

Proposal for ENS-Lyon/Univ. Tokyo Internship Program

## Generation and characterization of influenza A virus

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### Research background and proposal:

The reverse genetics system for influenza A virus, which was established in our laboratory (Neumann et al., PNAS 1999), has now become an indispensable method in influenza biology. It enables us to generate desired mutant influenza A viruses entirely from cloned cDNAs, and opens the way to dissect the virus life cycle, the role of viral proteins, virus pathogenicity, and virus-host interactions. The technique is also used in vaccine seed production worldwide.

Anchored in our broad expertise in influenza biology, we propose the "generation and characterization of influenza A virus by use of reverse genetics" as a research subject in the internship program. Depending on their interest, the candidate will make a cDNA that encodes a mutant viral genomic RNA and generate a mutant influenza A virus with the cDNA by using reverse genetics. The growth properties in cultured cells and the pathogenicity in mice of the mutant virus will be examined. Through this internship program, the candidate will be able to acquire extensive expertise and a valuable technique in influenza biology.

