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It only takes one bloom

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Bloom syndrome (BS) is an autosomal recessive disorder in which mutation of the *BLM* gene leads to cancer predisposition. In the September 20 *Science* two papers suggest that *BLM* haploinsufficiency is sufficient for enhanced tumorigenesis. Goss *et al.* describe the generation of a mouse model for BS by creating a *BlmCin* mutation that mimics the mutated *BLMAsh* allele found in Ashkenazi Jewish patients (*Science* 2002, **297**:2051-2053). Heterozygote *BlmCin/+* mice died earlier than controls following infection with murine leukemia virus and showed increased numbers of intestinal tumours when crossed with animals carrying the *ApcMin* mutation. The analysis by Goss *et al.* suggests that mutation of the wild-type *Blm* allele was not required for tumour formation. These findings are supported by a report from Gruber *et al.* that *BLM* heterozygosity may also lead to cancer predisposition in humans (*Science* 2002, **297**:2013). They found that Ashkenazi Jews in New York who have colorectal cancer were twice as likely to carry the *BLMAsh* mutation as controls. The authors suggest that further analysis is required to determine whether haploinsufficiency or loss-of-heterozygosity is responsible for the tumorigenesis.

References

1. Bloom syndrome: a mendelian prototype of somatic mutational disease.
2. *Science* , [<http://www.sciencemag.org>]