

# Genetics: Live better longer

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Biologists at the University of Fribourg have been looking at a threadworm gene which also occurs in humans. This gene could be central to a genetic system which is responsible for development, reproduction and the ageing process.

Ageing involves a deterioration in [physiological functions](#) which inevitably leads to death. The risk of contracting age-related diseases such as cancer, diabetes and cardiovascular and neurodegenerative disorders is increased by the body's deterioration. Latest advances in research permit the isolation of [genetic factors](#) which control not only ageing but also the occurrence of age-related diseases.

Prof. Fritz Müller, Dr. Chantal Wicky and their research team have

highlighted the importance of the gene let-418/Mi2 in the *Caenorhabditis elegans* worm because it regulates ageing and [stress resistance](#) as well as being essential for development and reproduction. The researchers have discovered that when the gene is deactivated in adult worms in the laboratory, they live longer and are considerably more resistant to stress. The gene forms part of a [genetic system](#) which plays a key beneficial role in growth and reproduction. But as soon as these stages are over, the effects become harmful.

Thanks to their collaboration with Prof. Simon Sprecher's recently formed research team at the University of Fribourg, the researchers were able to establish that this gene also operates as an ageing and stress regulator in the case of flies and plants. This indicates that the mechanism of action of this gene has been preserved over the course of evolution and may function similarly in humans. Deactivating the gene after the reproductive stage is over would enable the human body to enjoy a significant increase in life expectancy since its level of resilience would rise and the occurrence of age-related illnesses would diminish. The study of such factors – which have negative as well as positive effects according to the stage of life – represents a huge potential for human medicine.

These results were published in the scientific periodical *Aging Cell*.

**More information:** [onlinelibrary.wiley.com/doi/10...  
1111/accel.12129/full](https://onlinelibrary.wiley.com/doi/10.1111/accel.12129/full)

Provided by Albert Ludwigs University of Freiburg

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