Biodegradable Polymeric Vectors For Delivery Of Various RNAs

Tech ID: 30337 / UC Case 2019-387-0

BRIEF DESCRIPTION

Current methods for ribonucleic acid (RNA) delivery are inefficient and toxic. UCI researchers have synthesized a new delivery system that is not only efficient and non-toxic but also allows the delivery of RNAs of multiple shapes and sizes.

FULL DESCRIPTION

RNAs play enormously important roles in basic biological functions, and an ever-growing importance in research and therapeutics. Yet, RNA is inherently unstable, potentially immunogenic and typically requires a delivery vector for efficiently transported of the RNA to a target in the body.Given that RNA comes in varying sizes and functionality, such as small interfering RNAs (siRNA), micro RNA (miRNA), single guide RNA (sgRNA), small nuclear RNA (snRNA), etc…, an adequate delivery vector remains a problem for RNA-based therapeutics.

The researchers at UCI have created a biocompatible vector system that can efficiently deliver a wide variety of RNAs. This biodegradable delivery system, having a polypeptide-functionalized composition and cell penetrating properties, will be desirable in facilitating the delivery of RNA efficiently.

SUGGESTED USES

Delivery of various RNAs, such as small interfering RNA (siRNA), single guide RNA (sgRNA), or messenger RNA (mRNA).

FEATURES/BENEFITS

·This technology enables the non-toxic, efficient delivery of several types of RNA

PATENT STATUS

Country	Type	Number	Dated	Case
Patent Cooperation Treaty	Reference for National Filings	2020/172642 A1	08/27/2020	2019-387

Patent Pending

STATE OF DEVELOPMENT

Technology has been synthesized and tested for purity. Delivery system has been tested in cell culture.

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OTHER INFORMATION

CATEGORIZED AS

- **Medical**
  - Gene Therapy
- **Research Tools**
  - Nucleic Acids/DNA/RNA
  - Vectors

RELATED CASES

2019-387-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Dendritic Peptide Bolaamphiphiles for siRNA Delivery
- Electrically Fueled Active Supramolecular Materials
- Dynamic polymers based on siloxane exchange

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