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Proteomic analysis of membrane proteins in spheroid 3-dimensional bullet of human umbilical cord blood mesenchymal stem cells

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Recently, aggregating of human umbilical cord blood mesenchymal stem cells (hUCB-MSCs) improved therapeutic efficacy in animal model. In order to elucidate the biochemical property of aggregated hUCB-MSCs as a spheroid 3-dimensional bullet, membrane proteins were analyzed by 2D-PAGE and identified by LC-MS. Expression level of total 18 membrane proteins were changed reproducibly compared to that of monolayer hUCB-MSC. Among these, several proteins were selected to understand molecular mechanism of MSC aggregation for improving therapeutic efficacy.

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