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## EFFECTS OF UV RADIATION ON GENETIC RECOMBINATION

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We have used the model consisting of *Escherichia coli* cells and  $\lambda$  phage to study the effects of UV radiation on genetic recombination. We found two radiation induced processes that reduce or inhibit genetic recombination. One such process leads to the inability of prophage to excise itself from the irradiated bacterial chromosome by the site-specific recombination. The other process was shown to inhibit a type of general recombination by which the prophage transfers one of its genetic markers to the infecting homologous phage. Loss of the prophage ability to take part in both site-specific and general recombination was shown to develop in *recB*<sup>+</sup> but not in *recB* cells. From this we infer that the loss of prophage recombinogenicity in irradiated cells is a consequence of one process in which RecBCD enzyme (the product of *recB*, *recC* and *recD* genes) plays an essential role.

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