

# Yeast Experiments Challenge Scientists' Notions About Aging

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(AP) PORTLAND, Oregon - **An entire diet and supplement industry has sprung up around the notion that one of the keys to a long life is removing oxygen molecules called free radicals from the body. But now experiments with yeast have called that theory into question.**

**The experiments challenge the notion that free radicals play a central role in aging and longevity.**

Sales of "antioxidant" vitamins and supplements have grown since earlier studies suggested that free radicals damage cells and DNA.

**Another way to reduce free radicals is a severely restricted diet.** Scientists have known for more than 60 years that limiting food intake to about two-thirds of normal can extend the lives of rats and keep them healthier, a finding that has been duplicated in yeast, fish, worms and other creatures.

But in a study in Thursday's issue of the journal *Nature*, yeast cells lived 20 percent longer after scientists made genetic changes that speeded up their metabolism, or the rate at which cells turn food into energy. Metabolism produces free radicals.

"The old idea was there was simply less production of oxygen radicals and less oxidative damage to the cell with calorie restriction," said Leonard Guarente of the Massachusetts Institute of Technology, who led the study. "But I think the results of this study really challenge that idea."

In an accompanying commentary, Siu Sylvia Lee and Gary Ruvkun of Harvard Medical School warned that what applies in yeast does not necessarily apply in animals.

**But they agreed that the findings "contradict the theory that a decrease in free radicals is an essential feature of increased longevity."**

**Lee and Ruvkun said it is still not clear whether limiting free radicals by severely restricting calorie intake has any benefit or is just a gimmick promoted by "a variety of optimists, hucksters and fanatics."**

Dr. Richard Weindruch, who is studying the effects of calorie restriction on monkeys at the University of Wisconsin, said there is no reason for people to stop taking antioxidants such as vitamin C to try to reduce cell damage.

"I don't think the results of this yeast study should influence public health recommendations," Weindruch said.