Dielectrophoresis-Based Cell Destruction to Eliminate/Remove Unwanted Subpopulations of Cells

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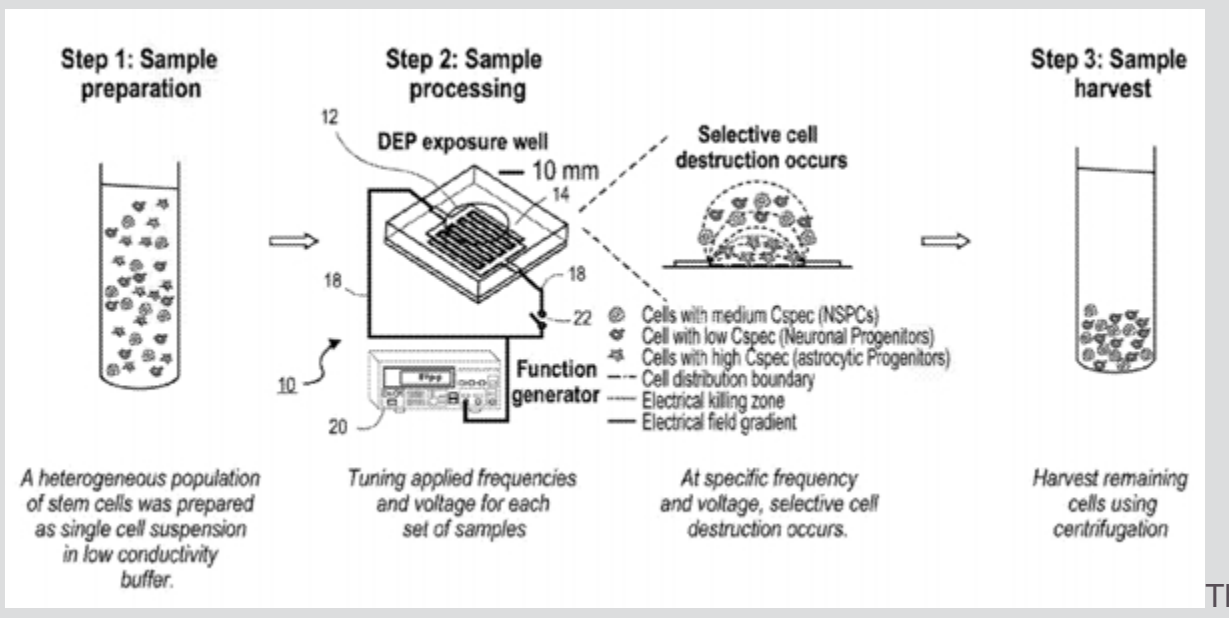
BRIEF DESCRIPTION

This invention allows for label free cell separations and cell enrichment.

FULL DESCRIPTION

Fluorescence activated cell sorting (FACs) is the current gold standard for cell separation and enrichment. In addition to being expensive and time-consuming to operate, FACs devices require known cell surface markers and labelling in order to carry out cell separation processes. This limits the types of separations that can be performed, particularly for cell populations without known cell surface markers.

Researchers at UC Irvine have developed a technology for label free cell separations. The invention is an electrophoresis (DEP)-based device. Each cell type/subpopulation has a characteristic crossover frequency. By tuning the applied frequency of the DEP-based device, the user can selectively destroy a subpopulation of cells, thereby enriching the second subpopulation of cells in a heterogeneous mixture. The desired subpopulation of cells can be removed and used for further processes.



This invention can be used to enrich cells without cell surface markers by removing cells with certain “membrane capictances.”

SUGGESTED USES

Cell separation and isolation for subpopulations of cells without cell surface markers, removal of undesired cell types, cell transplantations or cell-based therapeutics.

ADVANTAGES

This technology boasts relatively short sample preparation times for large cell populations. It is versatile and can be used for different cell types. Additionally, the technology is inexpensive as it operates without

OTHER INFORMATION

CATEGORIZED AS

- **Medical**
  - Devices
  - Research Tools
  - Screening
  - Stem Cell
  - Therapeutics
- **Research Tools**
  - Cell Lines
  - Expression System
  - Nucleic Acids/DNA/RNA
  - Reagents
  - Screening Assays

RELATED CASES

2011-667-2

expensive components, such as lasers that are required for FACs analysis.

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	9,797,862	10/24/2017	2011-667

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