

Platform technologies

Doing what we do, better

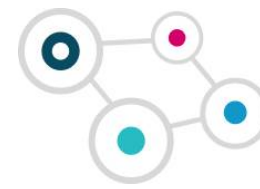


VETERINARY
VACCINOLOGY
NETWORK

- Shared resources, improved data capture
 - Biological material - tissue banks (NC3Rs...)
 - Access
 - datasets (wildlife?)
 - Awareness
 - additional data? DNAseq, metabolomics
 - value of the individual
 - 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, interchangeable
 - synthetic biology
- Vaccine delivery – hardware
- Resources for analysis- what are we doing with the data?
 - 'omics technologies (utility of PacBio...)
 - linking and informing



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



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