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Rb and telomeres

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Maintaining normal **telomere** length and integrity is critical for correct cell function and to avoid senescence-like growth arrest. In an Advanced Online Publication in **Nature Genetics** Garcia-Cao *et al.* report a key role for members of the retinoblastoma protein family in regulating telomere length (*Nature Genetics* 15 October 2002, doi:10.1038/ng1011). They studied telomeres in mouse embryonic fibroblast (MEF) cells generated from mice lacking combinations of Rb-family proteins (Rb1, Rb11 and Rb12). Triple knockout (and double knockout) cells had significantly elongated telomeres compared with controls. Most of the telomeres in these cells were elongated by the time of the sixth passage in culture. The telomeres appear to be functional, and there was no significant increase in end-to-end chromosomal fusions. The long-telomere phenotype was not associated with changes in telomerase activity. The authors propose that inactivation of Rb function by viral oncoproteins may be a mechanism to induce telomere lengthening and this sustain tumour cell growth.

References

1. Switching and signaling at the telomere.
2. *Nature Genetics*, [<http://www.nature.com/ng>]