# **Drugs** ~Infectious disease~

# **Development of Reoviridae virus-based mucosal vaccine vector systems**

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# **Project Outline**

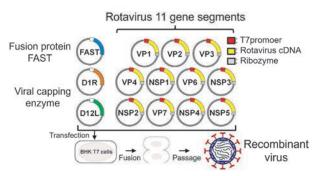
#### Introduction

Recombinant *Reoviridae* virus (rotavirus and reovirus) technology can apply variously for such as new oral vaccines, viruses for cancer therapy by utilizing its vector function. Our *Reoviridae* virus reverse genetics technology can apply for mucosal vaccine design and for oncolytic virus development.

#### **Technology**

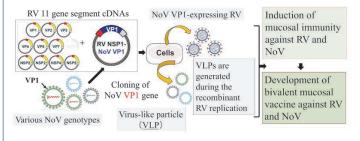
The new technology, generation of recombinant *Reoviridae* viruses entirely from cloned cDNAs, make it possible to create new recombinant viruses intentionally changed the DNA.

- ➤ It is possible to insert foreign genes and can develop various oral vaccines and a drug screening system.
- ➤ Can apply to design more appropriate and safer rotavirus vaccine rapidly.
- ➤ Can apply also to design and create more potent oncolytic reovirus.

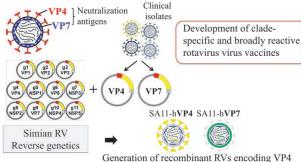


### Application example

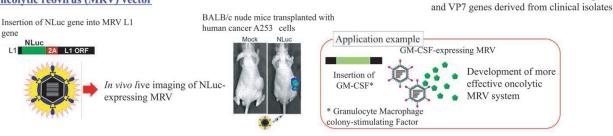
#### Rotavirus (RV) expressing norovirus (NoV) VP1 protein



#### New rotavirus vaccines



# Oncolytic reovirus (MRV) vector



Target disease: Infectious diseases, Cancers

#### Patent:

- Patent No: JP6944213, Title: Method for producing artificially recombinant rotavirus, Registration: September 14 2021, Patentee: Osaka University
- 2. Patent No: JP6762070, Title: Method for producing artificially recombinant rotavirus, Registration: September 10 2020, Patentee: Osaka University