

HIGH THROUGHPUT SURFACE PATTERNING OF SMALL MOLECULES AND BIOMOLECULES (OPTION-AGILENT)

Tech ID: 24134 / UC Case 2014-176-0

PATENT STATUS

| Country | Type | Number | Dated | Case |
|--------------------------|---------------|------------|------------|----------|
| United States Of America | Issued Patent | 10,124,312 | 11/13/2018 | 2014-176 |

BRIEF DESCRIPTION

The ability to attach living cells to surfaces has enabled the study of many key behaviors in biology, including immune synapse formation, stem cell differentiation, cancer cell motility, and drug response. However, most of the previous surface patterning methods require interactions between the surface integrins of adherent mammalian cells with proteins bearing "RGD" motifs.

Scientists at UC Berkeley have developed an alternative method of surface patterning in which synthetic DNA strands introduced on the cell surfaces bind to sequence complements displayed on the binding surface. Demonstrated advantages of this method include its generality for all biological cell types, exceptionally high precision and efficiency, and ability to generate complex multicellular patterns through the use of multiple capture sequences.

SUGGESTED USES

- » Platforms for drug screening, synthetic biology applications, diagnostics, and the immobilization of live cells
- » Research of cancer cell motility, drug response, immune synapse formation and stem cell differentiation

ADVANTAGES

- » Capable of being used for all biological cell types
- » Highly precise and efficient
- » Broad functional group compatibility for the modification of proteins, polymers, oligonucleotides, peptides and small molecules
- » Capable of generating complex multicellular patterns through the use of multiple capture sequences
- » Higher speed and does not require the use of a photoresist or other blocking material

PUBLICATION

[Photoactivated Bioconjugation Between ortho-Azidophenols and Anilines: A Facile Approach to Biomolecular Photopatterning](#)

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- ▶ [Modified FC Polypeptides and Methods of Use](#)

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OTHER INFORMATION

KEYWORDS

drug screening, drug response, surface patterning, diagnostics, cell motility, synthetic biology

CATEGORIZED AS

- » **Materials & Chemicals**
 - » Chemicals
- » **Medical**
 - » Diagnostics
 - » Research Tools
 - » Screening
- » **Research Tools**
 - » Screening Assays

RELATED CASES

2014-176-0

- ▶ [Site-Specific Coupling Of Biomolecules Using Orthoquinones And Thiols](#)
- ▶ [Compositions and Methods for Modification of Cells](#)



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