

EXPERTISE AND SERVICE PROVISION
QUALITY OF LABORATORIES

EXTERNAL QUALITY ASSESSMENT
IN VETERINARY DIAGNOSIS

DEFINITIVE GLOBAL REPORT

**Proficiency Testing in Veterinary Diagnosis
Infectious Bovine Rhinotracheitis (IBR)**

SURVEY 2021/2

Sciensano/PT VET IBR/2-E

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Bernard China 

All the reports are also available on our webpage:

https://www.wiv-isp.be/QML/activities/PT%20VET/fr/originaux/rapports_annee.htm
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Introduction

This survey was dedicated to the detection of antibodies specific to IBR virus in bovine milk using ELISA, gB and gE specific ELISA were evaluated.

The samples

The samples were prepared by the National Reference Laboratory, Enzootic, vector-borne and bee diseases, Infectious diseases in animals Directorate, Sciensano. The samples consisted in lyophilized milk samples. The samples must be reconstituted with 1 mL water and kept at room temperature until analysis.

1. gB Serology

Homogeneity

For gB ELISA, 10 different samples were used:

PT2021IBRgBSERPM1, PT2021IBRgBSERPM2, PT2021IBRgBSERPM3, PT2021IBRgBSERPM4, PT2021IBRgBSERPM5, PT2021IBRgBSERNM1, PT2021IBRgBSERNM2, PT2021IBRgBSERNM3, PT2021IBRgBSERNM4, PT2021IBRgBSERNM5.

The homogeneity of the samples were tested in triplicate using two different methods by the NRL before the survey. The samples were considered as homogeneous.

Target Values

The target value was determined by the NRL based on the homogeneity tests.

Sample	Target value
PT2021IBRgBSERPM1	POSITIVE
PT2021IBRgBSERPM2	POSITIVE
PT2021IBRgBSERPM3	POSITIVE
PT2021IBRgBSERPM4	POSITIVE
PT2021IBRgBSERPM5	POSITIVE
PT2021IBRgBSERNM1	NEGATIVE
PT2021IBRgBSERNM2	NEGATIVE
PT2021IBRgBSERNM3	NEGATIVE
PT2021IBRgBSERNM4	NEGATIVE
PT2021IBRgBSERNM5	NEGATIVE

Stability

The stability was determined by comparison of the pre-survey results with the results obtained by the NRL during and after the survey. The samples were considered as stable.

The participants

4 FASFC licensed laboratories participated to the IBR Virology survey: Sciensano, Lavetan, MCC Vlaanderen, Comité du lait

Randomisation and panel composition

Since a specific number has been assigned to each laboratory, the randomisation has been performed as follow:

Laboratory	97505	97509	97511	97512
Sample ID				
IBRgB21-1	PT2021IBRgBSERNM4	PT2021IBRgBSERPM1	PT2021IBRgBSERPM4	PT2021IBRgBSERNM1
IBRgB21-2	PT2021IBRgBSERNM5	PT2021IBRgBSERNM5	PT2021IBRgBSERPM3	PT2021IBRgBSERPM1
IBRgB21-3	PT2021IBRgBSERNM3	PT2021IBRgBSERNM2	PT2021IBRgBSERNM3	PT2021IBRgBSERNM5
IBRgB21-4	PT2021IBRgBSERNM1	PT2021IBRgBSERPM5	PT2021IBRgBSERNM2	PT2021IBRgBSERPM2
IBRgB21-5	PT2021IBRgBSERPM3	PT2021IBRgBSERNM1	PT2021IBRgBSERPM5	PT2021IBRgBSERNM4
IBRgB21-6	PT2021IBRgBSERPM1	PT2021IBRgBSERPM2	PT2021IBRgBSERPM1	PT2021IBRgBSERPM4
IBRgB21-7	PT2021IBRgBSERNM2	PT2021IBRgBSERPM4	PT2021IBRgBSERPM2	PT2021IBRgBSERNM3
IBRgB21-8	PT2021IBRgBSERPM5	PT2021IBRgBSERNM4	PT2021IBRgBSERNM1	PT2021IBRgBSERPM5
IBRgB21-9	PT2021IBRgBSERPM2	PT2021IBRgBSERPM3	PT2021IBRgBSERNM4	PT2021IBRgBSERNM2
IBRgB21-10	PT2021IBRgBSERPM4	PT2021IBRgBSERNM3	PT2021IBRgBSERNM5	PT2021IBRgBSERPM3

The panel was constituted of 10 samples of 1 mL.

2. gE serology

Homogeneity

10 different samples were used:

PT2021IBRgESERPM1, PT2021IBRgESERPM2, PT2021IBRgESERPM3, PT2021IBRgESERPM4, PT2021IBRgESERPM5, PT2021IBRgESERNM1, PT2021IBRgESERNM2, PT2021IBRgESERNM3, PT2021IBRgESERNM4, and PT2021IBRgESERNM5.

The homogeneity of the samples were tested in triplicate by the NRL. The samples were considered as homogeneous.

Target values

The target values were determined by the NRL using the homogeneity results.

Sample	Status
PT2021IBRgESERPM1	POSITIVE
PT2021IBRgESERPM2	POSITIVE
PT2021IBRgESERPM3	POSITIVE
PT2021IBRgESERPM4	POSITIVE
PT2021IBRgESERPM5	POSITIVE
PT2021IBRgESERNM1	NEGATIVE
PT2021IBRgESERNM2	NEGATIVE
PT2021IBRgESERNM3	NEGATIVE
PT2021IBRgESERNM4	NEGATIVE
PT2021IBRgESERNM5	NEGATIVE

Stability

The samples were tested before, during and after the survey. The results were compared and the samples were considered as stable.

The participants

6 laboratories participated to the IBR gE Serology survey, : Sciensano, Lavetan, MCC Vlaanderen, Comité du lait, LMVE (GD Lux.), LMVE (Luxemburg), IN3DIAGNOSTIC SRL (Italy).

Randomisation and panel composition

Since a specific number has been assigned to each laboratory, the randomisation has been performed as follow:

Lab	97505	97509	97511
Sample			
IBRgE21-1	PT2021IBRgESERPM2	PT2021IBRgESERPM4	PT2021IBRgESERPM4
IBRgE21-2	PT2021IBRgESERNM5	PT2021IBRgESERPM1	PT2021IBRgESERNM1
IBRgE21-3	PT2021IBRgESERNM3	PT2021IBRgESERNM2	PT2021IBRgESERPM5
IBRgE21-4	PT2021IBRgESERNM2	PT2021IBRgESERPM3	PT2021IBRgESERPM2
IBRgE21-5	PT2021IBRgESERPM4	PT2021IBRgESERNM3	PT2021IBRgESERNM5
IBRgE21-6	PT2021IBRgESERPM1	PT2021IBRgESERNM5	PT2021IBRgESERPM1
IBRgE21-7	PT2021IBRgESERPM5	PT2021IBRgESERPM5	PT2021IBRgESERNM2
IBRgE21-8	PT2021IBRgESERPM3	PT2021IBRgESERNM4	PT2021IBRgESERNM4
IBRgE21-9	PT2021IBRgESERNM1	PT2021IBRgESERPM2	PT2021IBRgESERNM3
IBRgE21-10	PT2021IBRgESERNM4	PT2021IBRgESERNM1	PT2021IBRgESERPM3
Lab	97512	97516	97533
Sample			
IBRgE21-1	PT2021IBRgESERNM3	PT2021IBRgESERPM3	PT2021IBRgESERNM3
IBRgE21-2	PT2021IBRgESERNM2	PT2021IBRgESERNM5	PT2021IBRgESERPM3
IBRgE21-3	PT2021IBRgESERNM4	PT2021IBRgESERPM1	PT2021IBRgESERPM2
IBRgE21-4	PT2021IBRgESERNM5	PT2021IBRgESERNM3	PT2021IBRgESERPM4
IBRgE21-5	PT2021IBRgESERPM3	PT2021IBRgESERPM4	PT2021IBRgESERPM5
IBRgE21-6	PT2021IBRgESERPM2	PT2021IBRgESERPM5	PT2021IBRgESERNM4
IBRgE21-7	PT2021IBRgESERPM1	PT2021IBRgESERNM2	PT2021IBRgESERPM1
IBRgE21-8	PT2021IBRgESERPM4	PT2021IBRgESERNM4	PT2021IBRgESERNM5
IBRgE21-9	PT2021IBRgESERNM1	PT2021IBRgESERNM1	PT2021IBRgESERNM1
IBRgE21-10	PT2021IBRgESERPM5	PT2021IBRgESERPM2	PT2021IBRgESERNM2

The IBRgE serology panel consisted of 10 milk samples of 1mL.

Survey Timeline

Transfer of the samples from NRL to QL: 23/03/2021

Randomization of the samples by QL: 25/03/2021

sending samples to participants: 29/03/2021. The samples were sent at room temperature.

Deadline for the results encoding: 12/04/2021

Preliminary report: 27/04/2021

Results

1.gB serology

1.1.Results per sample

The panel consisted of 65 positive and 5 negative samples.
4 laboratories encoded results giving 4 datasets (40 results).

Table R1. Results per sample

Sample	Expected result	Observed results
PT2021IBRgBSERPM1	POSITIVE	10 positive results
PT2021IBRgBSERPM2	POSITIVE	10 positive results
PT2021IBRgBSERPM3	POSITIVE	10 positive results
PT2021IBRgBSERPM4	POSITIVE	10 positive results
PT2021IBRgBSERPM5	POSITIVE	10 positive results
PT2021IBRgBSERNM1	NEGATIVE	10 negative results
PT2021IBRgBSERNM2	NEGATIVE	10 negative results
PT2021IBRgBSERNM3	NEGATIVE	10 negative results
PT2021IBRgBSERNM4	NEGATIVE	10 negative results
PT2021IBRgBSERNM5	NEGATIVE	10 negative results

100% of the encoded results were correct.

1.2.Used methods

Table R2. Results per method

Method	N
ID.VET - ID SCREEN® IBR MILK INDIRECT	1
Indical (Qiagen) - Cattletype BHV1 gB Ab milk	3
Total	4

1.3.Conclusion

All the participants gave correct results independently of the used method.

2. gE Serology

The Serology gE is used to determine the vaccine status of the animal. The panel consisted of 5 positive and 5 negative samples.

2.1. Results per sample

6 laboratories encoded results. Two laboratories encoded 2 datasets. 10 datasets were encoded.

Table R3. Result per sample

Sample	Status	Encoded results
PT2021IBRgESERPM1	POSITIVE	10 positive results
PT2021IBRgESERPM2	POSITIVE	10 positive results
PT2021IBRgESERPM3	POSITIVE	10 positive results
PT2021IBRgESERPM4	POSITIVE	9 positive results 1 negative result
PT2021IBRgESERPM5	POSITIVE	10 positive results
PT2021IBRgESERNM1	NEGATIVE	10 negative results
PT2021IBRgESERNM2	NEGATIVE	10 negative results
PT2021IBRgESERNM3	NEGATIVE	10 negative results
PT2021IBRgESERNM4	NEGATIVE	10 negative results
PT2021IBRgESERNM5	NEGATIVE	10 negative results

On the 60 encoded results, 59 (98.3%) were correct.

2.2. Used methods

All the participants used the same method: IN3 Diagnostic - Eradikit BoHV1 gE

2.3. Conclusion

5 participants encoded 100% of correct results and 1 laboratory encoded 9 correct results (90%) out of 10. Nevertheless, the participant with an incorrect result mentioned the following comment: "We strictly followed the instructions for lyophilized milk reconstitution, but all the samples were very difficult to resuspend. Even after two overnight incubation on stirrer, we finally obtained not homogenous solutions."

Annex : additional information

PRELIMINARY REPORT

The preliminary report of this survey is available on our website via the following link:

https://www.wiv-isp.be/QML/activities/PT%20VET/fr/originaux/rapports_annee.htm

The calendar for Proficiency Testing in Veterinary diagnosis is available on our website:

The link is:

https://www.wiv-isp.be/QML/activities/external_quality/calendar/calender_PT%20VET/fr/Calendrier_2021-PT%20VET.htm

END

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