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Ultraviolet sensitivity

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The systematic deletion of all yeast ORFs, in the [Saccharomyces Genome Deletion Project](#), provides a powerful resource for large-scale 'parallel deletion analysis'. In the October 23 [Proceedings of the National Academy of Sciences](#), Geoff Birrell and colleagues at [Stanford University School of Medicine](#) describe a screen for sensitivity to a genome-damaging agent (*Proc Natl Acad Sci USA* 2001, **98**:12608-12613). They screened pools of 4,627 deletion strains for killing by [ultraviolet \(UV\) irradiation](#) and used oligonucleotide arrays to follow radiation sensitivity. They identified 25 known UV-sensitive deletions and found three new genes not previously linked with UV sensitivity. Two of these, *CaSm* and *AF9*, have human orthologs implicated in cancer, demonstrating how such a powerful approach can provide important insights into the mechanism of cytotoxicity by genotoxic agents.

References

1. *Saccharomyces* Genome Deletion Project, [http://www-sequence.stanford.edu/group/yeast_deletion_project/deletions3.html]
2. Quantitative phenotypic analysis of yeast deletion mutants using a highly parallel molecular bar-coding strategy.
3. *Proceedings of the National Academy of Sciences*, [<http://www.pnas.org>]
4. Stanford University School of Medicine, [<http://www-med.stanford.edu>]
5. The *Saccharomyces* repair genes at the end of the century.