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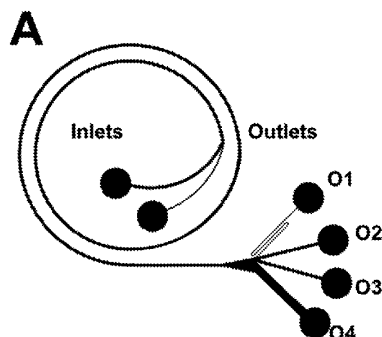
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(54) Title: DIRECT AND SCALABLE ISOLATION OF CIRCULATING EXTRACELLULAR VESICLES FROM WHOLE BLOOD USING CENTRIFUGAL FORCES

FIG. 1



(57) Abstract: A method herein to isolate exosomes includes providing a microfluidic device having a spiral-shaped channel in fluid communication with two inlet ports and at least two outlet ports. One of the two inlet ports is proximal to an inner wall of the spiral-shaped channel and the other is proximal to an outer wall thereof. At least one of the outlet ports is in fluid communication with a container for storing isolated exosomes. A blood sample and sheath fluid are introduced into the inlet ports proximal to the outer and inner walls, respectively, to form a diluted sample in the spiral-shaped channel and driven through for exosomes recovery in the container. The spiral-shaped channel in fluid communication with a first outlet port includes a first outlet channel connecting the spiral-shaped channel to the first outlet port and is longer than other outlet channels respectively connecting the spiral-shaped channel to the other outlet ports. A method of identifying diabetes mellitus is also disclosed herein.

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