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Polymeric Vectors For mRNA Delivery

Tech ID: 33893 / UC Case 2016-622-0

BRIEF DESCRIPTION

A novel dendronized polypeptide architecture for efficient and safe mRNA delivery, suitable for anti-tumor immunotherapy.

FULL DESCRIPTION

This technology introduces a synthetic vector system, based on dendronized polypeptide (denpol) architecture, for the efficient delivery of mRNAs to various cell types, including primary murine dendritic cells (BMDCs). It addresses the challenges of mRNA delivery by providing a non-toxic, highly efficient carrier system, overcoming the limitations of current viral and synthetic vectors.

SUGGESTED USES

- » Gene therapy and regenerative medicine.
- » Therapeutic treatment involving mRNA, such as genetic diseases and vaccines.
- » Research applications in gene editing and protein production.

ADVANTAGES

- » High efficiency of mRNA delivery to a variety of cells, including primary murine dendritic cells (BMDCs).
- » Addresses the immunogenicity and inefficiency issues of viral-based vectors.
- » Overcomes the cytotoxicity and low efficiency problems of current synthetic vectors.

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	11,097,012	08/24/2021	2016-622
Patent Cooperation Treaty	Published Application	2017/160662	09/21/2017	2016-622

RELATED MATERIALS

- » Oldenhuis, N. J., et al. Guan, Z. (2016). Biodegradable dendronized polymers for efficient mRNA delivery. ChemistrySelect. 1 (15).

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OTHER INFORMATION

CATEGORIZED AS

- » **Biotechnology**
 - » Health
- » **Materials & Chemicals**
 - » Polymers
- » **Medical**
 - » Delivery Systems
 - » Disease: Cancer
 - » Disease: Infectious Diseases
 - » Gene Therapy
- » **Research Tools**
 - » Vectors

RELATED CASES

2016-622-0

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