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Silencing and lifespan

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The Sir proteins can silence transcription in yeast at a number of loci, including the mating-type locus, telomeres and the rDNA genes. In an Advanced Online Publication in Nature Genetics Alo Ray and colleagues at the Cleveland Clinic Foundation in Ohio describe the importance of phosphorylation of the Sir3p protein (*Nature Genetics*, 17 March 2003, doi:10.1038/ng1132). In a screen for genes affecting silencing loci, they identified the Slt2p enzyme as a kinase that phosphorylates Sir3p. Sir3p phosphorylation led to silencing control and reduced lifespan. Conversely, mutation of serine residues in Sir3p extended yeast lifespan by upto 38%. The effects on lifespan were independent of changes in rDNA recombination.

References

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