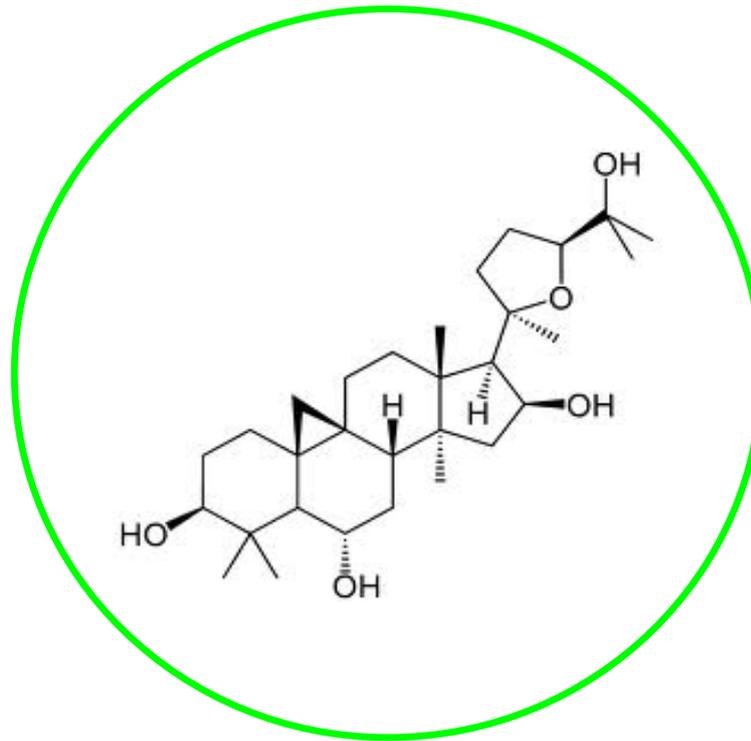


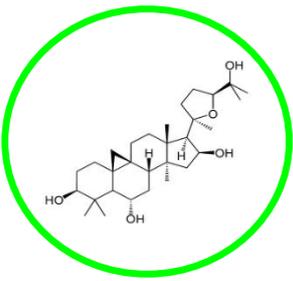
# Telostep

Optimal Longevity

Patent  
Pending



**Gastric Acid**



## Telostep Makes the Best Anti-Aging Ingredient Less Expensive

**Telomere loss is the body's natural aging clock**

**Cycloastragenol is proven to be the most effective ingredient for reversing that clock**

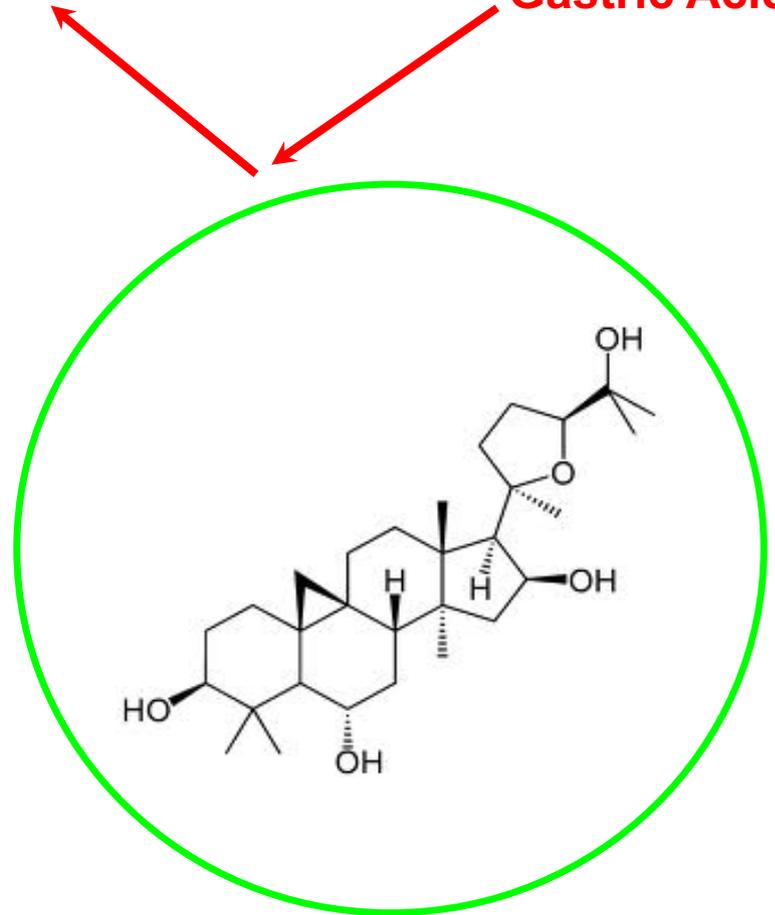
**Other ingredients may target aging in one specific body part, but cycloastragenol reverses aging throughout the body**

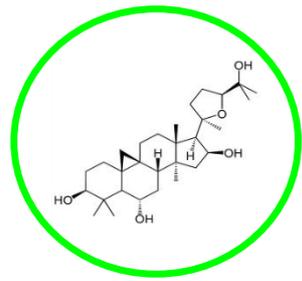
**On the market since 2007, it has gained a reputation as the most effective supplement for anti-aging**

**What holds it back from mass use is its high cost**

**Telostep protects cycloastragenol from destruction in the digestive system – lowering cost by 3X**

**Gastric Acid**





## There is a Large Market Opportunity for a Low Cost Telomerase Activator

The high price of the competition (containing cycloastragenol), \$10k per person per year, limits the product to elite customers

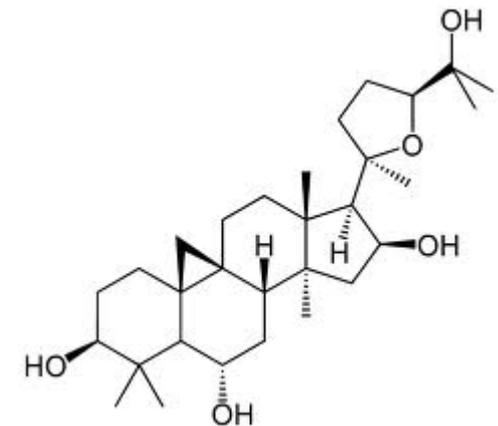
Many products reduce the rate of telomere loss via oxidation but does not add to telomere length significantly compared to Telostep

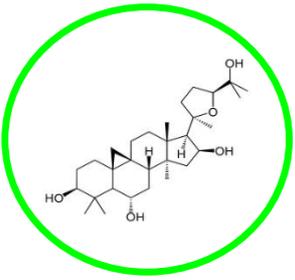
This suggests that a lower priced cycloastragenol would do well and help many people on lower incomes.

Cycloastragenol is expensive: 1000 pounds of astragalus root to make a one year supply for one person



Processing costs





# Telomeres Are the Aging Clock

**In 1961 Leonard Hayflick discovered cells only divide 30 to 90 times and then stop (the Hayflick Limit)**

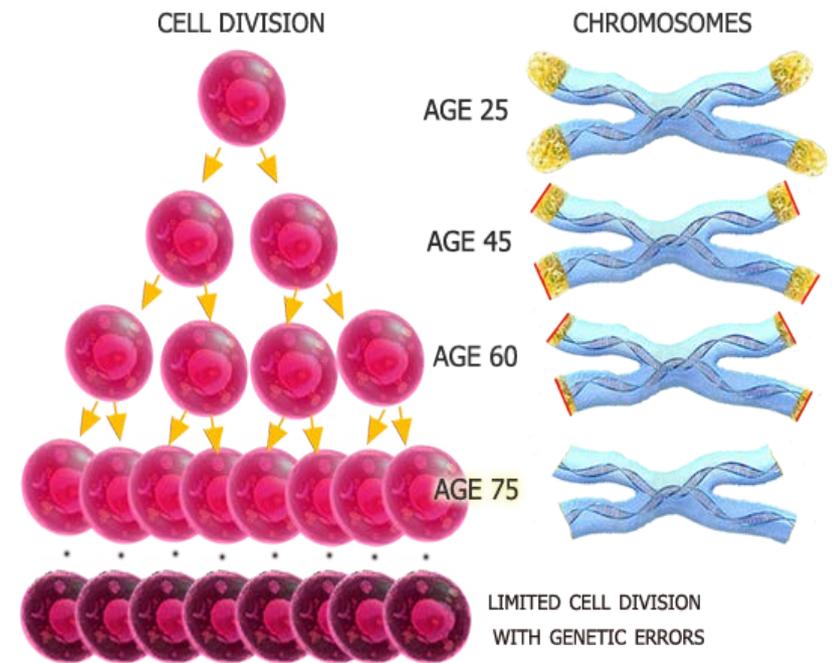
**Telomeres are protective end caps on DNA strands which repeat the message TTAGGG**

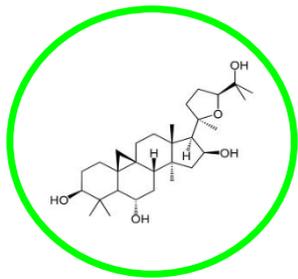
**With each cell division sacrificial telomeres are lost**

**Loss due to a flaw in the mechanism that replicates DNA**

**When we run out of telomeres cell division stops and cell populations are depleted**

**Telomere loss is one of the main cases of aging**





# The Telomerase Enzyme Can Add Back Telomere Length

In the 1970's Elizabeth Blackburn discovered an enzyme called telomerase that can add telomeres back onto the DNA ends

In 2009 she won the Nobel Prize for this discovery

In between generations this enzyme resets telomere length

But in most adult cells it is not produced

Cycloastragenol triggers the cell to produce telomerase via epigenetics

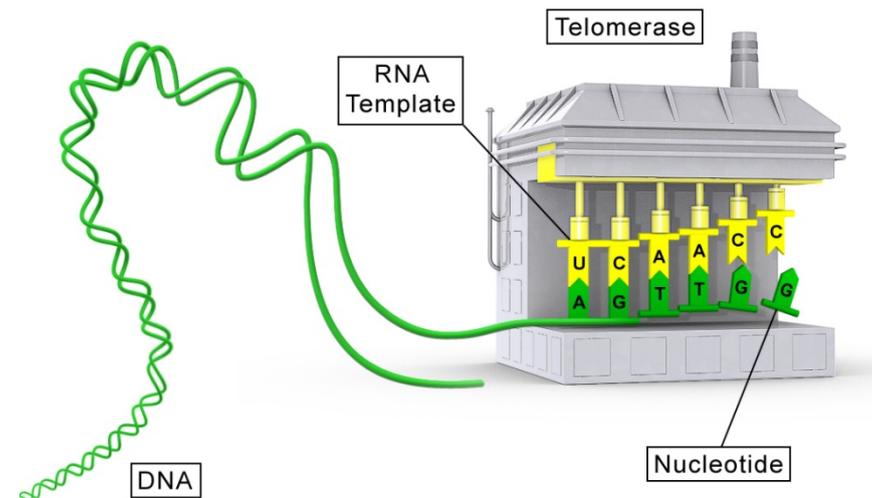
Cycloastragenol pops off a molecule blocking the telomerase gene

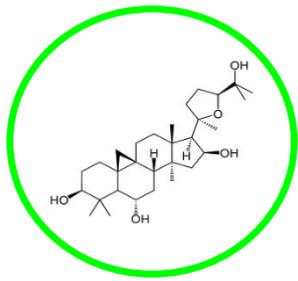
Cycloastragenol is a molecular key in a lock

In 2005 human testing began with product containing cycloastragenol

200 yr lobster  
500 yr clams  
100 yr sea urchin  
All have high telomerase production

The astragalus root has been used in Chinese medicine for centuries





# The Harvard Mouse Study Showed Telomerase Reversing Many Effects of Aging

**In 2010 a group of researchers at Harvard and 2 cancer research agencies completed an historic study**

**Mice were aged to the equivalent of 80 year old humans with disabled telomerase production**

**The mice were then modified to produce telomerase in each cell for 30 days, equivalent to 2.5 human years**

**Their organs: spleen, liver, testes, intestines, etc., grew back to youthful size and function**

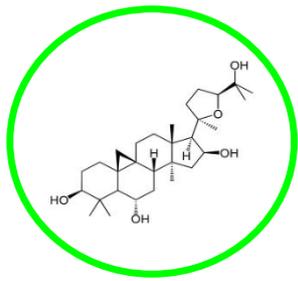
**Hair turned from gray to brown, nervous system and mental function returned**

**Brains grew from an shrunken 75% size to a youthful 100% size**

Telomerase  
Mouse



No Telomerase  
Mouse



## **The Blasco Study Found that Mice with Telomerase Live 12% to 24% Longer**

**Some criticized the Harvard study for using genetically aged mice**

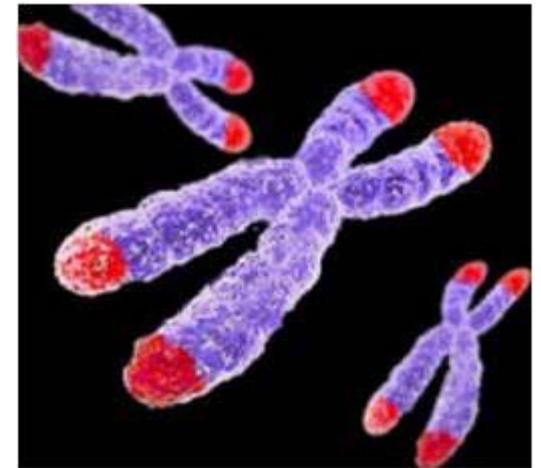
**So the study was repeated using naturally aged mice by Maria Blasco at the Spanish National Cancer Research Institute in 2012**

**Telomerase mice had more youthful muscle, nerves and organs compared to untreated mice of the same age**

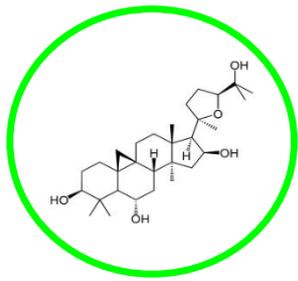
**Mental function and coordination were superior**

**Cancer rates were the same or less**

**Most importantly, the telomerase mice lived 12% to 24% longer**



Blasco also created the Life Length telomere test



# Short Telomeres Linked to Disease and Shorter Lifespan in Many Human Studies

Numerous studies link higher disease rates for almost every major disease to shorter telomere length

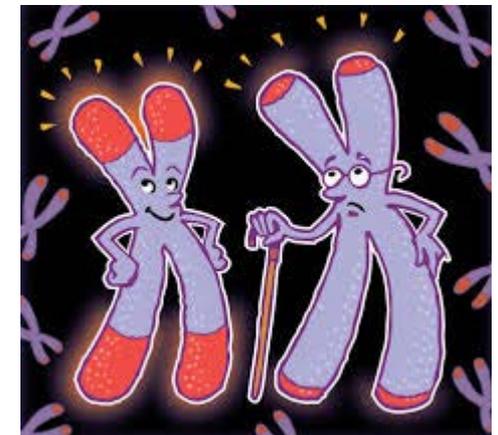
Many studies have shown longer lifespans correlated to longer telomere length

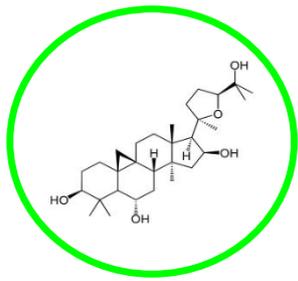
In 2013 a study lead by the British NIHR involving 48,000 people found that short telomeres **cause** higher rates of cancer, MS, celiac disease and heart disease

- *not just a correlation*

When a cell runs out of telomeres it will commit suicide (apoptosis), go into a zombie-like senescent state or go cancerous

Senescent cells are dysfunctional and bring down the cells around them via random molecular signaling





## Test Results for Cycloastragenol Very Impressive in Humans, Mice and Cells

Whittier College and UCLA found that human cells given cycloastragenol produced higher levels of telomerase and underwent cell division more times, exceeding the Hayflick Limit

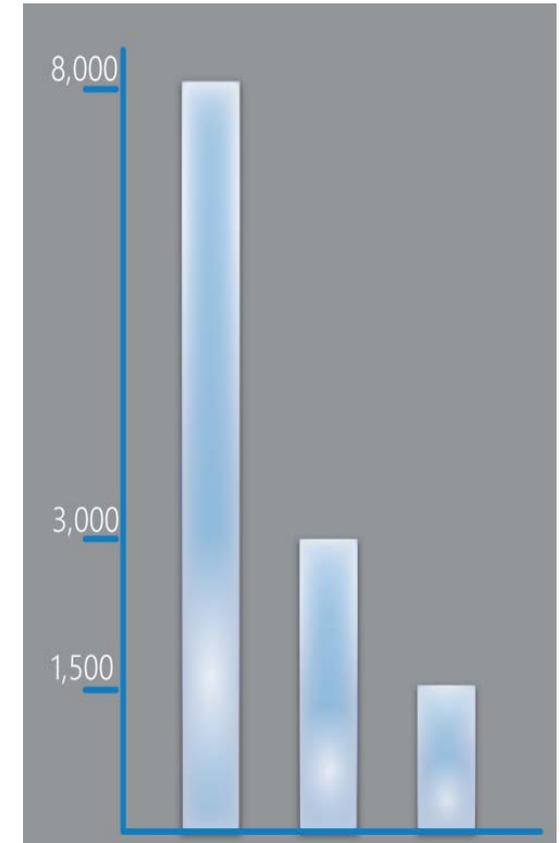
Blasco tested cycloastragenol in mice and found telomerase produced, telomeres lengthened, fewer senescent cells and no higher levels of cancer

Cancer cells bathed in cycloastragenol did not change behavior

Cycloastragenol funded studies showed humans significantly decreasing the % of telomeres under 3000 base pairs

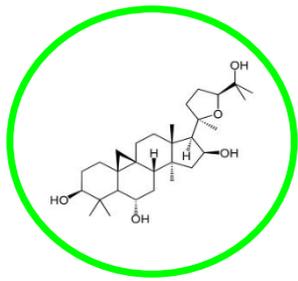
Cycloastragenol **disproportionately increased the shorter telomeres, avoiding senescence and allowing cell division to continue**

A 2013 study showed improvements instead of worsening of blood pressure, cholesterol and insulin levels over a 2.5 year period of taking cycloastragenol



Telomere length with age

**Staying out of the danger zone**



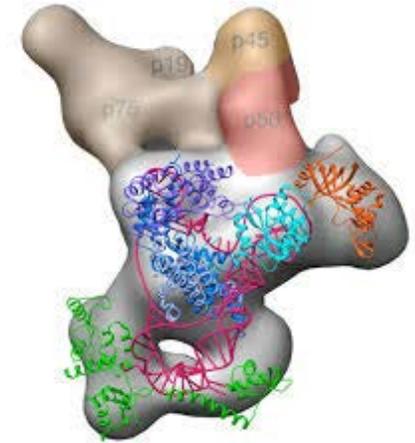
## People Taking Cycloastragenol Report Experienced Benefits

Many, but not all, people taking cycloastragenol report improvements in health and function

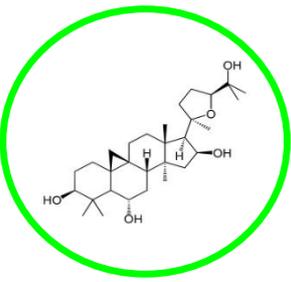
Which benefits a person experiences may depend on how much a particular body part is telomere limited due to genetics, disease, localized injuries, age and other life experiences

Frequently reported benefits include: improved immune system function, improved vision, improved hearing, improved sexual function, more youthful skin, improved cardiovascular fitness, better sleep, more flexible skin, more flexible joints, reduction in age spots, better concentration, better mood, more energy, fewer pains, better hair health, and others

What other product can deliver all this?



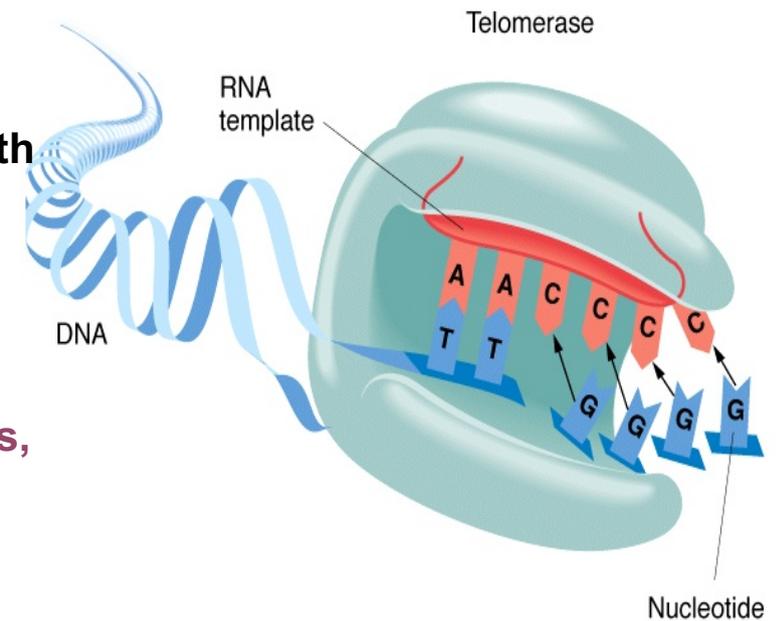
3D Model of  
Telomerase  
by UCLA

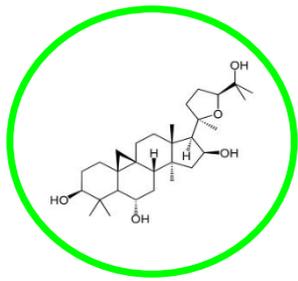


## Proof of Concept Testing of Telostep Shows Similar Benefits with Less Active Ingredient

**Telostep gave similar reported benefits to various tests with cycloastragenol**

**Participants reported: improved immune system function, improved vision, improved hearing, improved sexual function, more youthful skin, improved cardiovascular fitness, better sleep, more flexible skin, more flexible joints, reduction in age spots, better concentration, better mood, more energy, fewer pains, better hair health, and others**





## Telostep Delivers More Active Ingredient to the Cells

The main purpose of gastric acid in the stomach is to begin the digestive process by breaking down molecular structures such as cycloastragenol

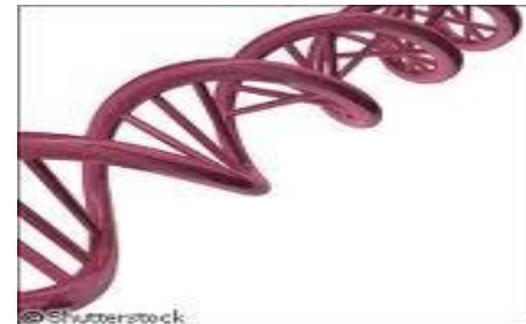
Tests with omega-3 (which has weak telomerase activation) and other molecules similar with similar bonds to those in cycloastragenol show that 3 to 10 times more of the active ingredient swallowed makes it to the bloodstream if the active ingredient is protected from gastric acid via an enteric coating

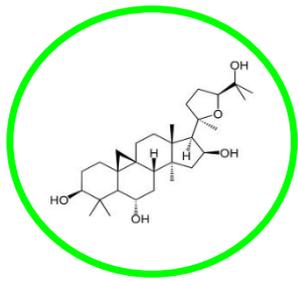
What a telomerase activator does is to locate onto a certain site on the DNA next to the telomerase production site and turn on an epigenetic switch to make telomerase

The activator thus needs to be a certain shape and size molecule (which means acid vulnerable bonds) to fit like a key in this lock

Recognizing this, Telostep uses a special acid resisting capsule shell to protect the telomerase production activator.

**Purified to 98% to avoid concentrating undesirable ingredients like iron**





## **New Human Test Series May Make Cycloastragenol The Hottest Topic In Supplements**

**Cycloastragenol was double blinded tested with 500 people taking cycloastragenol and 500 people taking placebo**

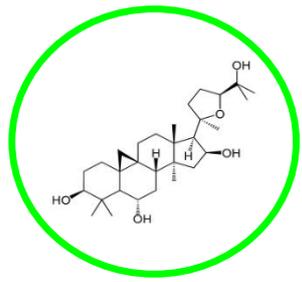
**Lifespan and length of hospital stays were measured**

**Length of hospital stays measures the body's ability to recover from illness, injury or surgery**

**If the results show a similar results in humans as mice, cycloastragenol could be high profile in the media**

**Recently 97 people were tested using a double blind test. All of the people taking cycloastragenol were reported to have lengthened their telomeres over a 12 month period**

**Once everyone is looking for cycloastragenol it will become a commodity and price will be the discriminating factor**



# Telostep Can Make Telomere Extension Affordable

A 2013 study by the Ben-Gurion University of the Negev in Israel looked at aging in different animals and concluded that 33% of aging was due to telomere shortening

Telomere shortening is not the only cause of aging, but it is a major cause

To date only a select few have been able to afford to extend their lifespans via telomerase activation

Telostep will be able to develop a much larger market

