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A Micro-Patterned Plate Composed Of An Array Of Releaseable Elements Surrounded With Solid Or Gel Walls

Tech ID: 29367 / UC Case 2007-795-0

BRIEF DESCRIPTION

This technology is a micro-patterned plate made of an array of releasable elements surrounded by a gel or solid wall, and a process for manufacturing the micro-patterned plate. This is an efficient way of studying samples for statistically significant data sets of cells or biological materials for important scientific research and medicines.

FULL DESCRIPTION

This technology is a micro-patterned plate of a gel and solid wall. The micro-patterned plate provides a platform for high speed and is an efficient method for isolating subsets of biological or chemical materials. In addition, isolated subsets of samples from a larger population of samples is possible because cells may be removed from the patterned plate through a laser pulse or other mechanical forces. Conventional technologies all have shortcomings, which include difficulty releasing arrayed samples. Only the micro-bubble plate allows for the release of arrayed samples.

The surface properties of the walls can be made to repel or attract to proteins. A plate is prepared containing an array of micro-pallets, and the plate is placed in a solution with cells in suspension. These cells will sink to the surface. Some will fall on the micro-pallet surfaces, where they will stick and grow. Then the solution is washed and replaced with a buffer. Cells that have stuck to the walls will remain, and the cells that are left will be removed. The result is a palette with cells in a patterned formation for study. The surface properties of the wall may be tailored to be either repellent or attracted to proteins. The walls may also inhibit cell attachment and aid in localizing other materials to releasable elements.

SUGGESTED USES

- » Techniques for separating samples of a homogenous population for biochemical analysis
- » Genomic and proteomic studies: genetic cloning, cell-based screening, stem-cell studies
- » Enhanced ability to obtain living, single cells like DNA or RNA

ADVANTAGES

- Ability to pattern and release cells, colonies, and other biological samples efficiently and at a high speed
- Arrays of biological samples may assist in diagnosis of unknown agents or pathogens through observation of samples under controlled conditions
- Ability to study large samples for statistically significant data sets
- Ability to monitor each sample independently and repeatedly for long-term study under identical conditions

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OTHER INFORMATION

CATEGORIZED AS

- » **Research Tools**
- » Cell Lines
- » Other
- » Screening Assays

RELATED CASES

2007-795-0

PATENT STATUS

| Country | Type | Number | Dated | Case |
|--------------------------|---------------|-----------|------------|----------|
| United States Of America | Issued Patent | 9,487,745 | 11/08/2016 | 2007-795 |

STATE OF DEVELOPMENT

Patented

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