Session I　　Lecture 1

A Novel Method for Detecting Advanced Glycation End Products: Its Potential Application to Design of Healthy Diet

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Summary

Advanced glycation end products (AGEs) are a collective term for diverse molecular species formed when sugars bind to proteins. AGEs are produced through Maillard reaction in food processing and contribute to formation of taste, flavor and color. On the other hand, AGEs are also generated and accumulate in the body with aging and are associated with various diseases such as Alzheimer's disease and muscle atrophy. While interest in the relationship among AGEs, diseases and diet has grown, only a limited number of molecular species among AGEs have had their structures and properties elucidated. AGEs can be detected by methods such as colorimetric analysis, LC-MS, and ELISA; however, these approaches cannot evaluate whether the detected AGEs are biologically active. Therefore, we conceived the idea that recombinantly produced extracellular domain of RAGE (sRAGE) would enable evaluation of AGEs based on their biological activity. Here, we introduce a detection method for biologically active AGEs utilizing the recombinant sRAGE and explore its potential applications in screening food ingredients for self-care diet which helps prevent the related diseases based on individual AGEs level.