

**DNA immunization with a single-plasmid construct coding for virus-like particles protect mice against infection with a highly pathogenic avian influenza A virus.**

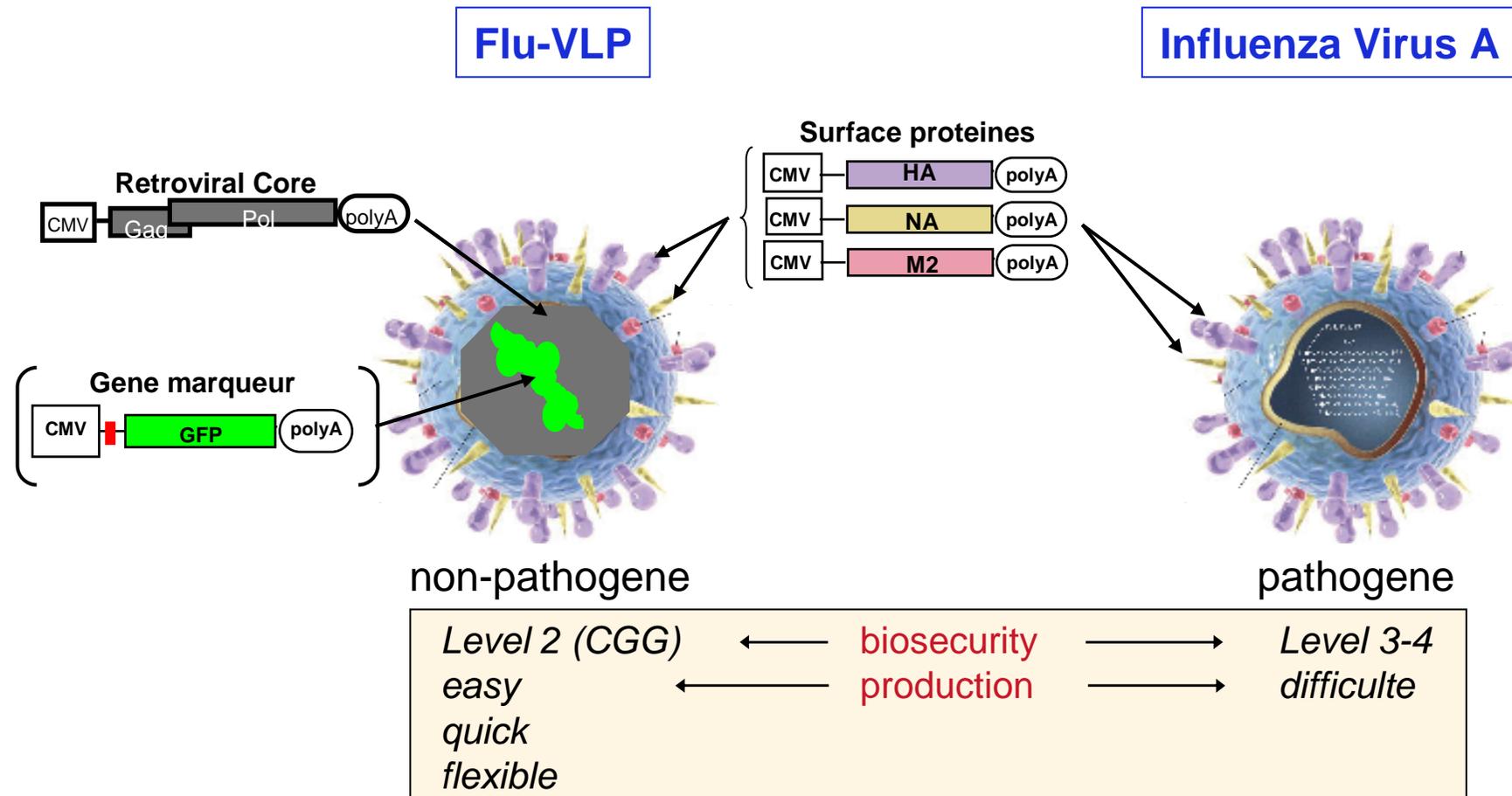
**L'immunisation ADN avec un plasmide codant les particules virales induit une protection contre l'infection par un virus influenza A hautement pathogène.**

Szécsi Judit

Cosset François-Loïc

Enveloppes Virales et Ingénierie des Rétrovirus, ENS-Lyon

# Influenza viral-like particles (Flu-VLP)

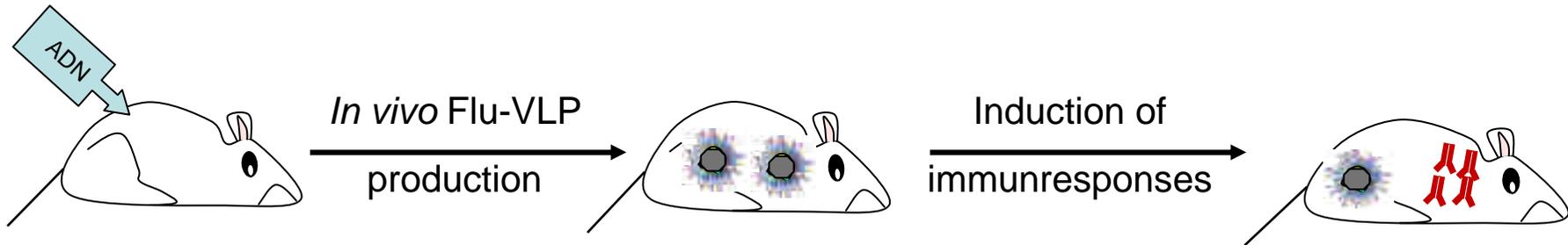


**Flu-VLP induce highly specific neutralising anti-body response in mice**

➤ Szécsi et al., *Virology Journal* (2006)

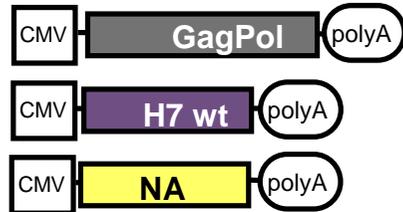
# In vivo Flu-VLP production: DNA vaccine

reactivity  
flexibility  
masse production  
easy storage

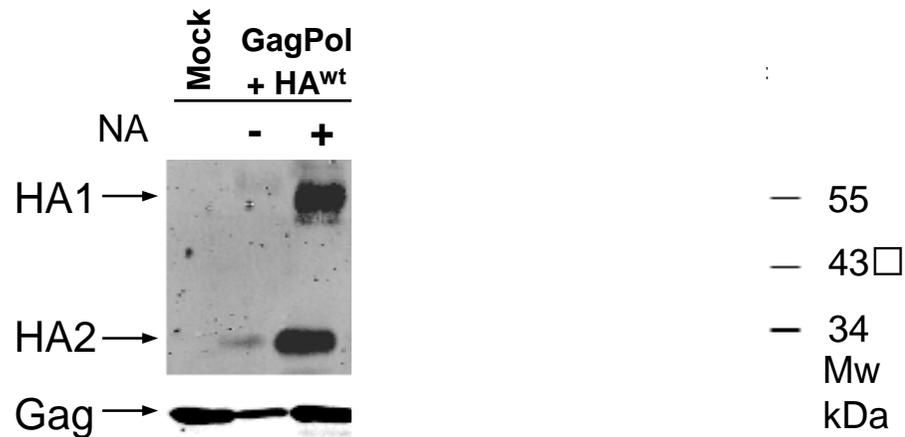


# Production of Flu-VLP with surface proteins from highly pathogenic avian influenza virus H7N1

VLP production by 3 plasmids

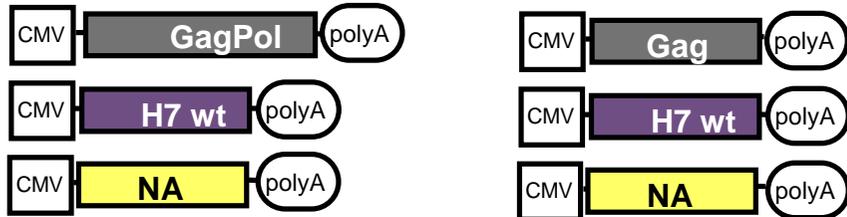


**Flu-VLP NA dependent**

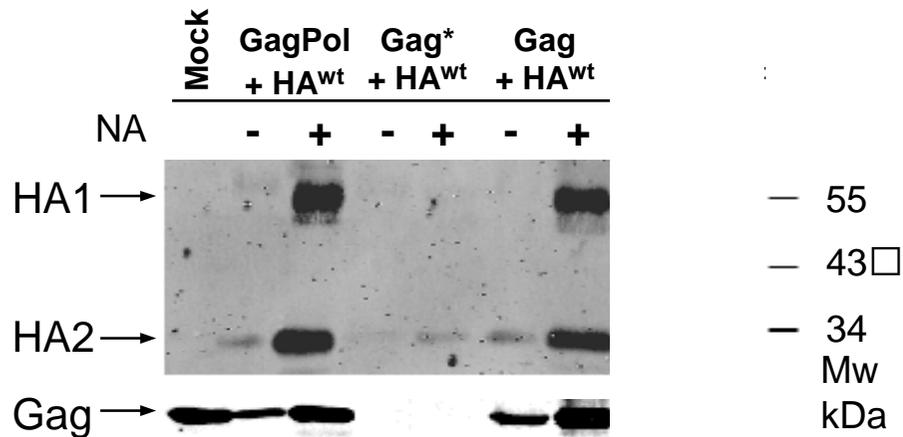


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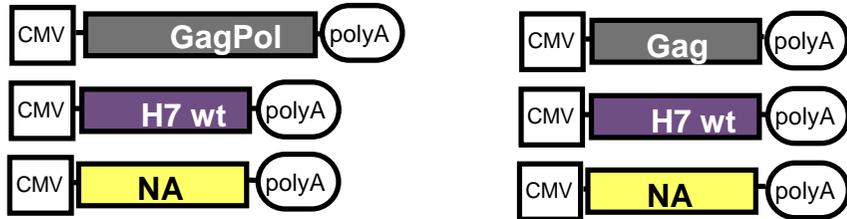


**Flu-VLP NA dependent**

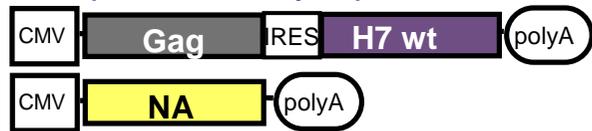


# Production of Flu-VLP with surface proteins from highly pathogenic avian influenza virus H7N1

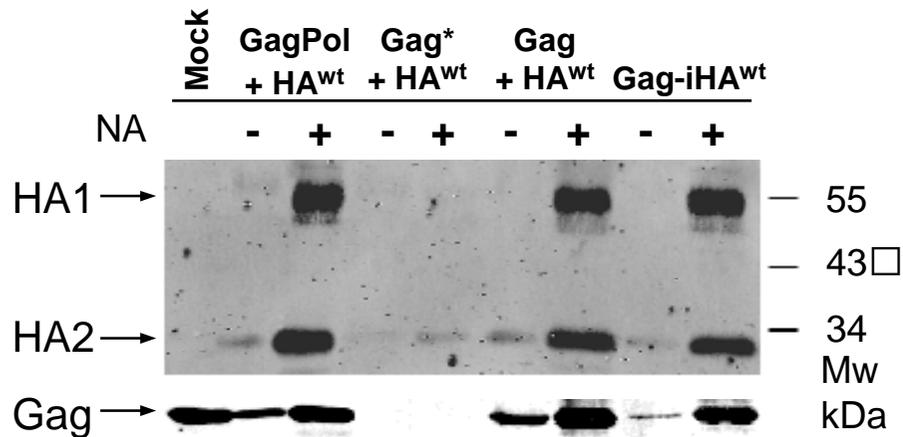
VLP production by 3 plasmids



VLP production by 2 plasmids

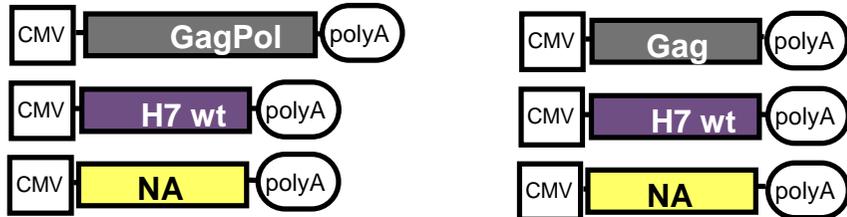


**Flu-VLP NA dependent**

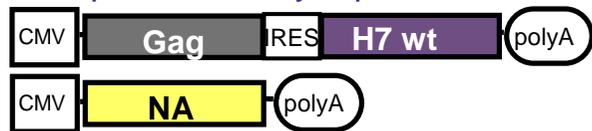


# Production of Flu-VLP with surface proteins from highly pathogenic avian influenza virus H7N1

VLP production by 3 plasmids



VLP production by 2 plasmids

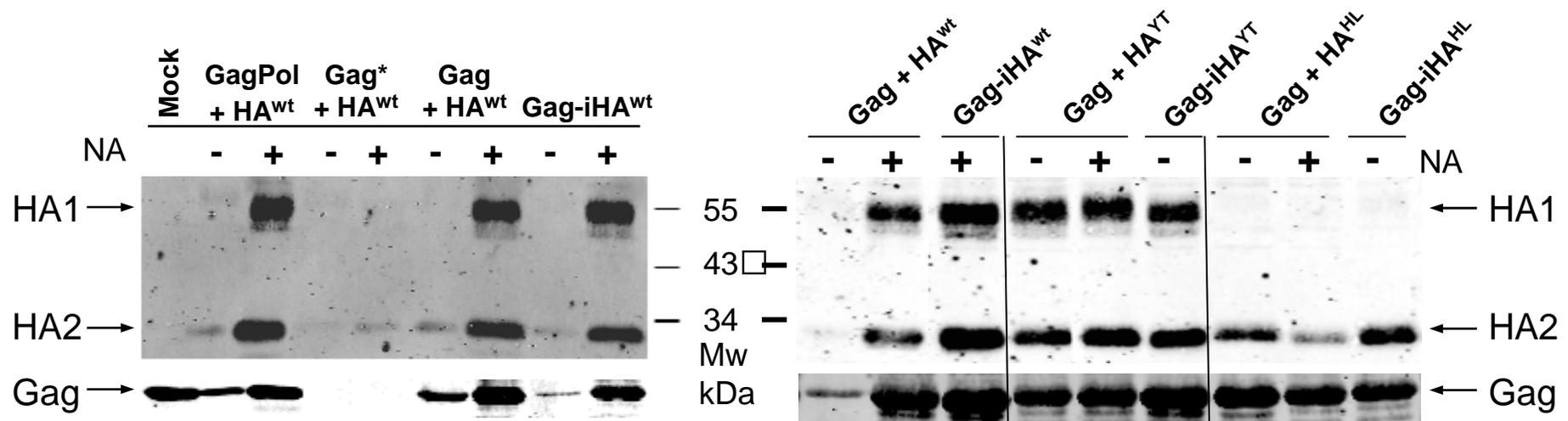


VLP production by 1 plasmid

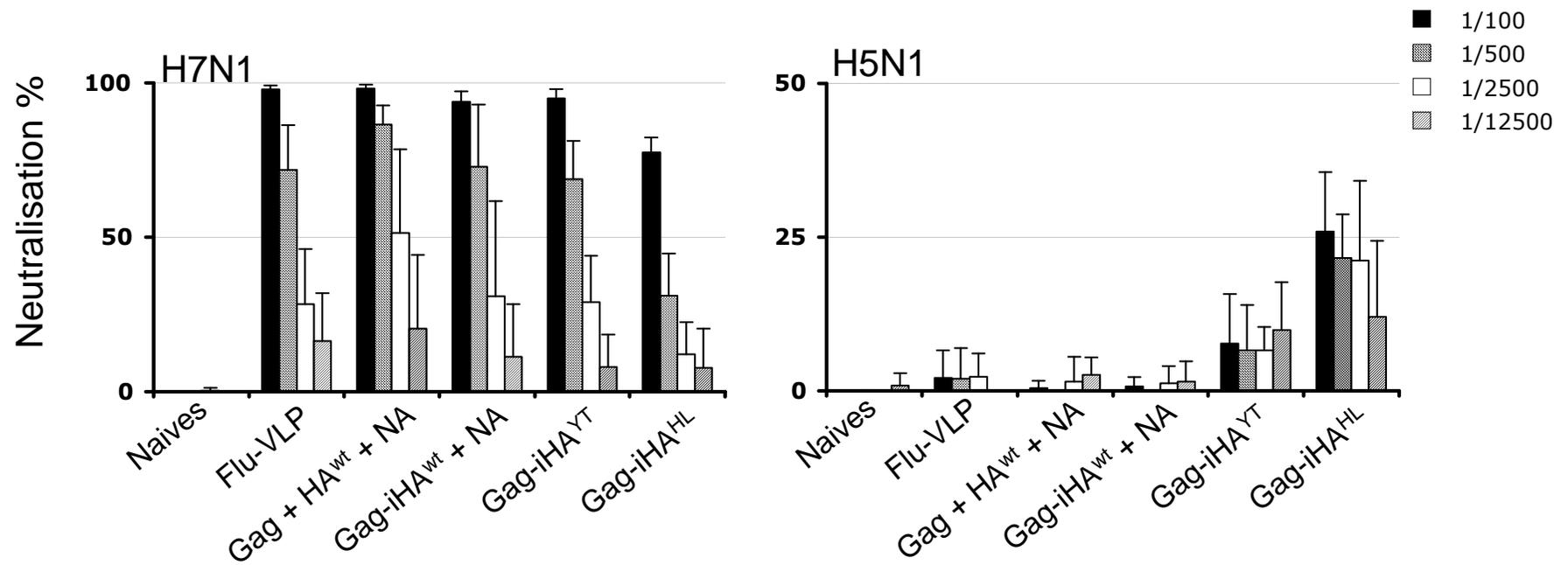
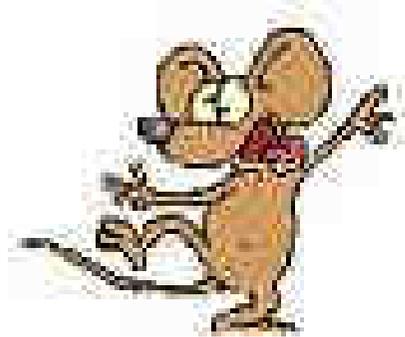


**Flu-VLP NA dependent**

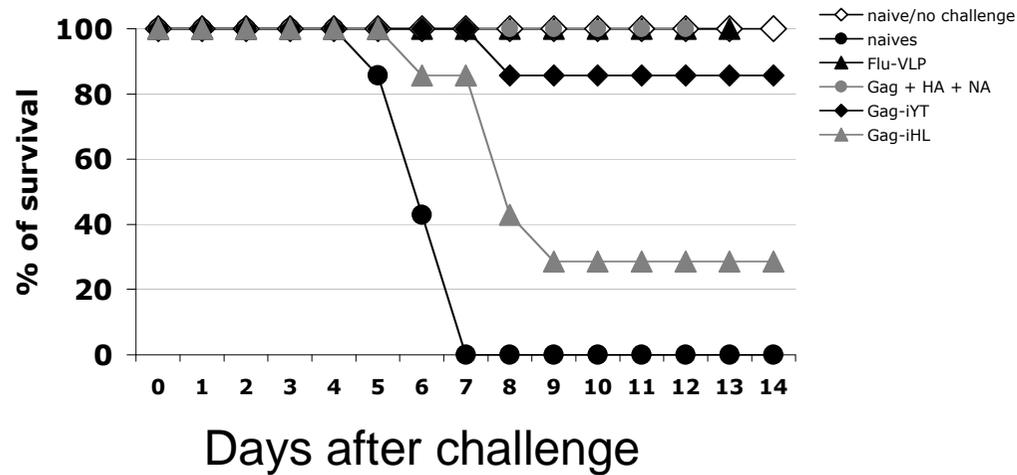
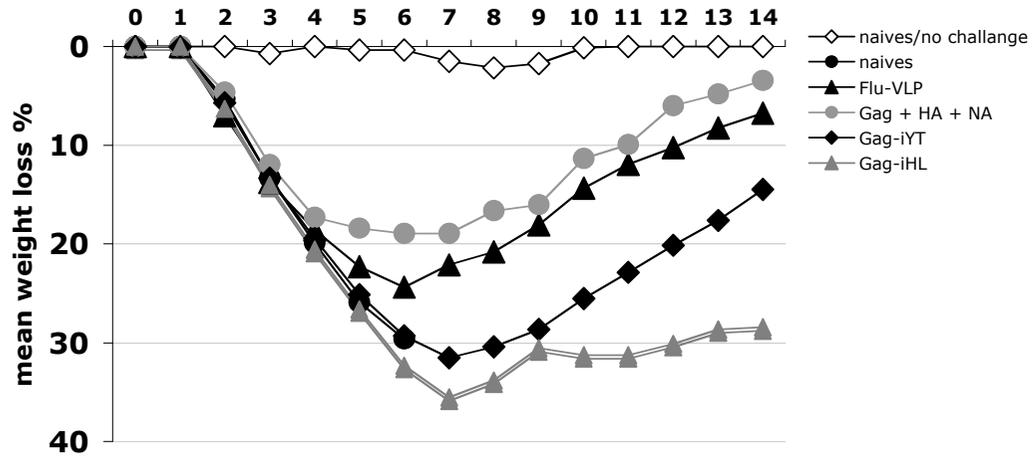
**Flu-VLP NA independent**

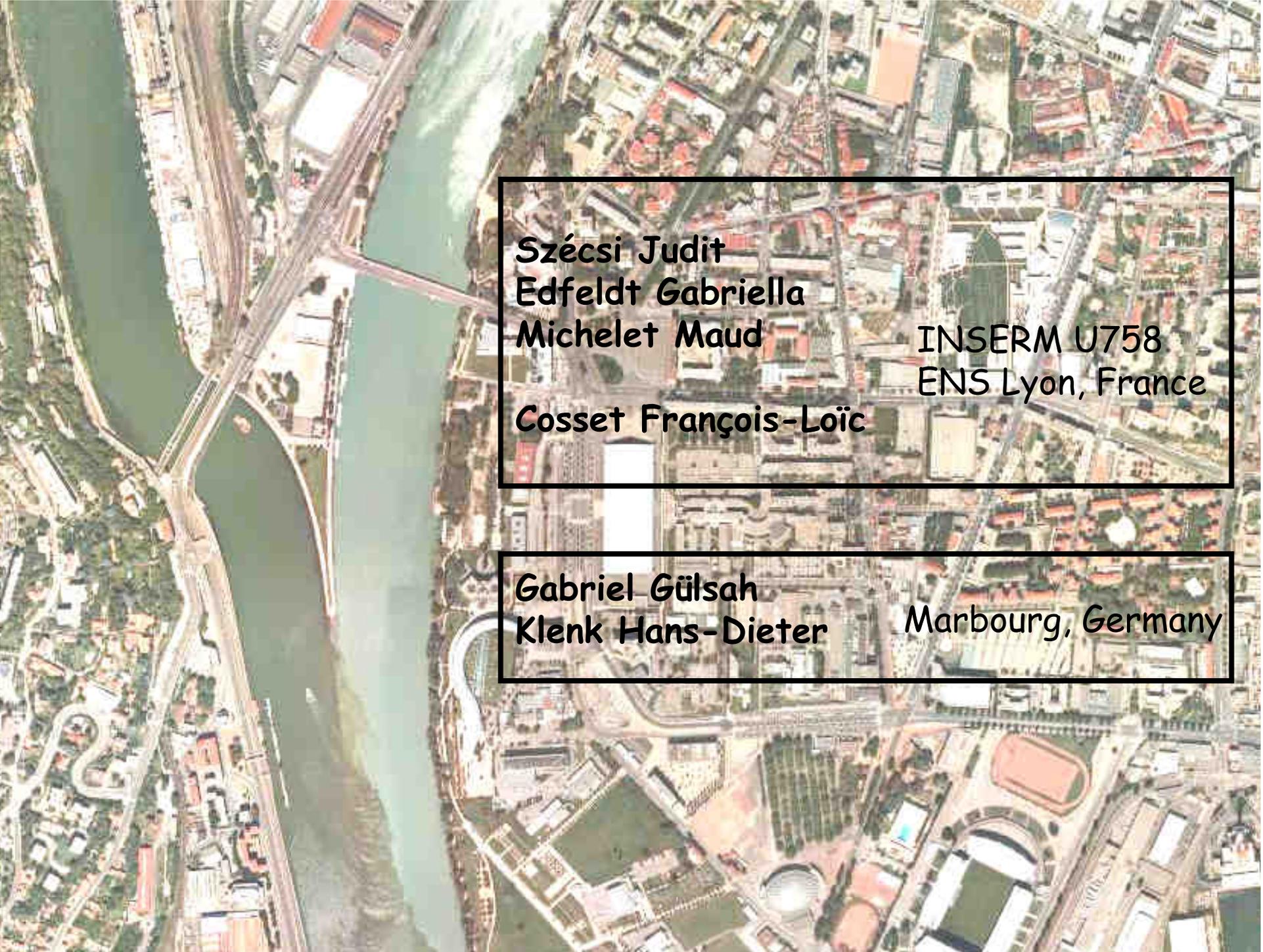


# Neutralising anti-body induction after DNA immunisation



# Protection against highly pathogenic avian influenza virus H7N7



An aerial photograph of a city, likely Lyon, France, showing a river (the Saône) and a bridge. The city is densely packed with buildings, and there are some green spaces and sports fields visible. The text is overlaid on the right side of the image.

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