

# RETROTRANSPOSON-BASED DELIVERY VEHICLE AND METHODS OF USE THEREOF

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## PATENT STATUS

Country	Type	Number	Dated	Case
China	Issued Patent	ZL201980049975.4	02/25/2025	2018-120
Japan	Published Application	2024-105564	08/06/2024	2018-120
Japan	Published Application	2021-530212	11/11/2021	2018-120
United States Of America	Published Application	20210285009	09/16/2021	2018-120
European Patent Office	Published Application	3821012	05/19/2021	2018-120
Canada	Published Application	WO 2020/014528	01/16/2020	2018-120

## BRIEF DESCRIPTION

Gene therapy delivery generally falls into two main categories: viral-mediated and non-viral mediated delivery. Viral-mediated integrative approaches are most commonly used in dividing cells, where delivery is mediated, e.g., through the use of lentiviruses and retroviruses engineered to carry therapeutic DNA into cells. Such viruses have a number of drawbacks, e.g., disruption of the cell's function, the cell's own machinery may silence expression and payload size limitations. Whereas class II transposons such as piggyBac, Sleeping Beauty, and Tol2 can integrate larger payloads; however, such transposons have a tendency to integrate in areas where active transcription is occurring. Therefore, there is a need in the art for delivery vehicles that provide for delivery of larger coding regions.

UC Berkeley researchers have developed a gene delivery system that has a nucleotide sequence encoding an R2 retrotransposon R2 polypeptide that is able to deliver one or more gene products of interest to a eukaryotic cell.

## SUGGESTED USES

- » gene therapy
- » gene delivery

## ADVANTAGES

- » Very small delivery system capable of delivery larger payloads of larger cDNA, regulatory elements, or multiple genes

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## OTHER INFORMATION

### KEYWORDS

gene, delivery

### CATEGORIZED AS

- » **Medical**
- » Delivery Systems
- » Gene Therapy

### RELATED CASES

2018-120-0

