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Immediate Release

**Confirmation that the Anti-aging Substance Nicotinamide
Mononucleotide (NMN) Maintains Walking Speed and Improves
Sleep Quality in Older Adults
-Published in the International Journal GeroScience-**

Meiji Holdings Co., Ltd. (CEO, President and Representative Director: Kazuo Kawamura) is pleased to announce it has confirmed that the anti-aging substance Nicotinamide Mononucleotide (NMN)^{*1} maintains walking speed and improves sleep quality in older adults. These results were published in the international journal GeroScience. (GeroScience 2024, <https://doi.org/10.1007/s11357-024-01204-1>)

Summary of the Findings

Through human studies, it was discovered that the long-term ingestion of Nicotinamide Mononucleotide (NMN) maintains walking speed and improves sleep quality in older adults.

Background and Outlook

As aging progresses, older adults demonstrate a decline in physical functions, including the ability to walk and balance posture. Among walking indicators related to walking ability, walking speed is particularly viewed as being strongly related to a risk of death. Nicotinamide adenine dinucleotide (NAD⁺) is a substance that functions as a co-factor and co-substrate for various enzymes, including enzymes associated with energy metabolism, gene expression regulation and DNA repair. With aging, the body's overall NAD⁺ levels decline. As such, recent years have seen increased attention on the ingestion of NMN, a precursor to NAD⁺, to maintain NAD⁺ concentrations in the body. This research targeted older adults and evaluated the impact observed on the blood concentration of NAD⁺-related substances, physical function, and sleep quality when NMN was consumed over a twelve-week period.

As a result, compared to older adults who ingested a placebo^{*2}, older adults who ingested NMN over a twelve-week period were found to have an increased blood concentration of NAD⁺, maintained walking speed, and improved sleep quality.

From these results, it is expected that NMN intervention can contribute to maintaining walking

speed and extending healthy lifespans.

Meiji will continue anti-aging-related research work towards the creation of new value in wellness.

Title of the Article

Ingestion of β -nicotinamide mononucleotide increased blood NAD levels, maintained walking speed, and improved sleep quality in older adults in a double-blind randomized, placebo-controlled study.

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*1. A precursor of nicotinamide adenine dinucleotide (NAD⁺). Promoting the generation of NAD⁺ supports cellular energy generation and metabolic activity.

*2. Indicates a pharmaceutical agent or food that contains no active ingredient. This is primarily used in clinical trials and research to conduct a comparison with a pharmaceutical agent or food that contains the actual active ingredient.

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