

CHAMBER DEVICE FOR DYNAMIC CELL CULTURE ON BIOMATERIALS

ABSTRACT

The present invention has application in the tissue engineering field, as well as for the characterization of the cell response to a wide range of biocompatible materials.

This invention comprises a new chamber device for the dynamic culture of cells seeded on biomaterials. The chamber can be included in a bioreactor allowing the incubation of cultures in 2D or 3D scaffolds under different fluid flows, thus mimicking the physiological conditions.

This invention was developed by researchers from La Paz University Hospital, and Biomedical Research Networking Centre in Bioengineering, Biomaterials and Nanomedicine (CIBER-BBN).

DESCRIPTION

This new device is composed by a chamber where 2D or 3D biomaterials can be immobilized. Cells from different sources can be cultured on these materials using different flow conditions allowing the manipulation of cell behavior as a function of physical stimulation.

The chamber is made of a transparent material that allows to visualize cultured cells by microscopic techniques. Furthermore, the chamber is hermetically sealed thereby keeping controlled conditions.

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APPLICATIONS

Characterization of new biomaterials for tissue engineering or implant applications

Characterization of cell response to mechanical stimulation

DEVELOPMENT STATUS

Developed

IP STATUS

Spanish Patent granted

AVAILABLE FOR

- Exclusive license agreement
- Non-exclusive license agreement
- Further research or development

INDUSTRIAL PROPERTY

Spanish Patent **ES 2489315 B1**

TECHNOLOGICAL OFFER

INNOVATIVE ASPECTS AND ADVANTAGES

Incubation of cell cultures in 2D and 3D scaffolds, mimicking the physiological conditions.

Cells can be cultured on own user scaffolds

Biomimetic stimulation of cell cultures with controlled flow conditions.

This new device can be adapted to a flow bioreactor for tracking of cell culture in a dynamic environment.

Non-invasive monitoring of changes in cell behavior.

CONTACT DETAILS

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