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Light-induced apoptosis

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Exposure to light induces photoreceptor cell death and **retinal degeneration** in animal models. The absence of some genes (for example, arrestin or **rhodopsin kinase**) can sensitize the retina to light damage. In the November 6 **Proceedings of the National Academy of Sciences**, Sangdun Choi and researchers at the **California Institute of Technology** report the use of gene expression profiling to investigate light-induced apoptosis (*Proc Natl Acad Sci USA* 2001, **98**:13096-13101). They isolated retinal tissue from arrestin/rhodopsin kinase double-knockout mice that had been raised in the dark and exposed to moderate-intensity light for different amounts of time. Oligonucleotide microarray analysis identified **thousands of genes** that change upon light exposure, including many components of the phototransduction cascade. The genes could be divided into a number of different clusters. Changes in transcript levels often preceded evidence of morphological damage, but they observed surprisingly few changes in genes implicated in the induction of apoptosis.

References

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