

## Removal of protein using the aqueous two-phase system in the microfluidic device

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Serum albumin is one of abundant serum proteins which block the expression other important biomarkers. The objective of this study is to remove serum albumin effectively by using aqueous two-phase system in microfluidic devices. Aqueous two-phase extraction is biocompatible and widely used for separation of biomolecules. Aqueous two-phase system was applied to the microfluidic device for protein separation because relative low interfacial tension between top and bottom phase makes extraction process possible even at low flow rate and it induced no physical changes of polymer-based microchannel including polydimethylsiloxane microchannels. In this study, aqueous two-phase system was carried out with the effect of width, baffle, flow rates and electric field for the better BSA extraction efficiency in the microfluidic device.

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