Construction of an attenuated influenza virus and its use as vaccine

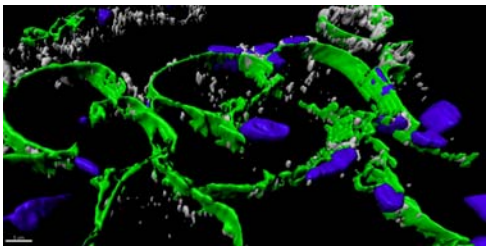
CSIC has developed an influenza A virus that contains an amino acid change in the PB2 subunit of the viral polymerase, but replicates efficiently in cultured cells.

Industrial partners from the ophthalmic or pharmaceutical industry are being sought to collaborate through a patent licence agreement.

An offer for Patent Licensing

Attenuated influenza virus, an ideal candidate for vaccine development

The virus accumulates high amounts of defective viral genomes (DVGs) within its viral particles and the content of DVGs is related with the ability to develop an efficient antiviral response. Accordingly, the mutant virus elicits an efficient stimulation of the host-response, both in cell cultures and in infected mice. Mice infected with this mutant virus do not lose body weight, indicating that the virus in not pathogenic, although it replicates efficiently in the lungs.



Active replication of influenza virus in cardiomyocytes of infected mice. Green, basal lamina; White; viral protein; Blue, nucleus

Main innovations and advantages

- The group has constructed by reverse genetics an attenuated influenza virus that contains a point mutation in a subunit of the viral polymerase that has been stablished in the circulating viruses, that is not pathogenic in mice, but replicates efficiently in the lung and elicit a very effective antiviral response. These properties make the PB2 mutant virus an ideal candidate for vaccine development.
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Patent Status

PCT patent application filed

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