

S25-5 Establishment of scientific evidence for probiotics: Combining basic and clinical research

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The consumption of dietary supplements has been increasing based on heightened public health concerns and increased medical expenditures. Probiotics including lactic acid bacterium are reported to have beneficial effects, such as preventing hypertension and improving *Helicobacter pylori* eradication rates. However, the amount of information makes it difficult to determine the credibility of published results. While it is thought that the number of the people taking supplements has increased, few studies examined the interactions between pharmaceuticals and probiotics, which is necessary for the appropriate use of pharmaceuticals. We are investigating the usefulness of probiotics in comprehensive basic and clinical research. At this symposium, we will report the results of meta-analysis of scientific evaluations of the usefulness of probiotics in preventing or treating disease. The effects of probiotics on gene expression and metabolic enzyme and transporter function will be described, along with their regulatory mechanisms. Probiotics coadministered with pharmaceuticals may affect pharmacokinetics, efficacy, and side effects. Probiotics containing lactic acid bacterium may prevent disease and contribute to the efficacy of pharmaceutical therapy by regulating intestinal bacteria.