

Technical University of Denmark



Differentiating infection in vaccinated animals

Work Package 4.3 DIVA diagnostics

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Differentiating infection in vaccinated animals

Work Package 4.3 DIVA diagnostics

TASKS:

1. **Validation of DIVA diagnostics** ✓
2. **Development of confirmatory tests** ✓
3. **Implementation of DIVA diagnostics for existing vaccines** ✓
4. **Build networks to improve DIVA diagnostics** ✓



Serologic DIVA diagnostics:

BTV DIVA diagnostics:

- The first results obtained indicate that **BTV-inactivated vaccines** used in the field are not free of NS 2 and 3 proteins. A better purification of these vaccines is necessary to develop this kind of DIVA strategy.
- NS1 antibodies are not detected in vaccinated animals.

CSFV DIVA diagnostics:

- For the evaluation of **CSFV Antibody ELISAs** seven commercially available test kits from seven providers were tested in five CSF reference laboratories.
- New **expression systems** are being tried for production of antigens for serological tests.
- New detection systems for **multiplex assays** are analysed.
- New **chimeric pestivirus vaccines** are currently validated.

FMDV DIVA diagnostics:

- Existing ELISA for the detection of antibodies to **FMDV NSP test** (3ABC-trapping ELISA) has been optimized. This work led to the availability of a ready-to-use, stable kit, then usable also in poorly equipped laboratories.
- Confirmatory tests based on IgA in saliva are developed.

H5N1 DIVA diagnostics:

- An inter-laboratory evaluation of a **commercial DIVA kit** was performed. There was good specificity and fair sensitivity when tested by 8 EPIZONE partners.



Genetic CSFV DIVA diagnostics:

Animals vaccinated with live vaccines may become viremic. Several real-time RT-PCR methods have been published for differentiation of C-strains from Classical swine fever virus wild-types.

How was dissemination?

Three workshops on FMD NSP for stakeholders and authorities during 2007

Joint international publications on DIVA diagnostics and a review on DIVA diagnostics

National publications and presentations on DIVA diagnostics has improved awareness

National and EU funding for DIVA vaccines and diagnostics has been achieved



DIVA vaccines and diagnostics will improve the vaccinate-to-live strategy for domestic livestock as well as free ranging animals.

Safe trade of healthy, vaccinated animals.

