



# Development of live attenuated vaccine vector based on varicella vaccine

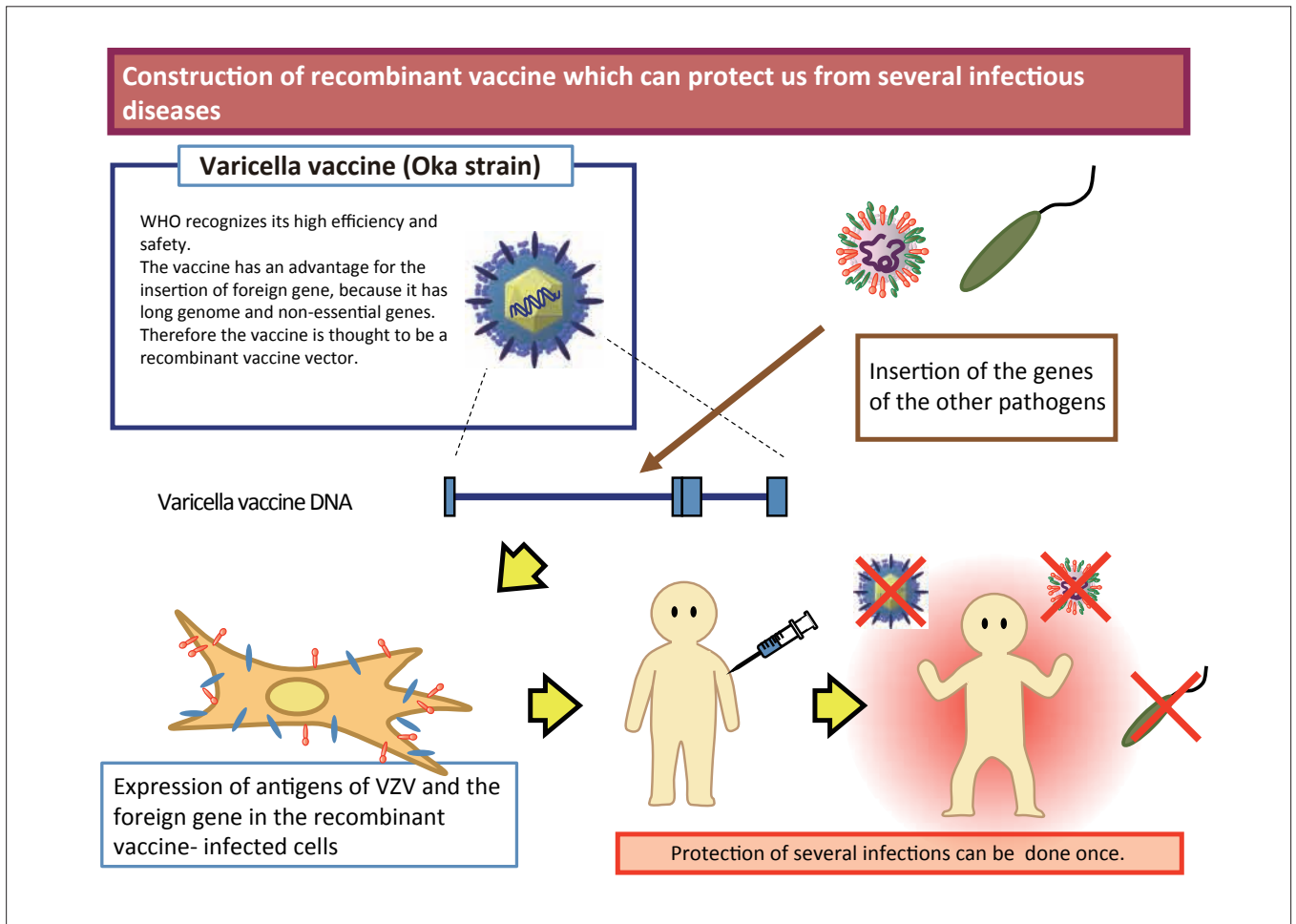
## Outline

Viewed in the reduction of medical expenses and the guardian's burden, the development of polyvalent vaccine would be required, which can induce immunity for several pathogens once. We try to develop recombinant polyvalent vaccines based on the current varicella vaccine. The current varicella vaccine has been shown to have high efficacy and safety, and have an advantage for the insertion of foreign genes. Therefore, the vaccine is thought to be a recombinant vaccine vector.

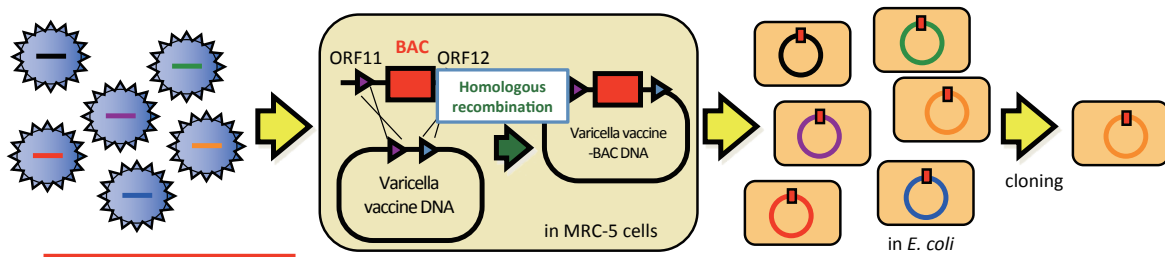
## Expected Outcome

It would be a vaccine which has few side effects.

It would be a vaccine which can protect us from several infectious diseases.

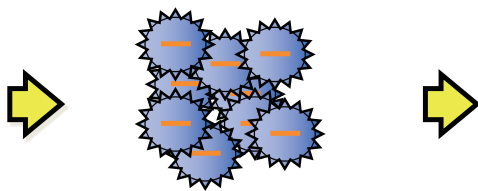


## Cloning of current varicella vaccine to get the independent clones

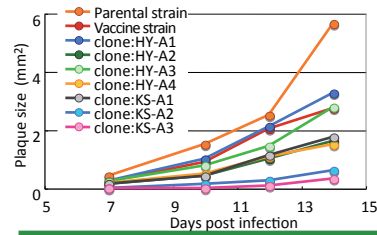


The varicella vaccine is mixed population

The isolation of independent clones can be done by the insertion of BAC sequence, maintaining in *E. coli*.



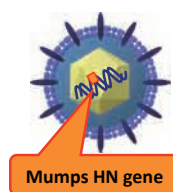
A clone of the virus



Characterization of each clone

The clone whose growth ability is high, has been used as vaccine vector.

## Construction of recombinant vaccine containing mumps HN gene

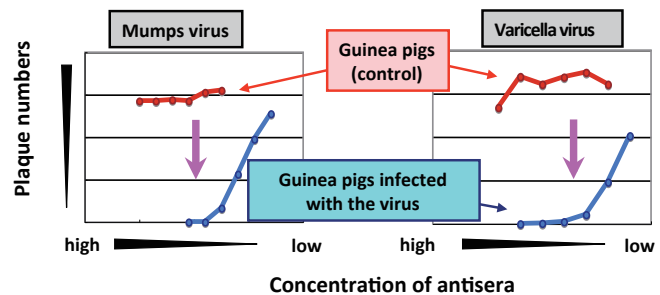


Confirmation of the expression of HN protein in the recombinant vaccine-infected cells

Immune responses in guinea pig



Measurement of the neutralizing antibody



Varicella vaccine containing mumps virus HN gene can induce the production of neutralizing antibodies against varicella virus and mumps virus in guinea pigs