New Study Finds Degalactosylated Whey Protein Enhances Telomere Length, Indicating Potential Anti-Aging Benefits

Saisei Mirai Clinics in Japan have made significant strides in researching the health benefits of Macrophage Activating Factor (MAF).

Saisei Mirai Logo

HONOLULU, HI, UNITED STATES, March 26, 2025 /EINPresswire.com/ -- Pioneering research led by Saisei Mirai Clinics in Japan has unveiled significant advancements in understanding the potential health benefits of Macrophage Activating Factor (MAF). A groundbreaking study published in Scientific Reports has revealed that a unique degalactosylated whey protein (D-WP) formulation, also known as MAF, significantly increases peripheral blood telomere length in both young and aged mice. These findings suggest that this advanced whey protein formulation may support cellular longevity, healthy aging, and overall wellness.

Telomere Length and Aging

Telomeres, protective caps at the ends of chromosomes, shorten as cells divide over time, leading to aging and increased risk of age-related diseases. Telomerase, an enzyme responsible for maintaining telomere length, becomes less active with age, contributing to cellular aging and dysfunction.

The study investigated the effects of oral intake of a proprietary D-WP formulation (MAF) on peripheral blood telomere length and telomerase-related gene expression. The results demonstrated that:

• In young mice, D-WP intake for four weeks significantly increased telomere length by 54% compared to the control group.
• In aged mice, D-WP intake restored telomere length to levels observed in younger mice, suggesting a potential role in reversing telomere shortening.
• mRNA expression of key telomerase components (TERT and TERC) was significantly upregulated, indicating that D-WP may activate the body's natural telomere maintenance mechanisms.

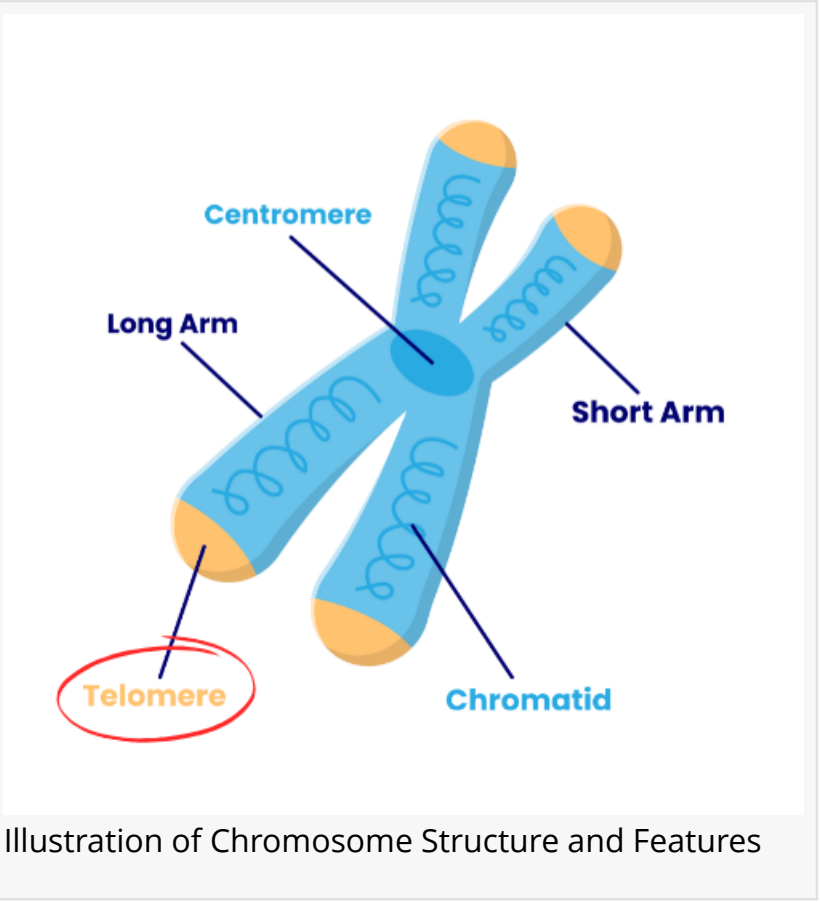

Illustration of Chromosome Structure and Features

A Potential Breakthrough in Longevity Research

While whey protein has long been recognized for its immune-boosting and muscle-building properties, this study introduces an entirely new dimension to its benefits. The deglycosylation process appears to enhance the biological activity of whey protein, potentially making it an effective nutritional intervention for cellular rejuvenation and healthy aging.

“These findings open exciting possibilities for developing functional foods and supplements that support longevity,” said Dr. Toshio Inui, one of the study's lead authors. “By influencing telomere length, this specialized whey protein formulation could help delay cellular aging and offer protective effects against age-related diseases.”

About the Study

The study, Oral Intake of Degalactosylated Whey Protein Increases Peripheral Blood Telomere Length in Young and Aged Mice, was published in Scientific Reports (DOI: 10.1038/s41598-024-81597-3) and is accessible online.

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Future Research and Clinical Implications

While these results are promising, human clinical trials have been completed and are awaiting publication. These trials aim to confirm whether D-WP (MAF) supplementation provides similar benefits for telomere maintenance and aging-related health conditions. Given the strong link between telomere length, cardiovascular health, and neurodegenerative diseases, this advanced formulation could have broad therapeutic potential.

Human Clinical Trials Conducted:

Telomere Extension
A clinical trial involving 161 participants revealed that the intake of Macrophage Activating Factor resulted in remarkable telomere extension, with an average increase of 12% at three months and 23% at six months. These findings are currently under submission.

Telomerase Activation
Ongoing studies in Indonesia aim to further explore the increase in TERT and TERC expression, as well as telomere length, associated with Macrophage Activating Factor.

DNA Methylation
Aged individuals typically exhibit global hypomethylation and local hypermethylation in CpG islands. Astonishingly, six months of exposure to MAF restored global hypomethylation to levels observed in younger individuals.

Biological Age
Epigenetic age analysis revealed a significant reduction in biological age, with male participants showing an average decrease of 1.35 years, while female participants exhibited a decrease of 1.36 years, suggesting a reversal of the biological aging clock.

Neurodegenerative Disease
Participants over 60 years old without dementia demonstrated significant improvements in MCI screening scores six months after exposure to Macrophage Activating Factor. Furthermore, levels of advanced glycation end products (AGEs) were significantly reduced. These results were recently published in the journal *Nutrients* (16:2078, 2024).

Note: To view the published papers, visit

Nature
Could immune proteins have anti-ageing benefits?

https://www.nature.com/articles/d42473-024-00361-3

 Scientific Reports
Oral Intake of Degalactosylated Whey Protein Increases Peripheral Blood Telomere Length in Young and Aged Mice
https://pmc.ncbi.nlm.nih.gov/articles/PMC11681036/

BMC/Springer
Effect of degalactosylated bovine glycoprotein formulations MAF and M capsules on lymphopenia and clinical outcomes in hospitalized COVID-19 patients: a randomized clinical trial
https://link.springer.com/article/10.1186/s12879-024-09286-0

Nutrients
The Effects of Dietary Intervention and Macrophage-Activating Factor Supplementation on Cognitive Function in Elderly Users of Outpatient Rehabilitation
https://www.mdpi.com/2072-6643/16/13/2078

Science Direct
Adjunctive use of oral MAF is associated with no disease progression or mortality in hospitalized patients with COVID-19 pneumonia: The single-arm COral-MAF1 prospective trial
https://www.sciencedirect.com/science/article/pii/S075333222301692X

Frontiers
Degalactosylated Whey Protein Suppresses Inflammatory Responses Induced by Lipopolysaccharide in Mice
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9101058/

About the Researchers
This study was conducted by researchers from Saisei Mirai Cell Processing Center, Kyushu University, and Kyoto Medical Center, with expertise in aging, molecular biology, and nutritional sciences.

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