

Resveratrol prolongs lifespan and retards the onset of age-related markers in a short-lived vertebrate.

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Report

## Resveratrol Prolongs Lifespan and Retards the Onset of Age-Related Markers in a Short-Lived Vertebrate

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### Summary

Resveratrol, a natural phytoalexin found in grapes and red wine [1], increases longevity in the short-lived invertebrates *Caenorhabditis elegans* and *Drosophila* [2, 3, 4, 5] and exerts a variety of biological effects in vertebrates, including protection from ischemia and neurotoxicity [6, 7, 8, 9, 10]. Its effects on vertebrate lifespan were not yet known. The relatively long lifespan of mice, which live at least 2.5 years [11], is a hurdle for life-long pharmacological trials. Here, the authors used the short-lived seasonal fish *Nothobranchius furzeri* with a maximum recorded lifespan of 13 weeks in captivity [12, 13]. Short lifespan in this species is not the result of spontaneous or targeted genetic mutations [14], but a natural trait correlated with the necessity to breed in an ephemeral

habitat and tied with accelerated development and expression of ageing biomarkers at a cellular level [12](#), [13](#). Resveratrol was added to the food starting in early adulthood and caused a dose-dependent increase of median and maximum lifespan. In addition, resveratrol delays the age-dependent decay of locomotor activity and cognitive performances and reduces the expression of neurofibrillary degeneration in the brain. These results demonstrate that food supplementation with resveratrol prolongs lifespan and retards the expression of age-dependent traits in a short-lived vertebrate.



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bioinert terminator.

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