Large-Volume Centrifugal Microfluidic Device for Blood Plasma Separation

Tech ID: 21294 / UC Case 2011-429-0

BRIEF DESCRIPTION

Researchers at the University of California, Irvine have developed a CD microfluidic device that is capable of blood plasma separation of 2 mL of undiluted blood samples. A technician would pipette into the CD device the blood sample for separation. The device is then rotated at high frequencies in order to separate the plasma from the blood. As the frequency of rotation for the CD device is decreased, a siphon valve is primed due to the low frequency of rotation; and the plasma is separated into a collection chamber.

SUGGESTED USES

This device may be used in the clinic with patients and in research labs for research applications.

ADVANTAGES

Currently, a clinical technician is required to prepare blood samples for centrifugation. The current process takes more than 20 minutes. By using the UCI microfluidic device, the preparation and separation of blood plasma can take less than 5 minutes. Since this device is automated, there is less human error and samples may be multiplexed.

STATE OF DEVELOPMENT

A prototype has been developed and blood plasma has been successfully shown to be separated with this device.

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	9,186,672	11/17/2015	2011-429

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OTHER INFORMATION

CATEGORIZED AS

- **Agriculture & Animal Science**
  - Devices
- **Medical**
  - Devices
  - Diagnostics
  - Research Tools
- **Research Tools**
  - Other
- **Sensors & Instrumentation**
  - Scientific/Research
- **Veterinary**
  - Diagnostics

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