

# INCREASE LIFESPAN BY IMPROVING TELOMERE HEALTH

With

## TeloMore®

**Genetic research has proven the value of telomeres;  
the basis of aging in humans and other mammals.**

In 2009, Elizabeth Blackburn, Carol Greider and Jack Szostak were awarded the Nobel Prize in Physiology/ Medicine. They had discovered, through their work, beginning in the early 1980s, that the tips at the ends of chromosomes (telomeres) are home to a unique DNA and nucleotide sequence that protects the chromosomes from degradation; and for their identification of telomerase, an enzyme that supports that DNA.

These discoveries revolutionized our collective comprehension of how mammalian bodies age. Prior genetic research failed to fully understand the value of the ends of the DNA strands, mistaking them for non-functional material. Now we know that these ends, the compound structures of the repeated TTAGGG sequence, function as a barrier to cell degradation. Their shortening leaves DNA vulnerable.

**TELOMERES are specialized molecular protective caps at each end of the DNA strand that protect chromosomes from degradation.**

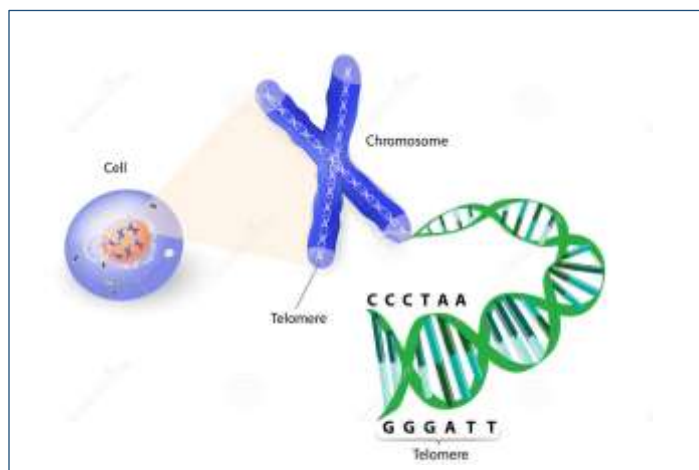
Telomeres allow full replication of the DNA through telomerase activity.

Telomeres protect the chromosomes from degradation during replication.

Telomeres shorten with replication and lack of telomerase enzyme.

Telomeres are composed of the TTAGGG repeating sequence.

Telomeres do not fully replicate themselves, resulting in continual shortening through the loss of sequence repetition.



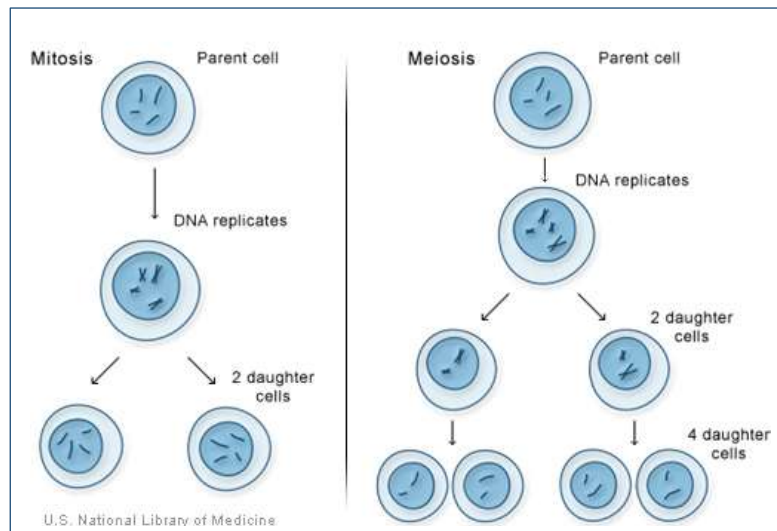
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Innovation via Chemistry

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TELOMERES, which cap the ends of linear chromosomes, are only a small portion of the total genome content, but their function is critical. The telomere structure facilitates full replication of the chromosome and prevents chromosome ends from engaging in fusions. Shortening of the telomeres is associated with aging, and several diseases result from telomere dysfunction.

### The Hayflick Limit – Cell Death and Telomeres

Szostak, Blackburn and Greider's discoveries explained the Hayflick Limit better than any had before. In 1961, Leonard Hayflick determined that human cells can replicate only a finite number of times before division stops. With each division, telomeres grow shorter, until they reach a critical length. At this critical length, cells can either die (apoptosis) or become senescent and unable to replicate. A senescent cell can damage other living cells with inflammatory cytokines.



Though to many, apoptosis is preferable to senescence, either state leaves the body's health in question, due to undesirable cell function.

The shortening process of telomeres is a countdown to their cellular death. When telomeres get too short, the DNA is more vulnerable to damage, which can result in the development of cancer.

Every cell in mammalian bodies has 92 telomere caps which act as sentinels. The weakening or critical shortening of even one of these caps, can compromise the cell's function. Indeed, telomere length can be considered a solid indicator of general wellness, as well as age.

Fetal cells have the highest telomere count of all. As aging progresses, the count goes lower and lower. But, now it is possible to address the shortening process, to reverse time within cells, to slow the aging process, by supporting the healthy production of telomerase, the enzyme which builds telomere DNA.

Researchers have shown the correlation between leukocyte telomere length (LTL) and disease. It has been found that LTL is short in many illnesses and conditions, including fibromyalgia, coronary artery disease, diabetes, osteoporosis, heart failure, etc. Even fatigue in the elderly is often associated with shorter LTL.

They have further shown that the activity of telomerase is a necessary enzymatic component to DNA protection, with results indicating its invaluable contribution to brain function and other health factors. Importantly, the factor that enables the gleaming of these protective results is generally not expressed in adult cells, except for immune and reproductive cells.

Anecdotal reports have indicated that **TeloMore®** Astragaloside IV supports memory vitality, muscular strength, energy levels, and more. This important, concentrated natural extract of the Astragalus Membranaceus plant supports the activity of telomerase. It has been referred to as a “small molecule telomerase activator,” which seems to be a rather suitable name for this supporter of the enzyme’s production.

Because of our unique proprietary production process, developed in 1999 – 2000, we have harnessed the amazing natural plant component, Astragaloside IV, without the use of a molecule cleaving process or synthesis. Indeed, we have successfully created a telomere support supplement whose cost is not prohibitive. While other effective supplement regimens can cost as much as \$8,000 annually, our formula provides a very reasonably priced healthy aging solution, available in 25 mg. capsules for people, and 5 and 50 mg. capsules for animals.

### **Reports indicate that TeloMore® supports:**

- Telomerase activation
- Memory vitality
- Recovery and repair processes
- Stamina
- Stress management
- Immune system health
- Cardiovascular health
- Energy metabolism

When telomeres are shortened, **TeloMore®** has the potential to lengthen them. If telomeres are within a healthy range, **TeloMore®** can help to maintain that state. And, it is possible to know just how well TeloMore is working. By having a blood sample analyzed before beginning to use TeloMore, and then six months later, you can determine what effect it is having. This test can then be done on a regular basis, if desired.

*There are a number of independent laboratories that can test telomere length, function and stability.*

### **Many other factors are associated with telomere dysfunction, health and longevity, among them are:**

- Diet and nutrition
- Tooth, gum and general hygiene
- Illness (internal and external), including inflammation, bacteria, viruses, parasites, etc.
- Stress (internal and external), wear and tear
- Genetics, heredity, hormones
- Environmental factors, including pollution and smoking
- Life style, including physical activity
- Immunological factors, body chemistry, free radicals
- Molecular clock – normal bodily function losses
- Mitochondrial abnormalities

**Note:** Telomeres are in all living cells. Quality of life and longevity are affected by telomere shortening. For this reason, **Viachem LLC** offers a **TeloMore®** product for people and for both small and large animals.

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