

## Proteome analysis of plasma proteins in STZ-induced diabetic rats

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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-dimensional 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

1. Sussanne B. Nicholas, Michael Mauer, John M. Btasgen, Elsa Aguiniga, Yun Chon, Effect of AngiotensinII on Glomerular Structure in Streptozotocin-induced Diabetic Rats (2004), *American Journal of Nephrology*, 24, 549-556.
2. Robin Wait, Elisabetta Gianazza, Ivano Eberini, Luigi Sironi, Michael J. Dunn Manfred Gemeiner, Ingrid Miller, Proteins of rat serum, urine, and cerebrospinal fluid: VI. Further protein identifications and interstain comparison (2001), *Electrophoresis*, 22, 3043-3052.