【Overview presentation】

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Evaluation of pre-analytical sample handling procedure for plasma Aβ measurement using a fully automated immunoassay system

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| Overview presentation | **Objectives**
In recent years, the measurement of plasma β-amyloid (Aβ) has attracted attention as a useful diagnostic tool for Alzheimer's disease (AD). We have previously reported that the amyloid PET status can be predicted with high accuracy (area under the curve 0.86 or more) using the plasma Aβ42/40 ratio. However, it has been reported that plasma Aβ values can be affected by the pre-analytical sample handling procedure, and improper handling of samples can lead to a reduction in diagnostic performance. Therefore, this study aims to investigate the conditions under which plasma Aβ can be measured stably.
Methods
We used samples from healthy volunteers and examined the conditions such as time and temperature before and after plasma separation, freezing conditions, and storage tube types. Plasma Aβ42 and Aβ40 were measured using an Automated Immunoassay System HISCL™-5000, and the Aβ42/40 ratio was calculated to evaluate the effect of sample handling conditions.
Results
There was no effect on the Aβ42/40 ratio even if whole blood was stored at room temperature for 2 hours or at 4°C for 6 hours. After plasma separation, the Aβ42/40 ratio was stable for up to 6 hours at both room temperature and 4°C, and samples can be frozen at -20°C or below. There was no effect whether the |

	storage tube had a low protein adsorption treatment or not.
	Conclusion
	Our results have clarified the conditions under which plasma Aβ can be stably measured. By handling samples under these conditions, it is expected that the excellent diagnostic performance as previously reported will be demonstrated in the clinical settings, and will be a useful tool for diagnosing AD.
Session	Poster "Alzheimer's Disease (Biochemistry, Genetics) 1"