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DEPARTMENT OF
SCIENCE & TECHNOLOGY
सत्यमेव जयते

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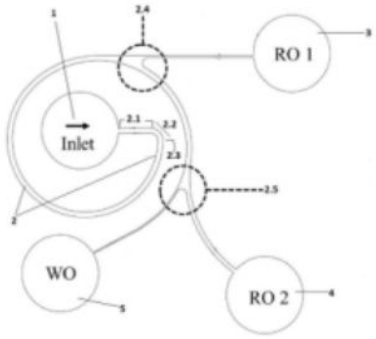
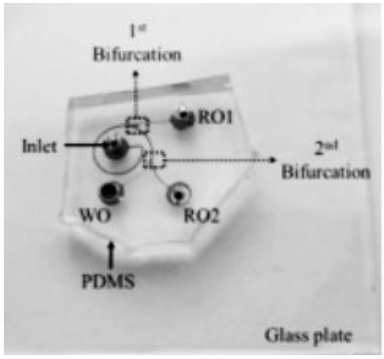
PENDING

(IN202311048220) Spiral microfluidic device for white blood cell separation from blood





NEED

Efficient separation of white blood cells (WBCs) from blood is crucial for diagnostic and therapeutic applications. Traditional methods are time-consuming and inefficient, leading to contamination and reduced purity.

MARKET ANALYSIS

The global microfluidic devices market is projected to grow at a CAGR of 16.5%, reaching $48.8 billion by 2033 (source: Grand View Research, 2023). The key drivers include advancements in medical diagnostics, rising demand for personalized medicine, and increasing healthcare investments.

TECHNOLOGY OVERVIEW

The spiral microfluidic device efficiently separates white blood cells from a blood sample by using a spiral channel with bifurcations. The device improves separation efficiency, reduces contamination, and ensures high purity for downstream applications.

Target Industries

Medical diagnostics, biopharmaceuticals, and clinical research. , Diagnostic laboratories, clinical research organizations, healthcare product developers, and biotech firms working on blood-based testing and separation technologies.

TECHNOLOGY KEY FEATURES

Spiral microfluidic design, bifurcations for cell separation, high purity WBC collection, suitable for human blood, reusable, composed of elastomeric materials, compact, cost-effective, and easy-to-manufacture.

AT A GLANCE

- SDG 3 (Good Health and Well-being), SDG 9 (Industry, Innovation, and Infrastructure)

Read more here

Technology is available for licensing/ co-development.

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