Comparison of Human Serum and Plasma by Two-Dimensional Gel Electrophoresis

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Serum or plasma proteins are the indicators of patient's physiological or clinical status. Proteins involved in coagulation factors present in high abundance in serum or plasma, have been functionally characterized and associated with various disease states[1]. Serum is the blood plasma without fibrinogen and other clotting factors. Plasma is the fluid portion obtained after centrifugation of the anticoagulated specimen. Generally it is expected that there are differences in the protein profile between serum proteins and anti-coagulant matter (ACM; EDTA, heparin or trisodium citrate) treated-plasma proteins. In this study, we removed the most abundant serum proteins, albumin and IgG using a removal kit prior to display human blood serum or plasma proteins with two-dimensional electrophoresis (2-DE) gels. The proteins which show the differences in spot intensities in 2-dimensional electrophoresis gel were identified with ESI-Q-TOF MS/MS. Our study will provide the good guidance for selecting either serum or plasma samples for clinical and biomedical research.

Reference

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