysia.

Provided by University of Edinburgh