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Weeding out functions for Ku

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The Ku70/80 heterodimer is essential for the non-homologous end-joining type of repair of DNA double-strand breaks and for telomere integrity. Inactivation of the KU70 gene in Arabidopsis results in telomere lengthening. In the Early Edition of the Proceedings of the National Academy of Sciences Karel Riha and Dorothy Shippen report that Ku70 is important for the maintenance of the telomeric C strand and is a negative regulator of telomerase (*Proc Natl Acad Sci USA* 2002, 10.1073/ pnas.0236128100). They analysed plants lacking both *KU70* and *TERT* (encoding the catalytic subunit of telomerase). The *ku70/tert* double mutants no longer exhibited the telomere elongation seen in *ku70*single mutants. Double-mutants had accelerated telomere shortening, reflecting a defect in C-strand maintenance, and had proliferative defects, but there was no evidence for chromosome-end fusion events.

References

1. DNA end-joining: from yeast to man.

2. Telomere length deregulation and enhanced sensitivity to genotoxic stress in *Arabidopsis* mutants deficient in Ku70.

3. *Proceedings of the National Academy of Sciences*, [http://www.pnas.org]