



VETBIONET

Veterinary Biocontained facility Network for excellence in animal infectiology research and experimentation

Deliverable D30.1

Quantity of access provided over the duration of the project to ErasmusMC

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Organisation name of lead contractor: ErasmusMC

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Dissemination level	
Public	X
Confidential, only for members of the consortium (including Commission Services)	
Classified, as referred to in Commission Decision 2001/844/EC	

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1. TNA Provided

Name of the TNA project	Name of TNA user	Organisation of TNA user	Country of TNA user	Installation from the RI	Start date	End date	Number of units of access provided
Assessment of aerosol transmissibility between ferrets of zoonotic H6N1 and H10N8 strains	Mariette Ducatez	Ecole Nationale Vétérinaire de Toulouse	FR	EDC	Sep 2020	Feb 2023	8

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N°731014

2. Final reports of each TNA provided

2.1 TNA 1

Assessment of aerosol transmissibility between ferrets of zoonotic H6N1 and H10N8 strains

This study was performed with Dr Mariette Ducatez (Ecole Nationale Vétérinaire de Toulouse, France) and Dr Robert de Vries (Utrecht University, The Netherlands), with the aim to investigate if zoonotic influenza viruses can become transmissible via the air in the ferret model after introduction of 2 previously identified phenotypic properties: binding of the HA surface protein to human-type alpha 2,6 linked sialic acid receptors, and an increased (acid) stability of HA. For the current experiments, zoonotic H6N1 and H10N8 influenza viruses were used, for which the above-mentioned HA properties were changed. Viruses with and without the two phenotypic properties were tested for their ability to be transmitted via the air in the ferret model. For this purpose, 4 donor ferrets were inoculated intranasally with 10^6 TCID₅₀ of virus diluted in a 500 μ l volume of PBS (250 μ l instilled in each nostril). The next day, recipient ferrets were added to a cage opposite of the donor cage, separated by two steel grids, 10 cm apart, to avoid contact transmission. Throat and nose swabs were collected from donor and recipient ferrets every other day and were stored at -80 °C in virus transport medium for RT-qPCR analysis, end-point titration in MDCK cells and sequencing. Donor and recipient ferrets were euthanized by heart puncture under anesthesia at 14 days post inoculation or exposure and blood was used for serological analysis. The results are still being analysed and will be disseminated as a scientific publication in the coming months.

The transmission experiments were performed at the ErasmusMC high containment ABSL3+ facility. To get permission to work in this facility, a very intensive on-site training program is required. Due to the demanding nature of this training, in combination with COVID-19 travel restrictions and a maternity leave of the TNA user, it was unfortunately not possible for the TNA user to participate 'hand-on' in the ferret experiments.