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Commercialization of a plasma amino acid based risk diagnosis service

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From early observations indicating that amino acids were a convenient subset of the metabolome to investigate changes in metabolism associated with various physiological states, we have developed a technology package (“AminoIndex technology”) to generate biomarkers for various disease and physiological states using plasma amino acid concentration data and have commercialized a service based on this technology. In order to achieve commercialization, various problems ranging from sample handling, throughput, standardization and follow-up services had to be overcome and some of these issues which may be relevant to other biomarker commercialization will be addressed in the presentation. So far, “AminoIndex technology” has been used to generate risk biomarkers for gastric, lung, colorectal, prostate and breast cancer and since its launch as a biomarker service in April 2011 in Japan, it has been adopted by over 900 hospitals and clinics as an optional blood test and has led to the receipt of various awards in Japan. Research is ongoing to add other cancer risk biomarkers as well as biomarkers for other diseases risks. The advantage of “AminoIndex technology” is that one measurement of plasma amino acids potentially allows the determination of multiple biomarkers as each biomarker is composed of multiple amino acids. We believe that in the near future, other validated metabolites and omics data could be added to the current analytical platform increasing discriminative power. Although there are a number of issues still need refinement, we believe that the “AminoIndex technology” platform can play a role in tailor-made nutrition and medicine.

Biography

Takeshi Kimura has studied Cell and Molecular Biology at University of London King's College and obtained his PhD in Biochemistry from same in 1984. He then worked at National Institutes of Health, USA as a visiting fellow. His early work was on chromatin structure and gene regulation with publications in journals such as *Nature* and *Journal of Molecular Biology*. In 1989 he joined Ajinomoto and worked initially on safety research and regulatory affairs. He became corporate executive officer in 2009 and then general manager of R&D planning department. Currently he is a Board Member and Corporate Vice President for R&D, IP and QA/RA.

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