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ASIA EDITION

Singapore researchers reveal role of anti-parasitic drug in treating cancer

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This discovery supports the potential use of niclosamide as a first-in-class drug against a broad spectrum of tumours deficient in p53 functions.

Scientists from A*STAR's Institute of Molecular and Cell Biology (IMCB) have discovered that niclosamide, an FDA-approved anti-parasitic drug, can effectively kill p53-defective cancer cells, potentially increasing the specificity for cancer targeting and sparing normal cells that carry wildtype p53.

The p53 gene is a tumour suppressor gene that inhibits the growth of tumours, and if this gene is mutated, cancer cells are able to thrive.

Working in collaboration with researchers from A*STAR's Bioprocessing Technology Institute and p53 Laboratory, the Skin Research Institute of Singapore, Duke-NUS Medical School, the Cancer Science Institute of Singapore, KK Women's and Children's Hospital, National Cancer Centre Singapore, and National University of Singapore, the IMCB research team found that niclosamide, a drug conventionally used in the treatment of intestinal tapeworm infections, induces metabolic stress in colon cancer cells without p53, thereby effectively causing death of these cancer cells.

This discovery supports the potential use of niclosamide as a first-in-class drug against a broad spectrum of tumours deficient in p53 functions.

Moving forward, the research team plans to test the efficacy of niclosamide against a broader cohort of tumour types.