

## E. coli radiation resistance genes may aid cancer research

A team of researchers from the University of Wisconsin has identified 46 genes in *Escherichia coli* that are necessary for its survival at exceptionally high levels of radiation. The paper appears ahead of print in the *Journal of Bacteriology*.

“The research has revealed new pathways of cellular self-repair, including DNA pathways that in humans that may help protect us from cancer,” says corresponding author Michael M. Cox.

High doses of radiation are deadly not only to humans, plants, and animals, but to microbial cells generally. Nonetheless, certain bacteria, notably *Deinococcus radiodurans*, are highly resistant to high level radiation. *E. coli* normally lacks such radiation resistance, but resistant strains were developed by subjecting them to increasing levels of radiation, and harvesting the survivors of each generation.

The 46 genes did not result from the mutations created under high radiation levels, but rather genes that exist in the normal, wild-type *E. coli*. The results reinforce the notion that survival after high doses of ionizing radiation does not depend on a single mechanism or process, but instead is multifaceted.

**Read the full, original story: [Genes that contribute to radiation resistance identified](#)**