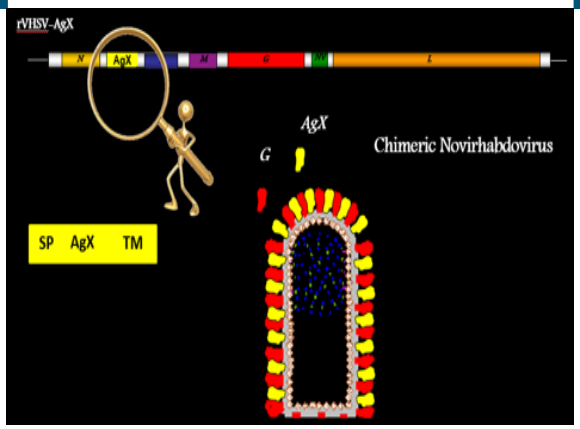
Breeding system

Novirhabdovirus-based vaccine platform



Description

INRA's scientists from the VIM unit have developed by reverse genetics and validated a novel vaccine platform based on Novirhabdovirus such as the WHSV, IHNV. In a recent study, using this Novirhabdovirus platform, they demonstrated that VHSV or IHNV presenting influenza hemagglutinin HA antigen were able to completely protect immunized mice, through a strong neutralizing antibody response (with or without adding adjuvant) against a lethal challenge with influenza A/PR/8 (Rouxel, R. et al. , 2016, PLoS One 11(10):e0164245).

Type of expected transfer

Licensing-out; maturation stage project with the support of the SATT Paris-Saclay

Advantages

1) they are fast to generate 2) they grow to high titer in fish cell 3) they can incorporate any foreign antigen at their surface 4) they are self-adjuvanted 5) they are naturally inactivated over 20°C: therefore they are safe to use in mammals and no inactivation process is needed

Possible applications

The Novirhabdovirus platform has a large potential as an inert vaccine particle presenting protective antigens in order to prevent infectious diseases targeting veterinary species (mammalian and avian species), and Humans.

Key words

Novirhabdovirus, vaccine platform, reverse genetics, infectious diseases, avian species, mammals, Humans

TRL Scale

1 2 3 **4** 5 6 7 8 9

Development level

2 patent families owned by INRA: WO2007/144773, Recombinant Novirhabdovirus and uses thereof WO2014/060905, Recombinant Novirhabdovirus usable as antigen vector

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