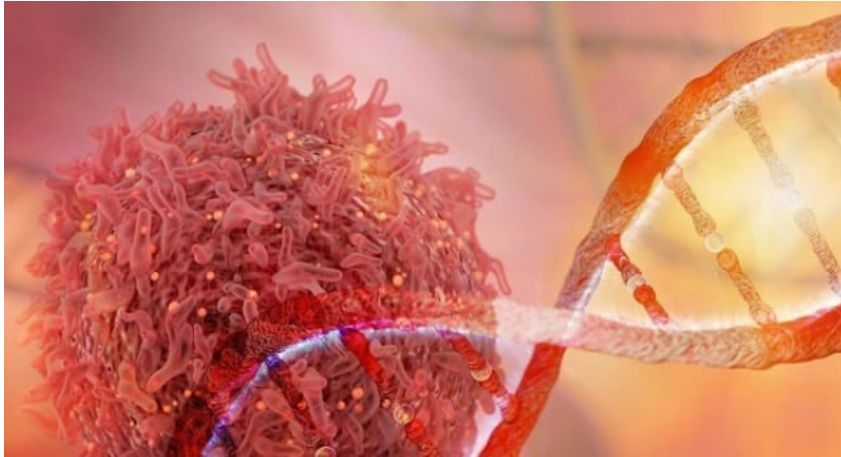


Previously Unknown Mechanism That Helps Cancer Cells Resist Treatment Discovered



An international team of scientists led by researchers from Nanyang Technological University (NTU Singapore) has identified a previously unknown mechanism that enables certain tumors to develop resistance to anticancer drugs. The findings were published in the journal *Nature Cell Biology*.

The study focused on PARP inhibitors, a class of drugs used to treat certain types of breast, ovarian, prostate, and pancreatic cancers. Although these therapies effectively damage the DNA of cancer cells, many patients eventually develop resistance to treatment.

The researchers found that a protein called TEX264 plays a key role in this process. It helps tumor cells remove damaged DNA, protecting them from the effects of PARP inhibitors. The scientists named this newly identified mechanism "nucleophagy," describing it as a cellular system that clears damaged DNA from the cell nucleus.

When the researchers blocked the activity of TEX264, DNA damage accumulated significantly in cancer cells, making them much more sensitive to treatment and increasing the likelihood of cell death.

The team also analyzed data from 700 patients with triple-negative breast cancer, one of the most aggressive forms of the disease. They found that lower levels of TEX264 were associated with better survival, suggesting that the protein could serve not only as a promising target for new therapies but also as a potential biomarker for predicting patient outcomes.

As a next step, the researchers plan to investigate whether combining PARP inhibitors with existing drugs that suppress this protective mechanism could improve treatment outcomes for patients whose tumors have become resistant to therapy.

<https://med.news.am/eng/amp/41585/previous-unknown-mechanism-that-helps-cancer-cells-resist-treatment-discovered.html>