

## Study shows postbiotic Urolithin A improves muscle strength and exercise performance in middle aged adults

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Skeletal muscle fibers. Credit: Berkshire Community College Bioscience Image Library / Public domain

Age-associated muscle decline can start as early as 40 years old and there are currently no effective interventions to counteract it other than exercise. A new milestone study published today in *Cell Reports* 



*Medicine* showed that daily intake of Amazentis' proprietary Urolithin A, Mitopure, significantly improved muscle strength by 12% after four months. These findings further validate Mitopure's benefits for muscle and mitochondrial health and show it is safe and well tolerated. Mitopure works by supporting the cells' ability to renew their powerplants, the mitochondria, during the aging process. Muscles have a high demand for energy and there are a very large number of mitochondria in muscle cells.

Previous research showed that Mitopure improved <u>muscle endurance</u>, reduced inflammation, and resulted in healthier mitochondrial function in <u>older adults</u> 65 to 90 years old. This new double-blind, placebocontrolled trial in middle-aged adults 40 to 64 years old (n=88) was conducted in London, Ontario, Canada following approvals from Health Canada and an independent IRB. Participants were randomized to receive daily supplementation with either 500mg, 1,000mg Mitopure or placebo for 4 months. Muscle strength, exercise performance tests and biomarkers of healthy mitochondrial function and inflammation in skeletal muscle biopsies and <u>blood plasma</u> were assessed at baseline, 2 months and 4 months.

- Two measures of skeletal <u>muscle strength</u> were improved in the supplemented groups compared to the placebo group. Muscle strength in the hamstring skeletal muscle was significantly increased in both 500mg (+12%) and 1,000mg groups (+9.8%). Muscle strength during knee flexion was also significantly improved at both 500mg (+10.6%) and 1,000mg doses (+10.5%)
- Clinically meaningful improvements on aerobic endurance (+ 10% in peak oxygen consumption [VO2]), physical performance (+ 33 meters on the 6 min walk test), and power output (+5%) were observed in the 1,000mg group, though not statistically significant
- The blood tests and biopsies showed a significant improvement



in biomarkers of healthy mitochondrial function and reduced inflammation

"These results are exciting because this is the first in human demonstration that Urolithin A repairs the mitochondria via mitophagy and can translate to meaningful physiological benefits. Furthermore, the improvement in strength and exercise-performance occurred in the absence of any changes to participants exercise routine," explained EPFL professor Johan Auwerx, MD, Ph.D., co-author.

This is an important discovery in longevity and muscle health research. Aging is associated with a decline in mitochondrial function which can lead to reduced exercise capacity, muscle endurance and strength. Urolithin A is the first and only compound that has been clinically shown to improve muscle function by renewing the mitochondria through a potent biological quality control mechanism called mitophagy. By activating this important biological pathway, Mitopure promotes healthy aging and improved muscle health and performance.

"This study further validates the role of mitochondrial health as an important pillar of vitality and shows Mitopure is a first in class nutrient that meaningfully impacts muscle health. We are proud to offer this proprietary form of Urolithin A in our Timeline brand and inside Nestlé Health Science products," said Chris Rinsch, CEO and Co-Founder of Amazentis. "We remain committed to pioneering clinically validated products that optimize cellular health with the mission of keeping millions of people healthier for longer."

"Mitochondrial decline is a key hallmark of aging and poor metabolic health. This study is an important milestone and shows that Urolithin A could be a gamechanger in our field," said. Dr. Eric Verdin, the president and chief executive officer of the Buck Institute for Research on Aging, who just joined the Amazentis scientific advisory board.



**More information:** Anurag Singh, Urolithin A improves muscle strength, exercise performance and biomarkers of mitochondrial health in a randomized clinical trial in middle-aged adults, *Cell Reports Medicine* (2022). DOI: 10.1016/j.xcrm.2022.100633

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