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Korean scientists use bilirubin nanoparticles for cancer therapy

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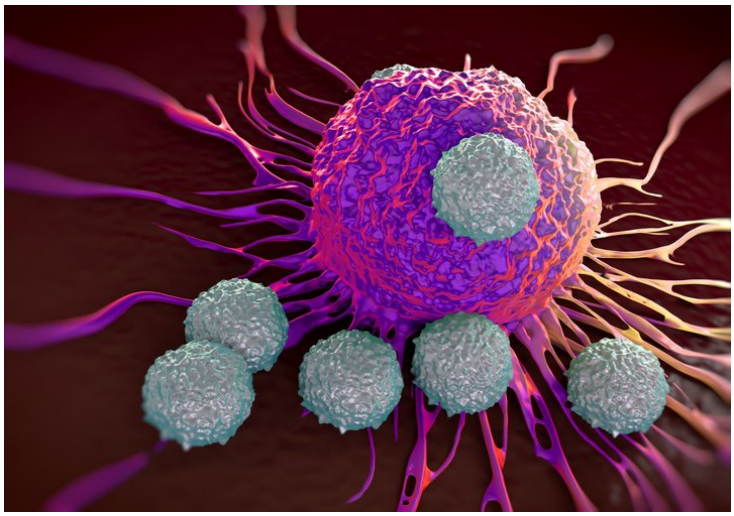

A team of scientists at Korea Advanced Institute of Science and Technology have developed combined photoacoustic imaging and photothermal therapy for cancer by using Bilirubin nanoparticles.

When the causative agent of jaundice, yellow Bilirubin, is exposed to a certain wavelength of blue light, the agent becomes a photonic nanomaterial as it responses to the light. The research team combined cisplatin, a platinum metal-based anticancer drug, with Bilirubin so that the nanoparticles changed the solution color from yellow to purple.

The team observed that the photoacoustic signal was increased significantly in tumors of animals with colorectal cancer when the nanoparticles were administered to it intravenously. The team expects a more accurate diagnosis of tumors through this technology.

The team believes that this research, which shows high biocompatibility as well as outstanding photoacoustic imaging and photothermal therapy, to be an appropriate system in the field of treatment for cancer.