ONE-POT MULTIPLEX GENE SYNTHESIS (OPTION-AGILENT)

Tech ID: 23291 / UC Case 2013-119-0

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	10,487,323	11/26/2019	2013-119

BRIEF DESCRIPTION

Gene synthesis is an invaluable tool in the pharmaceutical and synthetic biology industries, allowing researchers to create artificial genes of any desired sequence. The use of gene synthesis in industry has been limited due to high cost, low throughput and poor automatability of the synthesis technologies. Scientists at UC Berkeley have developed a new method of gene synthesis that uses microarray fabrication of DNA strands, which overcomes these limitations. Their technology employs commonly available materials and tools, resulting in significantly reduced costs and straightforward operation. Furthermore, their technology allows for automated, high throughput of many genes or gene libraries in parallel, reducing labor and increasing productivity. This technology has many applications in synthetic biology, including protein engineering, vaccine development and gene therapy.

SUGGESTED USES

- Gene synthesis for commercial and research life science investigations
- Molecular and protein engineering
- Vaccine development
- Gene therapy

ADVANTAGES

- High throughput: can synthesize many genes in parallel
- Reduced cost of synthesis
- Automated process; reduced labor
- Can produce either a set of specific genes or a library of genes
- Uses commonly-available materials

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- DNA-Linked Enzyme-Coupled Assays

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OTHER INFORMATION

KEYWORDS

Gene synthesis, DNA microarray, Protein engineering

CATEGORIZED AS

- **Biotechnology**
  - Genomics
- **Medical**
  - Gene Therapy
  - Vaccines
- **Research Tools**
  - Nucleic Acids/DNA/RNA
  - Protein Synthesis
- **Engineering**
  - Other

RELATED CASES

2013-119-0

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