Proteome analysis of plasma proteins in STZ-induced diabetic rats

Ji-Hye Yoo, Pan-Kyeom Kim, Mi-Ryung Kim, and Chan-Wha Kim*
School of Life Sciences and Biotechnology, Korea University, Seoul, Korea
TEL: +82-2-3290-3439, FAX: +82-2-3290-3957
*Corresponding E-mail: cwkim@korea.ac.kr

In diabetes mellitus, metabolic abnormalities such as hyperglycaemia, hypertension and hyperlipidemia are caused as a result of impaired insulin action. However, there are difficulties from the diversity of individual plasma to study in human diabetic plasma. Therefore, streptozotocin (STZ)-induced diabetic rat model having relatively low diversity of individual was needed to get over variations of human diabetic plasma. In this study, a rat STZ model was used to screen the key marker of diabetes. Although it is expected that there are differences in the protein profiles between normal group and STZ-induced diabetic rat group, it has not been identified yet. To compare protein patterns, we conducted a proteomic analysis of rat plasma using a two-dimen- sional electrophoresis. Plasma proteins were resolved on a nonlinear pH 3-10 IPG strip and SDS-PAGE was then run on 10% homogeneous polyacrylamide gel. Proteins were visualized by silver staining method. The differentially expressed protein spots were identified by ESI-Q-TOF mass spectrometry.

References