Platform technologies
Doing what we do, better

VETERINARY VACCINOLOGY NETWORK

- Shared resources, improved data capture
  - Biological material - tissue banks (NC3Rs…)
    - datasets (wildlife?)
    - additional data? DNAseq, metabolomics
    - value of the individual

    Access
    Awareness
  - Standardised protocols - BIG data, comparison
    - risk awareness (improve cross use)
  - Cost effective facilities – animals + pathogens
  - Adjuvants - bank of materials + knowledge (rules & rational use)
  - Linking mucosal immunology with oral vaccine delivery

Platform technologies
What can we lead in?

VETERINARY VACCINOLOGY NETWORK

- Specific tools - mass cytometry, next generation ‘omics
- Antigen expression platforms - adjuvant free, interchangable
  - synthetic biology
- Vaccine delivery – hardware
- Resources for analysis - what are we doing with the data?
  - ‘omics technologies (utility of PacBio…)
  - linking and informing

VETERINARY VACCINOLOGY NETWORK

Where can veterinary vaccinology have the biggest impact on the One Health Agenda?

- Definition of One Health – relates to perception of biggest impact (e.g.)
    - Tackling AMR by vaccination (example in Fish industry)
    - Understanding disease pathogenesis in natural host species
    - Rapidity of validating vaccine/adjuvant platform technologies
    - Impacts on the environment
    - Impacts on trade and food security
- Public engagement emphasising veterinary vaccinology and how it might lead to above impacts

VETERINARY VACCINOLOGY NETWORK

A new unknown veterinary pathogen has emerged, what would be your decision tree for developing a vaccine (or not)

1. Understand the Pathogen

2. Severity/Economic Impact/Zoonotic? Role of Government or Industry ?

3. Treatments- efficacious, cost OR Control strategies e.g. Cull, antibiotics

No

- Vaccine Development
- Feasibility of production (safety/cost)- Challenge Model
- Policy/regulation
- Commercial feasibility
- Ease of Delivery/Stability