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Singapore team works on photodynamic therapy for cancer

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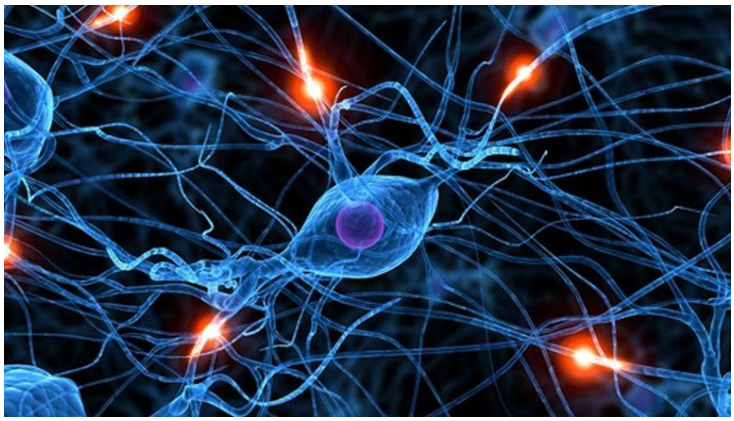

A team of scientists from the National University of Singapore (NUS) has developed a way to wirelessly deliver light into deep regions of the body to activate light-sensitive drugs for photodynamic therapy (PDT).

This wireless approach of light delivery enables PDT to be used on the inner organs of the body with fine control. The team believes that this technology could potentially enable PDT to be used to treat a wider range of cancers, such as brain and liver cancer.

The NUS team's novel approach of enabling PDT to be used for the inner organs of the body is achieved by inserting a tiny wireless device at the target site, extending the spatial and temporal precision of PDT deep within the body.

The miniaturized device, which weighs 30 mg and is 15 mm^3 in size, can be easily implanted, and uses a wireless powering system for light delivery. Once the device has been implanted at the target site, a specialized radio-frequency system wirelessly powers the device and monitors the light-dosing rate.

The team is now working on developing nanosystems for targeted delivery of photosensitizers.