Unlocking cancer: Newly discovered cell switch decides between DNA repair and cell death

The genetic information of every cell is encoded in the sequence of the DNA double helix. Double strand breaks in the DNA…are a dangerous threat to the cells, and if not properly repaired can lead to cancer. Damaged cells need to decide whether the breaks can be fixed or whether they should be removed by a cellular suicide program called “apoptosis” before initiating cancer.

Björn Schumacher, one of the senior authors, explains: “Within seconds after an harmful incident, different mechanisms start. In a schizophrenic way, the cell starts repairing as well as preparing for apoptosis. We identified an uncharacterized mechanism that integrates signals from the ongoing repair process and the cell death machinery…[“]

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All the proteins that play a part in this mechanism can be found in humans as well, and the findings could be highly relevant to better understanding how DNA damage leads to cancer…The senior author Thorsten Hoppe…hopes for resulting advances in tumor therapy: “The knowledge we gained from this study provides new perspectives for fighting cancer pharmaceutically.”

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: New switch decides between genome repair, death of cells