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**Cruising Review** 

# telomere-forhealth-while-travelby-cruising-review

Telomeres and how it benefits for health series by Cruising Review to enhance and protect health before, while, and after traveling.

#### Structured Data



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Discover the critical role of telomeres in health and aging, including their composition, benefits, and how lifestyle choices like diet, green tea consumption, and possibly antioxidant-enriched lotions can support telomere integrity for improved wellbeing.

# PDF Version of the webpage (first pages)

#### 5/14/2024

## **Understanding Telomeres: Composition, Benefits, and Practical Uses**

Telomeres are specialized structures found at the ends of chromosomes, playing a crucial role in cellular aging and replication. Composed of repetitive DNA sequences, alongside associated proteins, telomeres protect the chromosome ends from degradation and fusion with neighboring chromosomes. As cells divide, telomeres shorten, a process believed to be associated with aging and cellular senescence. However, the enzyme telomerase can extend these protective caps, offering a potential avenue for influencing aging and health.

#### Composition and Creation

Telomeres consist primarily of repetitive sequences of non-coding DNA. In humans, the sequence is rich in guanine and is repeated approximately 2,500 times in newborns. The enzyme telomerase, active in certain cell types like stem cells and germ cells, adds these repetitive sequences to the ends of telomeres, counteracting the natural shortening that occurs during cell division.

#### Health Benefits and Absorption

The integrity of telomeres is critical for cellular health and longevity. Shortened telomeres are associated with a host of age-related diseases, including cardiovascular disease, diabetes, and various forms of cancer. Conversely, maintaining telomere length is thought to be associated with improved lifespan and healthspan.

To support telomere health, lifestyle factors such as a balanced diet rich in antioxidants, regular exercise, stress management, and avoiding smoking are paramount. While direct supplementation of telomerase is not clinically available or advised due to potential risks, including cancer, certain nutrients have been linked to telomere support. These include vitamins D and E, omega-3 fatty acids, and polyphenol-rich foods like berries and green tea.

#### Telomeres in Tea and Body Lotion

Green tea is celebrated for its rich polyphenol content, particularly epigallocatechin gallate (EGCG), which studies suggest may support telomere length through antioxidant effects. Consuming green tea could, therefore, be a simple and effective way to contribute to telomere health.

In the realm of topical applications, while direct evidence is limited, products containing antioxidants may indirectly support telomere integrity by reducing oxidative stress, a known factor in telomere shortening. Body lotions enriched with vitamins C and E, ferulic acid, and other antioxidants could offer some degree of protection, though more research is needed to understand the efficacy of such topical applications on telomere health.

#### Conclusion

Telomeres serve as vital guardians of genomic integrity, with their length and health being closely tied to overall cellular function and aging. While direct manipulation of telomeres through supplementation is not yet a viable option, lifestyle choices and dietary habits play a significant role in supporting telomere health. The inclusion of antioxidant-rich foods and beverages, like green tea, and potentially antioxidant-enriched topical products, may offer supportive benefits for telomere integrity, contributing to better health and longevity.

#### Notes

1. Blackburn, E. H. (2000). Telomeres and telomerase: their mechanisms of action and the effects of altering their functions. FEBS Letters, 579(4), 859-862.

#### Telomere

<b>TELOMERE :</b>Expression of Telomeric Repeat-Containing RNA Decreases in Sarcopenia and Increases after Exercise and Nutrition Intervention</b>: Sarcopenia is defined as aging-related loss of muscle mass and function. Telomere length in chromosomes shortens with age and is modulated by telomeric repeat-containing RNA (TERRA). The Role of microRNAs in Organismal and Skin Aging: The aging process starts directly after birth and lasts for the entire lifespan; it manifests itself with a decline in an organism's ability to adapt and is linked to the development of age-related diseases that eventually lead to premature death. This review aims to explore how microRNAs (miRNAs) are involved in skin functioning and aging. Recent evidence has suggested that miRNAs regulate all aspects of cutaneous biogenesis, functionality, and aging. telomeric repeat, exercise, d3, nutrition, telomere, telomerase, tert, htr, dyskerin, cancer, telomeres, shelterin complex, end replication, telomere maintenance mechanisms, TERT promoter mutations, telomere length heritability, genetic variants, cancer-risk, aging, biobehavior, nursing research, oxidative stress, psychological stress, telomere, Telomeres length, oxidative damage, breast cancer, Aging syndromes, Aging process, autophagy, Astragalus membranaceus, Astragalus membranaceus extracts, autophagy dysregulation-associated diseases, Astragalus polysaccharide, preparation, chemical composition, pharmacological action, immune regulation, anti-aging, anti-tumor, regulation of blood glucose, Whole ingredients extract, Chemical integrity, Immunomodulation, Astragali Radix, Astragalus membranaceus, aging, neurodegenerative disease, cancer, immnoregulation, Astragalus membranaceus extract, macrophage, heparanase, migration, immune response mediator, immune response, Telomerase, telomeres, senescence, cancer, immortalization, peripheral blood leukocytes, serum lipids concentrations, telomere length, DNA damage response, flavanoid, polyphenol, telomere, telomeric position effect, telomere-induced foci, aging, anti-aging, antioxidants, laser, peeling, fillers, botulinum toxin, hormone replacement therapy, cell regulators, prevention, carnosine, complexation, dermo-cosmetic formulation, topical delivery, telomerase, DNA damage responses, G-quadruplex, guanine-rich oligonucleotides (GROs), telomere homolog oligonucleotides (T-oligos)

<b>Keywords: </b>telomeric repeat, exercise, d3, nutrition, telomere, telomerase, tert, htr, dyskerin, cancer, telomeres, shelterin complex, end replication, telomere maintenance mechanisms, TERT promoter mutations, telomere length heritability, genetic variants, cancer-risk, aging, biobehavior, nursing research, oxidative stress, psychological stress, telomere, Telomeres length, oxidative damage, breast cancer, Aging syndromes, Aging process, autophagy, Astragalus membranaceus, Astragalus membranaceus extracts, autophagy dysregulation-associated diseases, Astragalus polysaccharide, preparation, chemical composition, pharmacological action, immune regulation, anti-aging, anti-tumor, regulation of blood glucose, Whole ingredients extract, Chemical integrity, Immunomodulation, Astragali Radix, Astragalus membranaceus, aging, neurodegenerative disease, cancer, immnoregulation, Astragalus membranaceus extract, macrophage, heparanase, migration, immune response mediator, immune response, Telomerase, telomeres, senescence, cancer, immortalization, peripheral blood leukocytes, serum lipids concentrations, telomere length, DNA damage response, flavanoid, polyphenol, telomere, telomeric position effect, telomere-induced foci, aging, anti-aging, antioxidants, laser, peeling, fillers, botulinum toxin, hormone replacement therapy, cell regulators, prevention, carnosine, complexation, dermo-cosmetic formulation, topical delivery, telomerase, DNA damage responses, G-guadruplex, guanine-rich oligonucleotides (GROs), telomere homolog oligonucleotides (T-oligos), s<b>Summary of Abstracts: </b><b>Expression of Telomeric Repeat-Containing RNA Decreases in Sarcopenia and Increases after Exercise and Nutrition Intervention</b> defined as aging-related loss of muscle mass and function. Telomere length in chromosomes shortens with age and is modulated by telomeric repeat-containing RNA (TERRA). This study aimed to explore the impact of aging and sarcopenia on telomere length and TERRA expression, and changes following strengthening exercise and nutrition intervention (supplement of branched-chain amino acids, calcium and vitamin D3) for 12 weeks in the sarcopenic population. Sarcopenia is associated with a decrease in TERRA expression in leukocytes. Rebound TERRA expression (returning to the level similar to the non-sarcopenic controls) was observed in the sarcopenic group after exercise and nutrition intervention. Future studies are warranted to examine the potential of TERRA as a biomarker for sarcopenia and its subsequent responses to intervention.

## **Other Topics**

<b>PEMF </b> <a href="https://cruisingreview.com/topics/pemf-pulsed-electromagnetic-field-therapy-for-health-while-travel-by-cruising-review.html"> More Info</a>

<b>Rosemary</b> <a href="https://cruisingreview.com/topics/rosemary-spice-health-series-by-cruising-review. html" style= "text-decoration: none"> More Info</a>

<b>Wellness</b> <a href="https://cruisingreview.com/topics/travelers-guide-to-wellness-by-cruising-review.html" style= "text-decoration: none"> More Info</a>

<b>Body Lotion</b> <a href="https://cruisingreview.com/topics/body-lotion-as-anti-inflammation-by-cruising-review.html" style= "text-decoration: none"> More Info</a>

<b>Turmeric</b> <a href="https://cruisingreview.com/topics/turmeric-by-cruising-review.html" style= "text-decoration: none"> More Info</a>

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<b>Green Tea</b> <a href="https://cruisingreview.com/topics/green-tea-health-while-travel-by-cruising-review. html" style= "text-decoration: none"> More Info</a>

<b>Tamanu Oil</b> <a href="https://cruisingreview.com/topics/tamanu-oil-for-health-while-travel-by-cruising-review.html" style= "text-decoration: none"> More Info</a>

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<b>Apple Cider Vinegar</b> <a href="https://cruisingreview.com/topics/apple-cider-vinegar-for-health-while-travel-by-cruising-review.html" style= "text-decoration: none"> More Info</a>

<b>Telomere</b> <a href="https://cruisingreview.com/topics/telomere-for-health-while-travel-by-cruising-review. html" style= "text-decoration: none"> More Info</a>

5/p2/Jomato</b> <a href="https://cruisingreview.com/topics/tomato-for-health-while-travel-by-cruising-review.html"
