



Results of the 2015 Proficiency Testing Scheme

Anna B. Ludi¹, Ginette Wilsden¹, Lissie Henry¹, Valerie Mioulet¹, Britta Wood¹, Ashley Gray¹, Barsha Thapa, Bryony Armson¹, Julie Maryan, Sarah Belgrave¹, Donald P. King¹

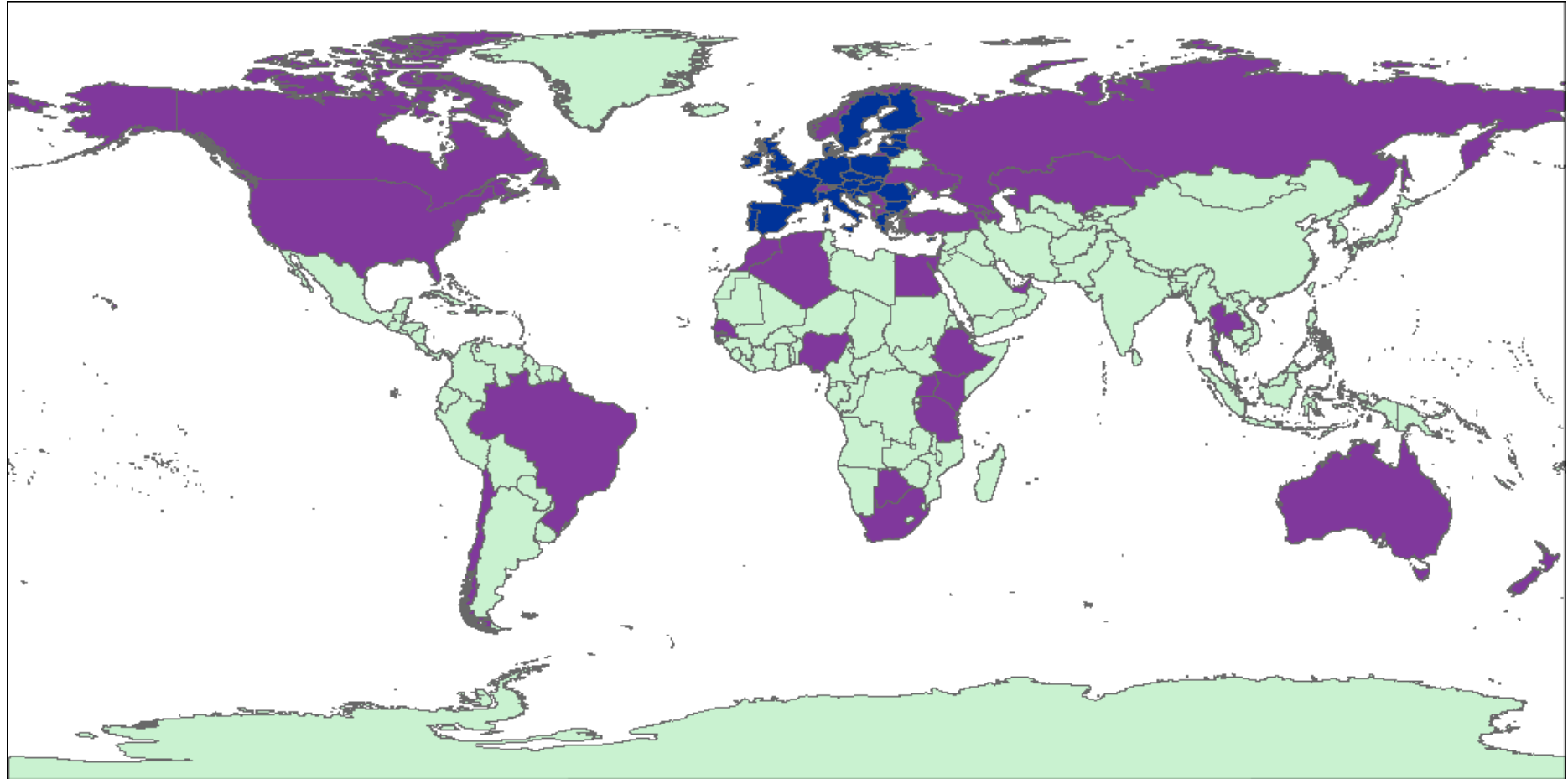


Purpose of Proficiency Testing Scheme (PTS)



- Ensure countries are able to identify FMD in their country
 - Achieved by feedback on PTS, training and consultation
- Harmonisation amongst reference laboratories
 - Achieved by presenting results on how reference laboratories compare, distribution of reagents and protocols

Participants



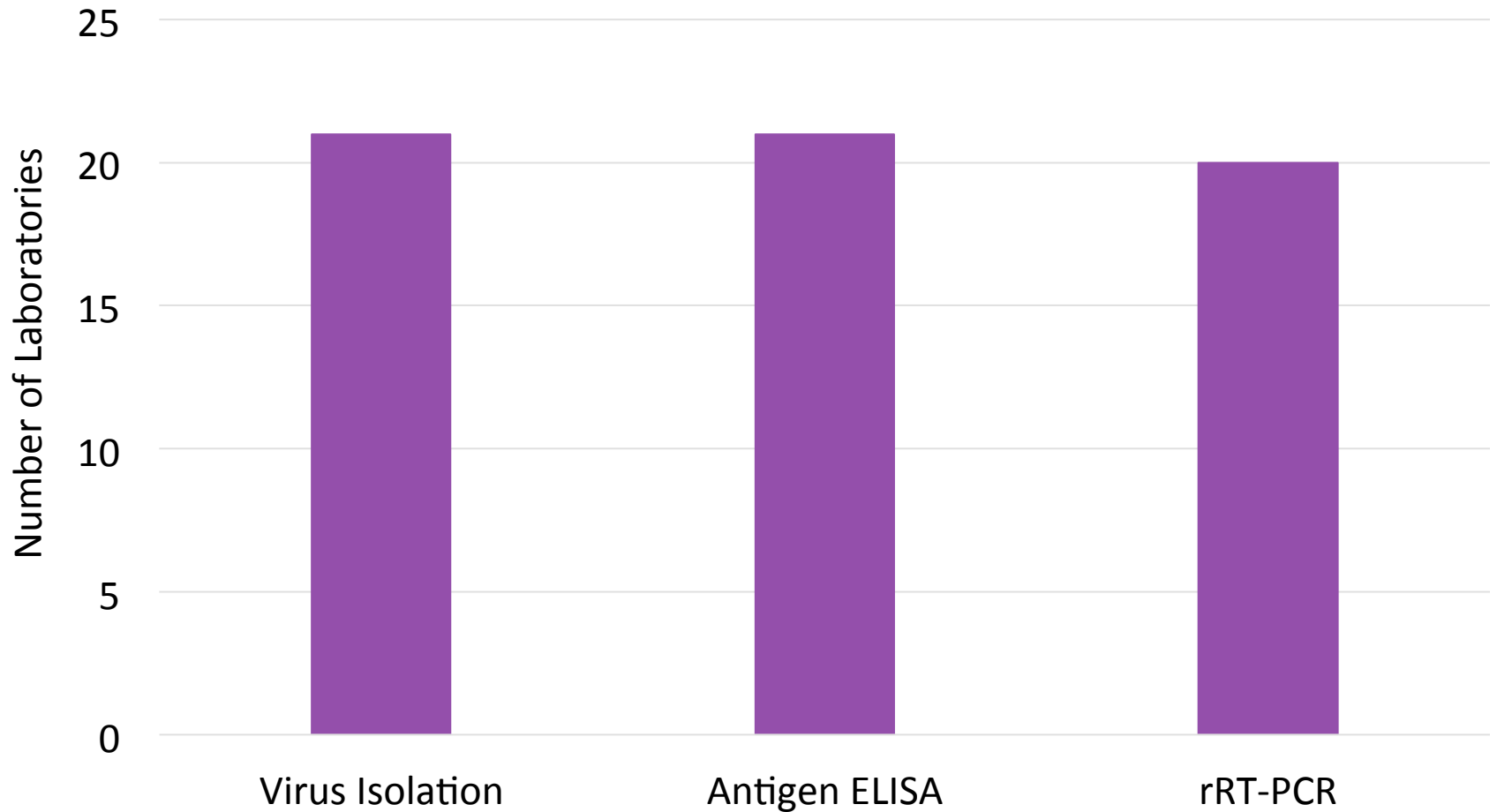
63 Countries Worldwide

Panels Distributed

- Panel 1 – Infectious material from one case of suspected vesicular disease for virus detection (epithelial samples)
- Panel 2 – Non-infectious material for virus genome/antigen detection
- Panel 3 – Non-infectious material for FMD serology non-structural and structural proteins

Panel 1 – laboratory tests used

n = 21





Panel 1 – Conclusion

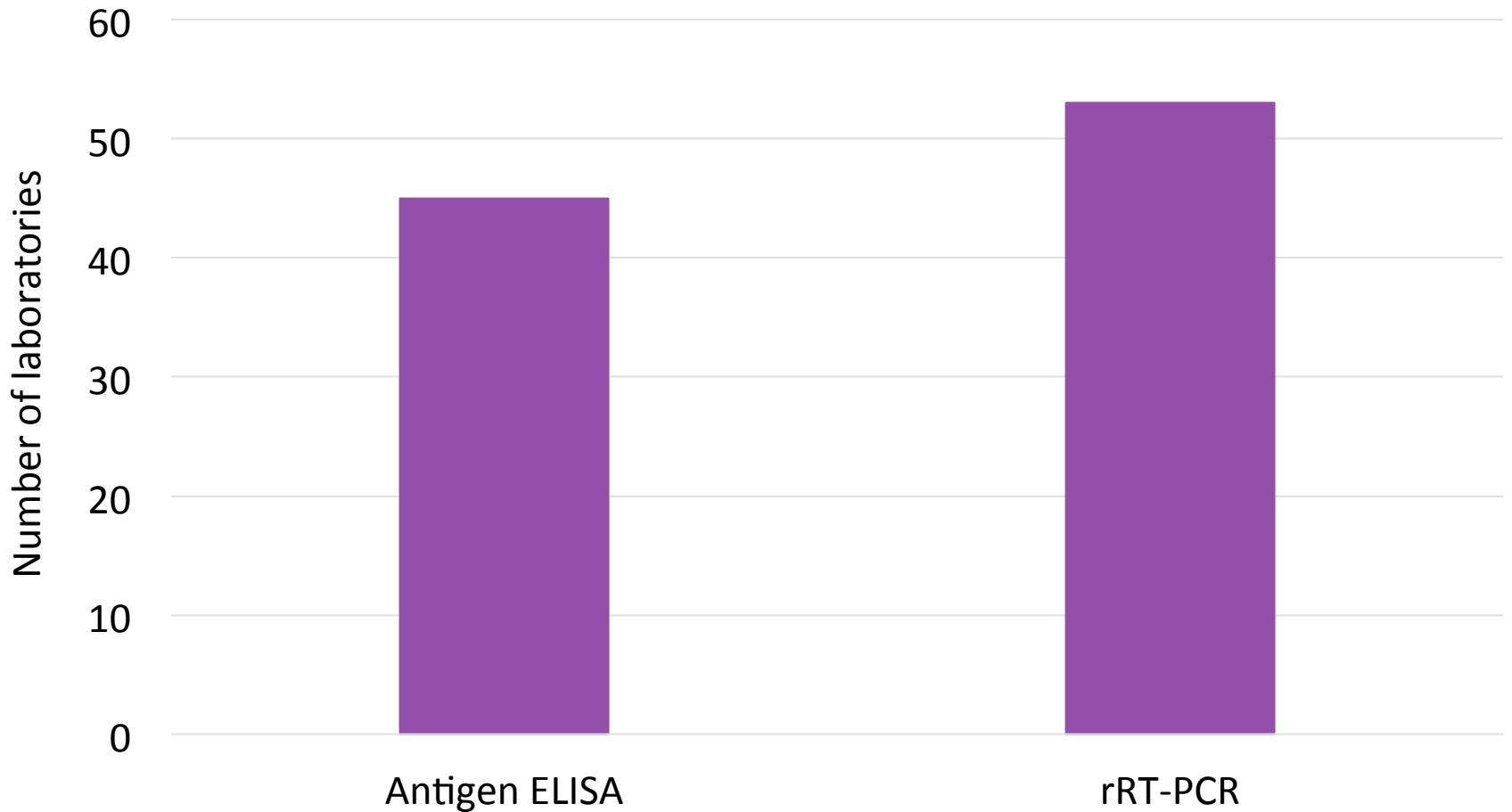
- Sample Identification – O/SEA/Mya-98, O/SKR/6/2014

- Interpretation
 - rRT-PCR – all samples correctly identified
 - Virus Isolation – One laboratory incorrectly identified two samples
 - Antigen ELISA – One laboratory incorrectly identified a sample

- Discussion
 - Cells used for virus isolation – IB-RS-2, lamb kidney, bovine kidney, swine kidney, SK-6, BTY, LFBK $\alpha V\beta 6$, BHK-21, ZZR-127

Panel 2 – laboratory tests used

n = 57





Panel 2 – Conclusion

○ Sample Identification

- SVD/ITL/8/2008
- Lineage - O/ME-SA/Ind-2001 O/SAU/1/2013
- Lineage – O/SEA/Mya-98 O/SKR/6/2014
- Lineage – A/Asia/Iran-05^{SIS-10} A/TUR/16/2014
- Lineage – Asia 1/Sind-08 Asia 1/TUR/2/2013
- Lineage – SAT 2/VII^{Alx-12} SAT 2/EGY/24/2014

○ Interpretation

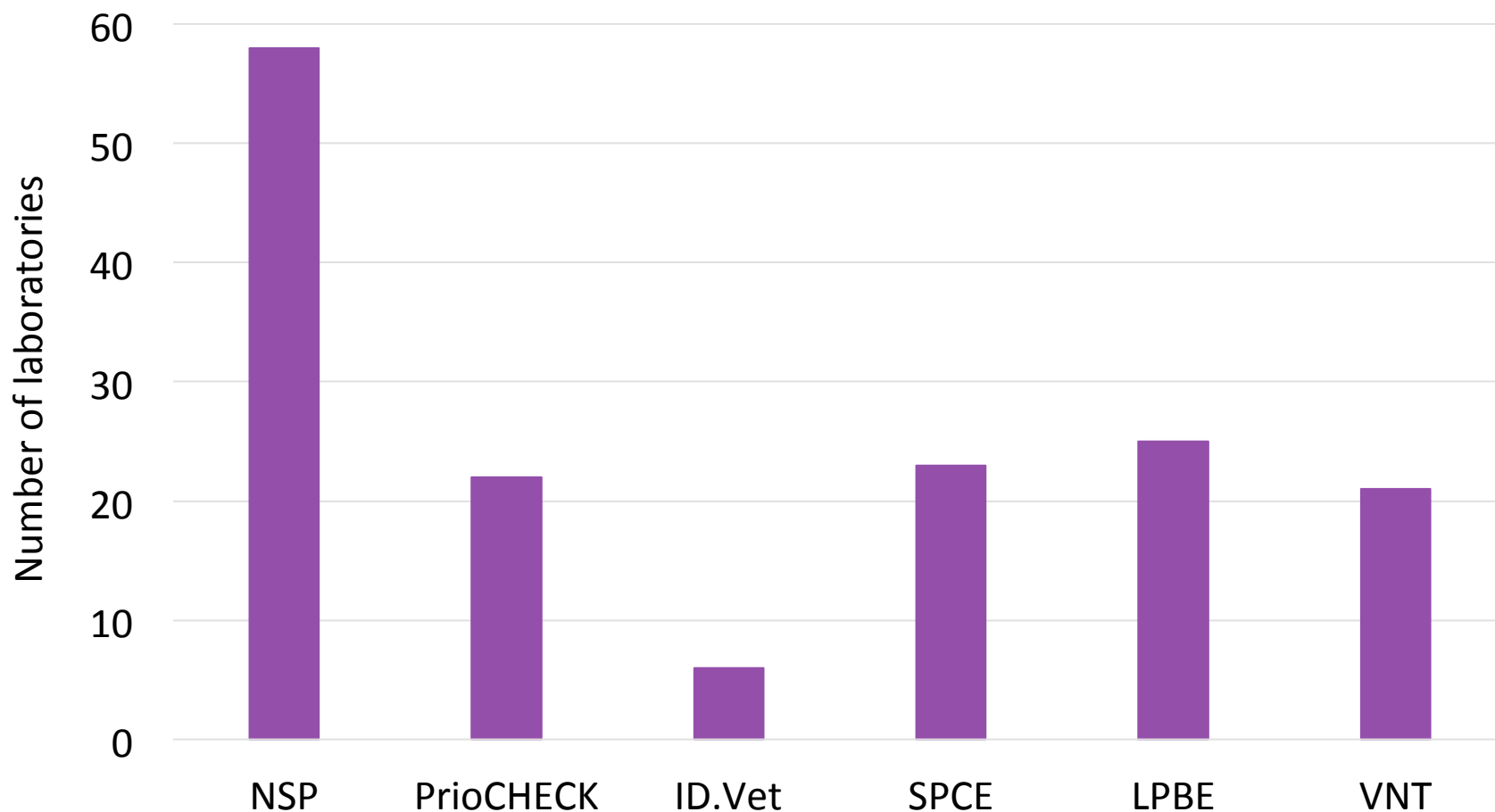
- Antigen Elisa – Sample 5 gave ambiguous results and sample 6 mistyped or was inconclusive in certain labs
- rRT-PCR – Very consistent among all laboratories, one laboratory required follow up

○ Discussion

- TPI antigen ELISA kits are no longer available. New kits are available through a partnership with IZSLER – please contact pirbright.kitorders@pirbright.ac.uk for more information.

Panel 3 – laboratory tests used

n = 58

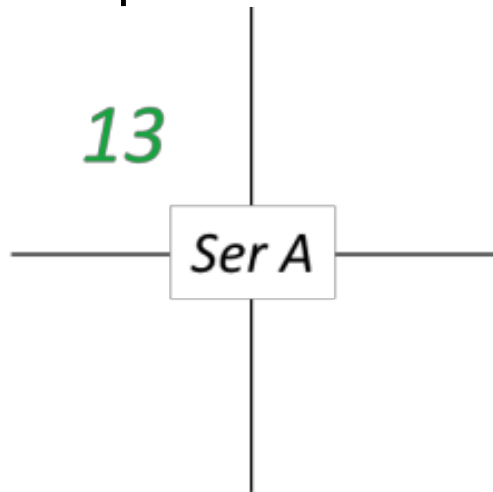




Panel 3 – Conclusion

- Difficulty in interpreting ELISA cross-reactivity, particularly LPBE

Sample 8



4 mistyped as As1 (1 lab no A system)
1 mistyped as O
2 mistyped as SAT 2 (1 lab no O system)
2 mistyped as SAT 3 (1 lab no A system)
2 positive - unknown serotype

Discussion

- Importance of knowing the limitation of the assays used
- How is it being used in the field? Is the serotype already known?

Changes to the 2016 PTS

Panel 1: Outbreak scenarios of vesicular diseases (FMD and/or SVD) (**infectious and non-infectious**)

- Use your national contingency plan or similar document to identify the appropriate tests and testing sequence. This exercise is primarily to evaluate your overall diagnostic procedure rather than individual test methods. Please use downstream characterisation methods, such as **sequencing** if they are part of your contingency plan.
- Example - Panel 1a - An owner has reported suspicion of foot and mouth disease, following a short history of severe lameness and milk drop in one dairy cow, and the development of blisters in the mouths of two calves that are kept nearby. The samples of the two calves have been sent to your laboratory for investigation.

- Panel 2: **Quality Assurance** FMDV samples to ensure recent strains are detected (non-infectious)

- This panel of viruses represents recent FMDV isolates that pose a current threat to the EU and elsewhere. The aim of the evaluation is to make sure these latest strains can be detected.

- Panel 3: Serological samples from an **outbreak scenario** in panel 1

- Example – Panel 3a – The outbreak in scenarios 1a and 1b have now been contained. Three sera were collected post vaccination. Please test them and comment as to whether the samples are from infected animals, and if not, whether there is any evidence of vaccine-induced immunity.

Acknowledgement

- World Reference Laboratory
- Central Service Unit
- Proficiency Testing Scheme Advisory Board



You for participating in the PTS and listening to this presentation