

【Overview presentation】

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High correlation of plasma tau and p-tau181 levels measured by a fully automated immunoassay system and an immunoprecipitation mass spectrometry assay

Authors	<p>Kengo Ishiki¹, Takeo Kamakura², Shun Murakami¹, Kazuya Matsumoto¹, Kazuto Yamashita¹, Gupta Ishita¹, Masahiro Miura¹, Kazuyoshi Shuta², Kanta Horie², Toshiyuki Sato¹</p> <p>¹Central Research Laboratories, Sysmex Corporation, Kobe, Japan ²Molecular Profiling Department, Discovery Concept Validation Function, DHBL, Eisai Co., Ltd., Tsukuba, Japan</p>
Overview presentation	<p>Objectives</p> <p>The potential of plasma biomarkers for Alzheimer's disease (AD) diagnosis is widely recognized with the expected implementation into the clinical practice. However, due to these markers' plasma low concentration, their levels can be easily interfered by the blood matrix. Therefore, it is necessary for measurement systems to provide these biomarker levels with a reliability for ensuring specificity to the target molecules. We have developed the prototype plasma tau phosphorylated on threonine 181 (p-tau181) and total tau (t-tau) assay using Automated Immunoassay System HISCL™-5000 (HISCL analyzer) – a platform that is used in routine clinical practice. To confirm the specificity of the developed assay, we have also developed the plasma p-tau181 and t-tau assay of the immunoprecipitation mass spectrometry (IP-MS) method as a reference to provide the accurate quantification of the target proteins in blood matrix. In this study, we evaluated the correlation between plasma p-tau181 and t-tau levels measured by both assays to guarantee the specificity of HISCL analyzer.</p> <p>Methods</p> <p>We measured plasma p-tau181 and t-tau levels in 40 commercially available plasma samples by both HISCL analyzer and IP-MS method. The levels of plasma p-tau181 and t-tau measured by these methods were used for the evaluation of correlation significance of Spearman's rank correlation coefficient</p>

	<p>(rs).</p> <p>Results</p> <p>We identified significant correlations of plasma p-tau181 and t-tau levels measured by HISCL and IP-MS methods. The rs values of plasma p-tau181 and t-tau were assessed to 0.86 (p<0.001) and 0.84 (p<0.001), respectively.</p> <p>Conclusion</p> <p>We confirmed the presence of significant correlations between plasma p-tau181 and t-tau levels measured by HISCL and IP-MS methods. Our results highlighted the specificity of these biomarkers' levels provided by HISCL analyzer, enhancing the potential of plasma biomarkers as a diagnostic tool for AD.</p>
Session	On-Demand Oral VIRTUAL ORAL: THEME A (VO045 / #2859)