

# Abstract

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## The effect of resveratrol on the Werner syndrome RecQ helicase gene and telomerase activity.

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**BACKGROUND:** Various protein factors, including telomerase and WRN helicase, are involved in telomere maintenance. Resveratrol (Rsv), a polyphenol that extends the lifespan of diverse species is an activator of SIRT1, a NAD(+) dependent deacetylating enzyme in mammalian cells.

**FINDINGS:** Here, we examined the changes in gene expressions and promoter activities of WRN helicase and telomerase after Rsv treatment. This treatment increased the amount of WRN transcript and protein product by activating its promoter and telomerase promoter activity and gene expression. However cell proliferation was not changed.

**CONCLUSION:** This suggests that Rsv induces telomere maintenance factors like WRN helicase without affecting cell proliferation.

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