

Shimadzu Corporation, Ebetsu City, Hokkaido University commence joint study on MCI

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Shimadzu Corporation, Ebetsu City (Hokkaido), Hokkaido Information University (a member of the Electronics Development Computer College group), the National Agriculture and Food Research Organisation (NARO), and the Self Care Food Council (SCFC) will commence a joint cohort study entitled "Ebetsu's Active Future Study." The objective of the study is to find blood biomarkers for mild cognitive impairment (MCI), investigate dietary-oriented measures that prevent the progression of dementia, and study the association between local community development and a healthy life span. Physical fitness tests and cognitive function tests including blood biomarker measurements will be conducted in Ebetsu City residents (up to 1,200 people) aged between 55 and 75 years (as of April 1, 2023) over a 10-year period, along with questionnaire-based surveys of diet and lifestyle. This will be the first large-scale research study into factors that cause Alzheimer's dementia (hereinafter Alzheimer's disease) conducted in Japan by a local government, university, national research institution, and private company.

The tests performed as part of the study will be conducted once per year and will require around 2 hours to complete. The study will collate and reference data on the cognitive function, mental and physical health, and lifestyle of participants, look for blood biomarkers that predict the onset of MCI, and investigate diet-oriented measures that prevent the progression of dementia. Shimadzu Corporation will be responsible for analysing and evaluating results from blood biomarker measurements performed using the Amyloid MS CL system for measuring amyloid peptides in blood and MCI Screening Test Plus. Hokkaido Information University will analyse physical test data such as a motion capture-based assessment of walking motion. NARO will use the results of the study to investigate links between diet and cognitive function and search for nutritionally functional components in food that maintain cognitive function. Finally, SCFC will support the development of food products among its

food manufacturer members based on the findings of Ebetsu's Active Future Study.

Alzheimer's disease, which accounts for around 60 per cent of dementia cases, begins around 20 years before symptomatic onset with the accumulation of amyloid- β in the brain, with amyloid- β being one of the substances that causes Alzheimer's disease. MCI is a decline of cognitive function and is considered a pre-dementia condition. Adopting appropriate measures at the MCI stage could prevent the onset or progression of dementia.

In June 2022, Shimadzu Corporation, Ebetsu City, Hokkaido Information University, NARO, and SCFC entered into a comprehensive partnership agreement that aims to facilitate the construction of societal systems that reduce and prevent the risk of MCI. The above five parties will create a database of information on the health and lifestyle habits of up to 1,200 people over the next 10 years to investigate the causal relationship between diet and cognitive function. The enactment of The Basic Act on Dementia in June of this year will also bring an increase in initiatives for promoting foundational and clinical research aimed at elucidating factors that cause dementia and the prevention of dementia. With this study, the above five parties aim to effect dietary and other self-care solutions in society that will reduce the risk of MCI based on improved living.