

TEMPORAL CONTROL OVER DNA-PATTERNED SIGNALING LIGANDS IN VITRO USING SEQUENCE-TARGETING NUCLEASES

Tech ID: 30599 / UC Case 2020-029-0

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Published Application	20240125764	04/18/2024	2020-029

BRIEF DESCRIPTION

UC Berkeley researchers have created a new technique that can rapidly “print” two-dimensional arrays of cells and proteins that mimic a wide variety of cellular environments in the body, be it the brain tissue surrounding a neural stem cell, the lining of the intestine or liver or the cellular configuration inside a tumor. In the new technique, each cell or protein is tethered to a substrate with a short string of DNA. While similar methods have been developed that attach tethered cells or proteins one by one. By repeating the process, up to 10 different kinds of cells or proteins can be tethered to the surface in an arbitrary pattern.

This technique could help scientists develop a better understanding of the complex cell-to-cell messaging that dictates a cell’s final fate, from neural stem cell differentiating into a brain cell to a tumor cell with the potential to metastasize to an embryonic stem cell becoming an organ cell.

ADVANTAGES

rapidly print intricate patterns of up to 10 different kinds cells or proteins onto a flat surface

different kinds of cells or proteins can be tethered to the surface in an arbitrary pattern

attach, or print, each type of cell protein in one quick batch, greatly speeding up the process

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- ▶ Mechano-Nps (Node Pore Sensing)

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INVENTORS

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OTHER INFORMATION

CATEGORIZED AS

- » **Biotechnology**
- » Proteomics
- » **Materials & Chemicals**
- » Biological
- » **Research Tools**
- » Expression System

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