

Title (en)

A reconfigurable microfluidic filter based on electric fields

Title (de)

Auf elektrischen Feldern basierendes rekonfigurierbares mikrofluidisches Filter

Title (fr)

Filtre microfluidique reconfigurable basé sur des champs électriques

Publication

EP 2078958 A1 20090715 (EN)

Application

EP 07119287 A 20071025

Priority

EP 07119287 A 20071025

Abstract (en)

A filter for filtering particles in a fluid, suitable for lab- on-chip microsystems, involves replacing traditional microfluidic filters and traps by reconfigurable devices based on e.g. dielectrophoresis. The filter has a channel (40) for the fluid, and electrodes (50, 60) and drive circuitry (70) arranged to create an electric field pattern in the fluid in the channel, to attract or repel the particles so as to selectively block particles of a given size, and allow particles of another size to pass. By forming the filter using electric fields, rather than using physical structures, it can be much easier to control or move or change the pattern of the filter. The filter can be used for sample preparation, isolation of cells for example from blood, analyte concentration and sorting of cells or functionalized microspheres on the basis of their size.

IPC 8 full level

G01N 27/26 (2006.01); **B03C 5/02** (2006.01)

CPC (source: EP)

B03C 5/005 (2013.01); **B03C 5/026** (2013.01); **B03C 5/028** (2013.01)

Citation (search report)

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Designated contracting state (EPC)

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