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Australian researchers develop novel technology for cancer detection

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The new method can enable quick and easy detection of any cancer from any type of body tissue such as blood or biopsy.



A group of researchers from the University of Queensland, Australia has developed a new method that will enable quick and easy detection of any cancer from any type of body tissue such as blood or biopsy.

During their study, the researchers focused on circulating free DNA (the DNA that circulates when cells die and release their cargo) and examined patterns of methyl groups (epigenetic patterns) found on the DNA of both cancer cells and healthy cells.

It was observed that on the cancer cell genome, the methyl groups form intense clusters at very specific sites. The researchers also found that when the intense methyl group clusters are placed in solution, they cause fragments of cancer DNA to form 3D nanostructures that adhere to gold.

As a result, the research group has decided to develop an assay, which uses gold nanoparticles that immediately change color when these nanostructures are present.