

Study: Cells prevent DNA repair

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Scientists say they've discovered cells co-opt the machinery that usually repairs broken strands of DNA to protect the integrity of chromosomes.

The finding by researchers at the Salk Institute for Biological Studies solves, for the first time, a mystery that has long puzzled scientists.

The natural ends of chromosomes look just like broken strands of DNA that a cell's repair machinery is designed to fix. But mending chromosome ends, or telomeres, would lead to the development of cancer in successive generations of cells.

To prevent the cell's DNA repair machinery from confusing telomeres with broken strands of DNA that need to be repaired, researchers found the tips of chromosomes are tucked in and shielded by a phalanx of proteins, forming a protective "cap".

Ironically, to form this protective structure at the end of chromosomes, nature solicited help from the same repair machinery whose misguided repair attempts the cap is supposed to hold at bay, reports the Salk team.

The study is detailed in the current issue of *Molecular Cell*.

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