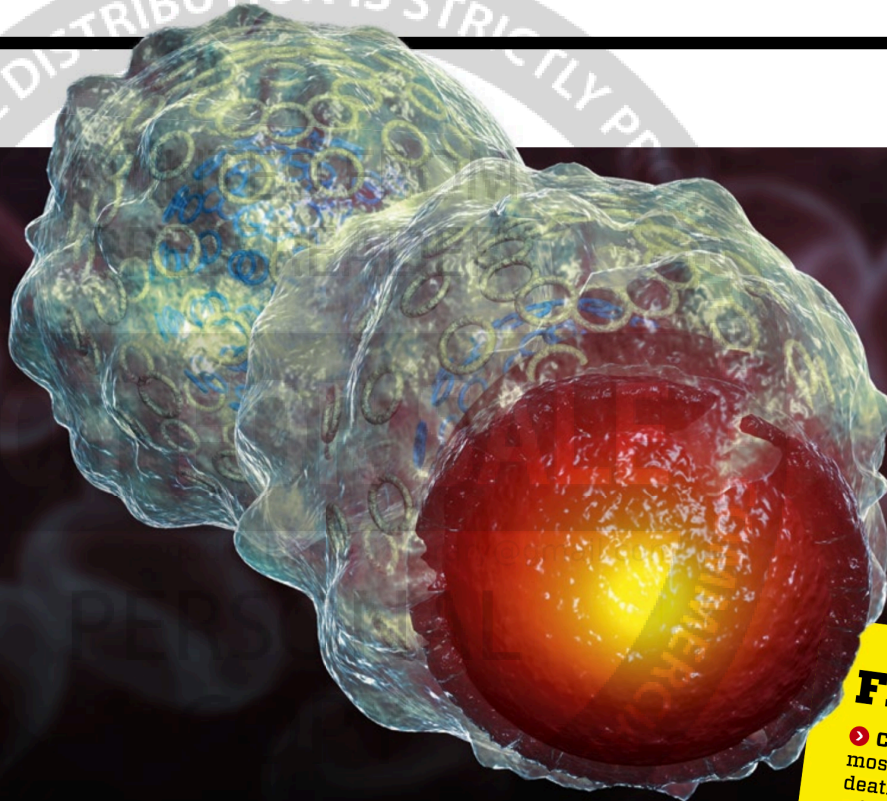


- Cancer



Finding a 'self-destruct' button for cancer cells

FACTS

- ▶ **CANCER** is the second most common cause of death in the world, with nearly 10 million deaths annually.
- ▶ **THE DISEASE** can begin in almost any organ and can then spread to the rest of the body.

Researchers may have found a crucial surface receptor on cancer cells which could provide a way into the heart of even solid tumours, opening them up to new treatments.

HEALTH Cancer is the second leading cause of death worldwide, and can occur in almost any organ. It results when one or more of the body's 50 trillion cells start to behave abnormally, ignoring the body's signals to terminate itself if something goes wrong. Instead, the diseased cells become overactive and divide, creating ever more of them.

Researchers from the University of California Davis and Indiana University may have made a discovery that might allow an attack on this ongoing division from two different directions.

Doctors currently have several weapons against overproductive cancer cells. One of the most recent is T cell therapy, in which a group of the body's own immune cells, known as T cells, are genetically modified to attack diseased

cells. The treatment can be particularly efficient against blood cancer, but has had limited success against more solid tumours, such as tumours that form in the lungs, gastrointestinal tract, head, neck or liver.

However, the US researchers' new discovery may increase the success rate.

In the lab, they have identified a small protein key that can bind to a specific receptor, CD95, which is located on the surface of cancer cells. When the receptor is activated by the small protein, it can trigger a series of chemical signals that cause the cancer cell to self-destruct. Such a 'death receptor' has long been a target in the battle against cancer, with many failed attempts to identify and activate it. This new study was conducted on

mice and cultured human cells in the laboratory, with the researchers emphasising that many more trials will be required before researchers know whether the discovery can be used effectively to treat humans.

But the researchers do hope that the discovery of the tiny key that activates cell suicide could be a crucial step for future treatments.

It may also assist in making existing treatments even more targeted and effective. If the new discovery can help access the heart of solid tumours, they might be made more receptive to reprogrammed T cells that could enter the tumour and fight it. The researchers believe this mechanism could be particularly important in the future treatment of ovarian cancer.