

\$89 test kit claims to determine how well your cells are aging. Does it work?

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A new \$89 test claims to calculate the age of the DNA in your cells and tell you how well you are aging. The test, called TeloYears, is the newest in a bunch of mail-order kits that measure the length of telomeres, the caps that cover the ends of chromosomes.

Telomeres are often described as the biological equivalent of the plastic caps at the ends of shoestrings which prevent threads from fraying. Made of DNA and protein, [telomeres](#) protect chromosomes from damage and from sticking to one another.

As we age, our telomeres shorten. That's because every time a cell divides and DNA replicates, a chunk of telomere disappears. When the telomeres in a cell become too short, the cell stops dividing and may die.

Companies selling telomere tests say that studies show shortened telomeres are a risk factor for illness. While telomere length can be linked to aging, experts say their discovery is relatively recent and not enough is known to interpret these results.

Many studies of telomere length were small trials. Some large studies have been done but most did not show a direct cause and effect link between illness and [telomere length](#). Some genetic diseases including types of anemia as well as skin and lung disorders are caused by a defect in telomerase, the enzyme that makes telomeres but these are rare, inherited disorders.

TeloYears, made by Silicon Valley-based Telomere Diagnostics Inc., works by analyzing a drop of blood that a user mails in from home using the same kind of tool diabetics use to check blood sugar. The length of the user's telomeres is compared with people in other age groups to give their "age in TeloYears."

But the length of telomeres varies widely even among people in the same age group. That means these tests can be unreliable indicators of aging. Another telomere test, made by Titanovo Inc. in North Carolina, is priced at \$150 and uses a saliva sample instead of blood.

"Short telomeres are markers for the early onset of age-related diseases" the Titanovo website says. The company also shares unverified results on its site saying "While it's a bit early to publish any findings in a journal, I'd like to disclose some observations and key thoughts I am starting to believe." The employee goes on to say that people eating plant-based diets have longer telomeres.

Telomere Diagnostics was an offshoot of an earlier company co-founded by Elizabeth Blackburn, one of three scientists awarded a Nobel Prize in 1999 for the discovery of how telomeres protect chromosomes. Blackburn parted ways with the organization and is not affiliated with Telomere Diagnostics.

Most companies selling telomere tests say they do not diagnose diseases or predict the likelihood of illness. By repeating tests, they say users can see how their telomeres are shortening over time and make lifestyle changes to slow their decline. That could encourage test users to eat a healthier diet and take more exercise.

But what telomere tests tell us about the lifespan of a cell may not translate to the lifespan of an individual. Most experts say it's too soon to make sense of these results.

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