

## Odia Among Indian Scientists to Develop Novel Cancer Drug

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**BHUBANESWAR:** In a major boost to cancer therapy, Indian scientists including an Odia have developed a novel drug carrier that enables chemotherapy drugs to specifically target cancer cells without affecting non-cancerous ones thereby limiting toxicity, organ damage and serious side-effects in patients.

The unique targeted drug delivery system (TDDS) has shown to have selectively delivered the chemotherapy drug molecule to the diseased cells in cervical cancer without causing any damage to non-cancerous and healthy cells.

The research has been conducted by a team of researchers from the CSIR-National Institute for Interdisciplinary Science and Technology (NIIST), Thiruvananthapuram and CSIR-Indian Institute of Chemical Biology (IICB), Kolkata comprising Dr Kaustabh Maiti, Dr Surajit Ghosh, Jyothi B Nair and Saswat Mohapatra. The entire experimental work has been done by Mohapatra, who hails from Cuttack and Nair.

The novel TDDS molecule contains Doxorubicin, a DNA intercalated classic anti-cancer drug commonly employed in chemotherapy, joined together with a short di-peptide and a novel octa-ganidine drug carrier. The short di-peptide enables Doxorubicin to recognise the cancer cell while octa-ganidine can help it enter the diseased cells.

Success of this targeted system of drug delivery will come as a boon for cancer patients as chemotherapy drugs are 'blind' and cannot differentiate between cancerous and healthy cells. As a result, they cause massive damage to normal cells leading to serious side effects and affect organs.

The challenge is thus to develop target specific drug carrier system which can ferry the anti-cancer drugs to cancer cells only. Many researchers have been working in the direction and few systems have gone into clinical trials.

Both Dr Maiti and Dr Ghosh's groups envision that their TDDS concept will give a new approach to the issue, thus redefining chemotherapy routes in the coming days.