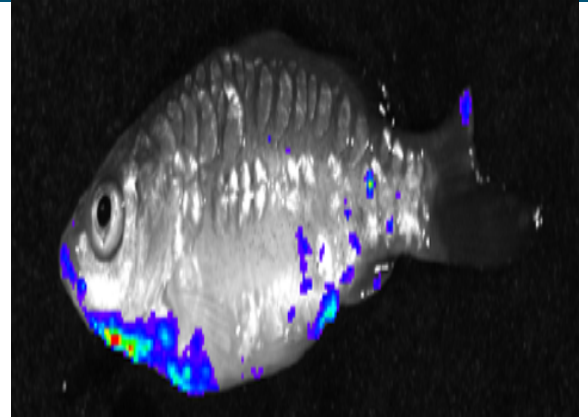


# Expression vectors derived from Spring Viremia of Carp Virus - SVCV

## Description

Spring viremia of carp virus - SVCV - is a Sprivirus with a wide host spectrum (carp, koi, sturgeon, pike, etc.), a major pathogen of farmed fish for consumption and leisure, with no treatment or vaccine available to date. Stéphane Biacchesi's team has developed the first reverse genetics system for SVCV, enabling directed modification of the viral genome and the use of recombinant SVCV as an expression vector for genes of interest.



## Type of expected transfer

Licensing-out of the patent, know-how, biological material

## Advantages

1) Expression cassettes enabling protein expression in the cytoplasm or to the membrane of the infected cells for incorporation into the envelope of recombinant viral particles. 2) Live virus attenuated by genome rearrangement. 3) Easy to produce. 4) No adjuvant. 5) Mass administration by bath immunization of fry. 6) Versatile vaccine platform: infection with recombinant SVCV of the target species (carp family) or immunization of heterologous species: birds and mammals (non-replicative virus inactivated at 37°C).

## Possible applications

1) Live attenuated SVCV vaccine and vaccine vector for fish hosts: aquaculture farming of common carp or koi carp. 2) Versatile vaccine platform for higher vertebrates (mammals, birds). 3) Fluorescent or bioluminescent viruses to study host/pathogen interactions in vitro and in vivo; infection of juveniles carp and zebrafish model; monitoring of viral propagation in the organism and innate immune response; search for new prophylactic or therapeutic solutions; interest of SVCV for the study of hemorrhagic viruses.

## Key words

SVCV, vaccine platform, fish-farming, expression vector, host/pathogen model

## TRL Scale

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

## Development level

WO2024/003007 patent application ; INRAE, UVSQ, Universidade de Santiago de Compostela

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