

Study: New lifespan extension genes found

September 30 2005

Researchers at the Harvard Medical School in New Haven, Conn., and the University of California-Davis report finding new genes tied to lifespan.

Drastically reducing calorie intake, or caloric restriction, is known to extend the lifespan of species including yeast, worms and rodents.

Previous research linked a gene called Sir2 with lifespan extension due to caloric restriction, but worms and yeast that lack Sir2 also live longer when put on a tough diet, indicating other genes must be at work.

Now researchers led by David Sinclair at Harvard Medical School and Su-Ju Lin at UC Davis screened for other life-extending genes in yeast. They found a gene called Hst2 that accounts for most of the difference.

Deleting Hst2 and Sir2 blocked most of the beneficial effect of caloric restriction. When Hst2 was overexpressed, so the gene was more active than normal, the yeast lived longer than normal. A third gene, Hst1, appears to act when both Sir2 and Hst2 are missing.

Sir2 and the newly identified Hst genes account for all of the life-prolonging effects of caloric restriction in yeast, Lin said.

The work was published in the Sept. 16 issue of Science.

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Citation: Study: New lifespan extension genes found (2005, September 30) retrieved 17 April 2024 from <https://phys.org/news/2005-09-lifespan-extension-genes.html>

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