



Childhood vaccination for influenza: The paradox of direct protection and broad immunity

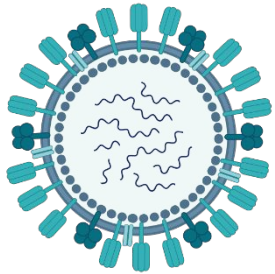
ESWI respiratory viruses summit, Brussels

Shweta Mahajan-Bongaerts,

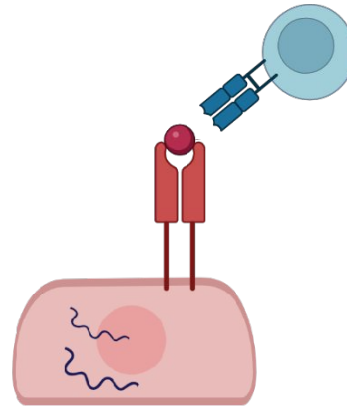
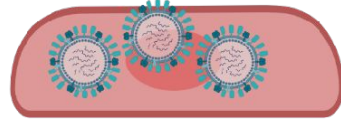
Postdoctoral candidate, RIVM, Netherlands



Broad immunity can protect against multiple strains and variants



Internal proteins
are highly
conserved



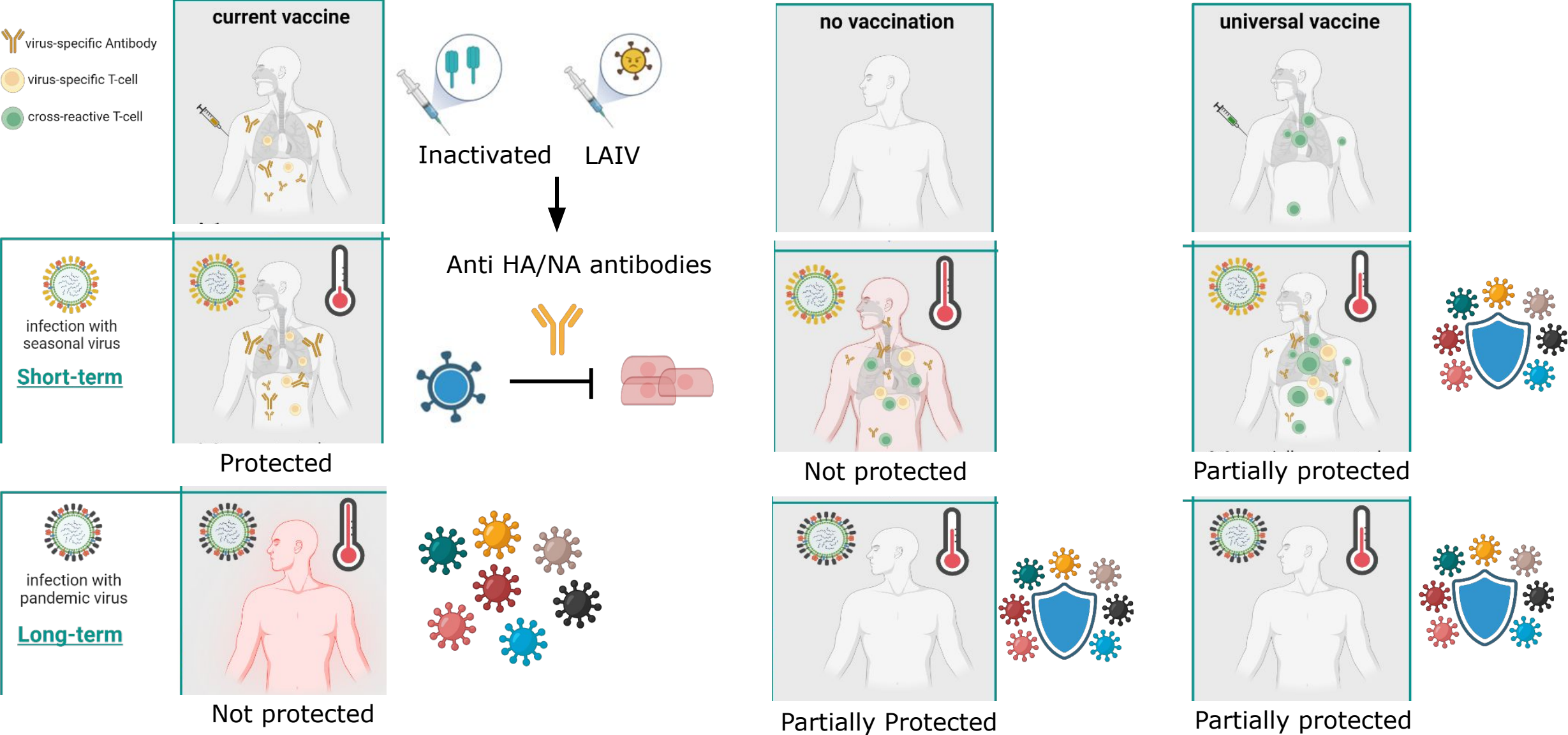
Broadly reactive T
cells induced



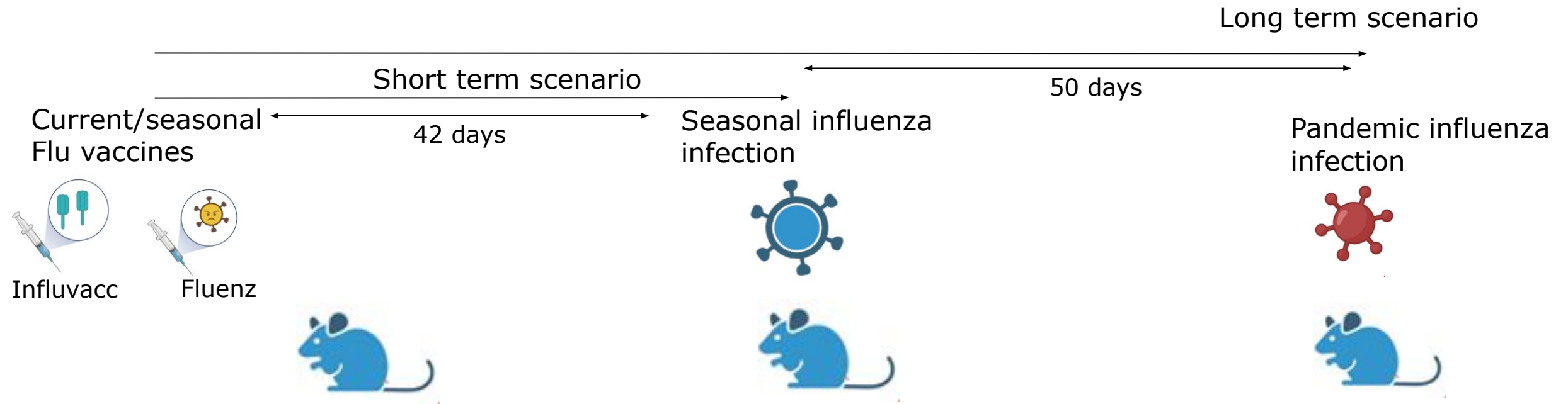
contributes to protection
Crucial for pandemic preparedness



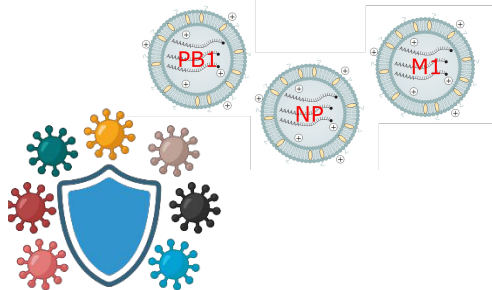
The paradox of broad immunity in context of vaccination



Study design

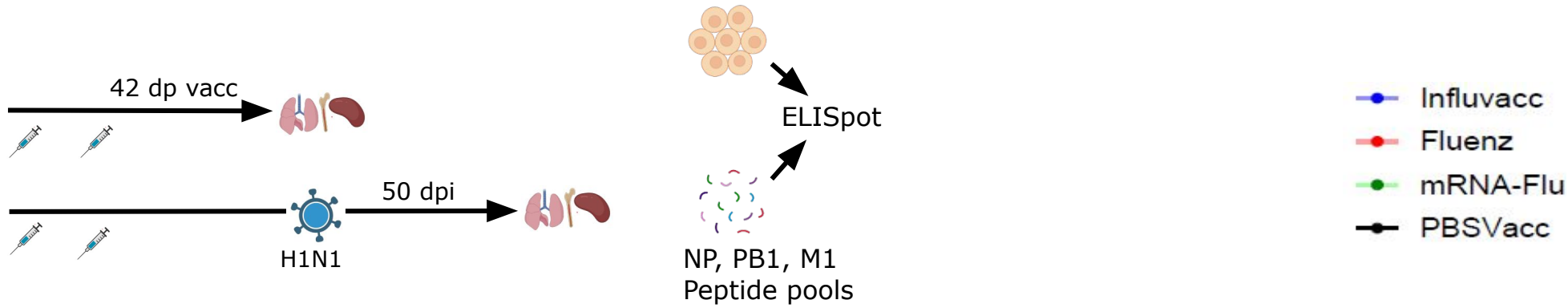


Universal Flu vaccine
mRNA-Flu, Van de Ven 2022



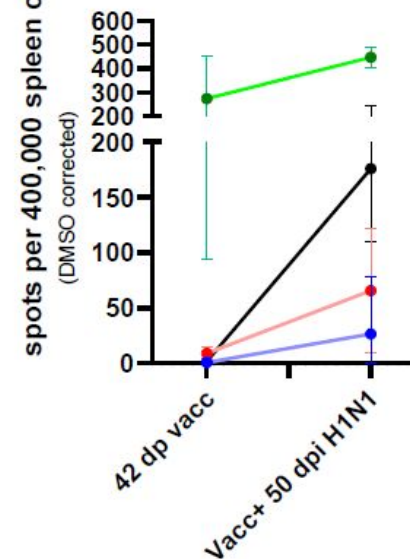


mRNA-Flu induces strong broad immunity

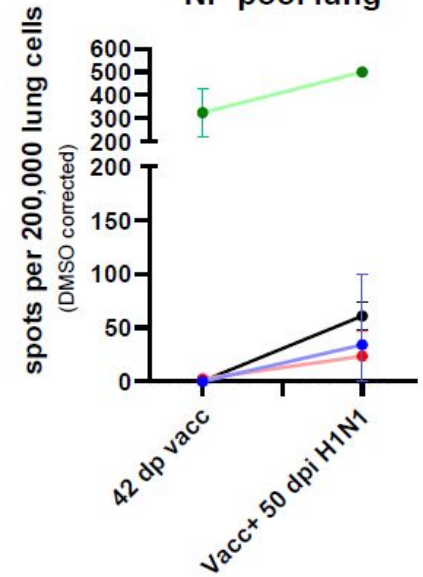


- mRNA-Flu induces strong NP response in spleen and lung post vaccination
- Unvaccinated mice demonstrate higher NP response post H1N1 infection compared to seasonal vaccines
- Similar patterns were observed for M1 and PB1

NP pool spleen



NP pool lung



Acknowledgments



RIVM IIV team

Floor Peters
Rik Ruijten
Lyan Damveld
Amadeo Munoz Garcia
Harry van Dijken
Emilie Reinen
Marjolein Stip
Joost Smit
Jørgen de Jonge
Martijn Vos

ARC

Angéla Gomersbach
Tanja Schouten

Childvacc advisory team

Jolanda Brummelman
Martijn van de Garde
Dr. Jose Ferreira (SIM)
Dr. Adam Meijer (IDS)

Extern:
Dr. Judith van den Brand(UU)
Dr. Hester de Melker (EPI)
Dr. Rianne van Gageldonk-Lafeber (EPI)
Prof. Guus Rimmelzwaan (TiHo Hannover)
Dr. Norbert Pardi (Upenn)

Funding:

Strategic Program RIVM (SPR)



Lets connect!