



SHARE AND MOVE TO FACE NASTY BUGS

Published on ASSET (<https://www.asset-scienceinsociety.eu>)

[Home](#) > Airborne Transmission of Influenza A/H5N1 Virus Between Ferrets

Monday, August 22, 2016 - 15:43

Source

Scientific literature ^[1]

Target

Healthcare Professionals ^[2]

Topic

Microbiology ^[3]

Tags

influenza ^[4]

Herfst S, Schrauwen EJ, Linster M, Chutinimitkul S, de Wit E, Munster VJ, et al. Science. 2012 Jun 22.

Highly pathogenic avian influenza A/H5N1 virus can cause morbidity and mortality in humans but thus far has not acquired the ability to be transmitted by aerosol or respiratory droplet (?airborne transmission?) between humans. To address the concern that the virus could acquire this ability under natural conditions, we genetically modified A/H5N1 virus by site-directed mutagenesis and subsequent serial passage in ferrets. The genetically modified A/H5N1 virus acquired mutations during passage in ferrets, ultimately becoming airborne transmissible in ferrets. None of the recipient ferrets died after airborne infection with the mutant A/H5N1 viruses. Four amino acid substitutions in the host receptor-binding protein hemagglutinin, and one in the polymerase complex protein basic polymerase 2, were consistently present

in airborne-transmitted viruses. The transmissible viruses were sensitive to the antiviral drug oseltamivir and reacted well with antisera raised against H5 influenza vaccine strains. Thus, avian A/H5N1 influenza viruses can acquire the capacity for airborne transmission between mammals without recombination in an intermediate host and therefore constitute a risk for human pandemic influenza.

Link to the [fulltext](#) ^[5]

Newsletters

Select the newsletter(s) to which you want to subscribe or unsubscribe.

News from Asset project

Responsible Research and Innovation Newsletter

Asset PPRB

E-mail *

Contacts



[Facebook](#)



[Twitter](#)



[YouTube](#)



[LinkedIn](#)

Contacts

General inquiries: info@asset-scienceinsociety.eu

ASSET

Action plan on **Science in Society** related issues in **Epidemics** and **Total pandemics**
[European Commission](#)

This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 612236.

Source URL: <https://www.asset-scienceinsociety.eu/resources/scientific-literature/airborne-transmission-influenza-ah5n1-virus-between-ferrets>

Links

- [1] <https://www.asset-scienceinsociety.eu/resources/scientific-literature>
- [2] <https://www.asset-scienceinsociety.eu/target/healthcare-professionals>
- [3] <https://www.asset-scienceinsociety.eu/topic/microbiology>
- [4] <https://www.asset-scienceinsociety.eu/tags/influenza>
- [5] <http://science.sciencemag.org/content/336/6088/1534>