WOAH Reference Laboratory Reports Activities 2022

Activities in 2022

This report has been submitted : 25 avril 2023 13:10

Laboratory Information

| Name of disease (or topic) for which you are a designated WOAH Reference Laboratory: | Japanese encephalitis |
|--|---|
| Address of laboratory: | Hyeoksin 8-ro 177, Gimcheon-si, Gyeongsangbuk-do, Republic of Korea |
| Tel.: | +82549120785 |
| E-mail address: | yangdk@korea.kr |
| Website: | |
| Name (including Title) of Head of Laboratory (Responsible Official): | Dong-Kun Yang |
| Name (including Title and Position) of WOAH Reference Expert: | Dr. Dong-Kun Yang (Research Officier) |
| Which of the following defines your laboratory? Check all that apply: | Governmental |

TOR1: DIAGNOSTIC METHODS

1. Did your laboratory perform diagnostic tests for the specified disease/topic for purposes such as disease diagnosis, screening of animals for export, surveillance, etc.? (Not for quality control, proficiency testing or staff training)

Yes

| Diagnostic Test | Indicated in WOAH Manual (Yes/No) | Total number of test performed last year | |
|---------------------------|---|--|-----------------|
| Indirect diagnostic tests | | Nationally | Internationally |
| Virus Neutralization test | Yes | 1346 | |
| Direct diagnostic tests | | Nationally | Internationally |

TOR2: REFERENCE MATERIAL

2. Did your laboratory produce or supply imported standard reference reagents officially recognised by WOAH?

No

3. Did your laboratory supply standard reference reagents (nonWOAH-approved) and/or other diagnostic reagents to WOAH Members?

| Yes | | | | | | |
|---|----------------------------|----------------------|--|--|--|--------------------------|
| TYPE OF REAGENT AVAILABLE | RELATED DIAGNOSTIC TEST | PRODUCED/ PROVIDE | AMOUNT SUPPLIED NATIONALLY (ML, MG) | AMOUNT SUPPLIED INTERNATIONALLY (ML, MG) | NO. OF RECIPIENT WOAH MEMBER COUNTRIES | COUNTRY OF RECIPIENTS |
| Positive and Negative serum samples | н | provide | 0 | 10 mL (1mL/tube) | 1 | Europe |
| blocking ELISA kit | ELISA | provide | 0 | 480 test/box | 1 | Asia and Pacific |

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOAH Members?

No

TOR3: NEW PROCEDURES

6. Did your laboratory develop new diagnostic methods for the designated pathogen or disease?

Yes

| NAME OF THE NEW TEST OR DIAGNOSTIC METHOD DEVELOPED | DESCRIPTION AND REFERENCES (PUBLICATION, WEBSITE, ETC.) |
|--|--|
| ELISA | "Novel Japanese Encephalitis virus and specific antibody against JEV, and uses thereof" patent application completed(2022.12.16.) |

7. Did your laboratory validate diagnostic methods according to WOAH Standards for the designated pathogen or disease?

No

8. Did your laboratory develop new vaccines for the designated pathogen or disease?

No

9. Did your laboratory validate vaccines according to WOAH Standards for the designated pathogen or disease?

No

TOR4: DIAGNOSTIC TESTING FACILITIES

10. Did your laboratory carry out diagnostic testing for other WOAH Members?

No

11. Did your laboratory provide expert advice in technical consultancies on the request of an WOAH Member?

Yes

| NAME OF THE WOAH MEMBER COUNTRY RECEIVING A TECHNICAL CONSULTANCY | PURPOSE | HOW THE ADVICE WAS PROVIDED |
|--|--|--|
| AUSTRALIA | to prevent JEV infection in Australia | 1) with E-mail 2) interview with Australian counselor |

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

12. Did your laboratory participate in international scientific studies in collaboration with WOAH Members other than the own?

TOR6: EPIZOOLOGICAL DATA

14. Did your Laboratory collect epidemiological data relevant to international disease control?

Yes

IF THE ANSWER IS YES, PLEASE PROVIDE DETAILS OF THE DATA COLLECTED:

To control Japanese Encephalitis, the seroprevalence of horses was carried out every year in South Korea. In 2022, we conducted VN test on 1346 horses sera collected from 16 cities. Considered that most domestic horses housed for racing were regularly immunized with JEV vaccine, the overall positive rate (86.1%, 1159 of 1346) was likely to affected by vaccination.

15. Did your laboratory disseminate epidemiological data that had been processed and analysed?

No

16. What method of dissemination of information is most often used by your laboratory? (Indicate in the appropriate box the number by category and list the details in the box)

a) Articles published in peer-reviewed journals:

1

Antiviral effect of 18mer peptide (1b-4/21-C12) on Japanese encephalitis virus and Akabane virus. Korean J Vet Res. 2022. 62(3)e19.

b) International conferences:

- 0
- -

c) National conferences:

4

1) Japanese encephalitis virus(JEV) infection, diagnosis and control in animals(Korean Society for zoonoses)

2) Antiviral effects of a 18-mer peptide on Japanese encephalitis virus, and Akabane in vitro (The Korean Society of Veterinary Science)

3) Let's prepare for Japanese encephalitis emergency with smart research (KCDC)

4) Strategies for developing rabies and Japanese encephalitis vaccines in animals (Konkun University)

d) Other (Provide website address or link to appropriate information):

0

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOAH Members?

Yes

- a) Technical visit : 0
- b) Seminars : 1
- c) Hands-on training courses: 0

d) Internships (>1 month) 0

| Type of technical training provided (a, b, c or d) | Country of origin of the expert(s) provided with training | No. participants from the corresponding country |
|---|--|--|
| b | Malaysia | 2 |
| b | Viet Nam | 2 |
| b | Kazakhstan | 5 |
| b | Philippines | 10 |
| b | Sri Lanka | 4 |

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

| Quality management system adopted | Certificate scan (PDF, JPG, PNG format) | |
|-----------------------------------|---|--|
| ISO 17025 | jpg | 2020.10.20 ISO17025 certificate (YangDK).jpg |

19. Is your quality management system accredited?

Yes

| Test for which your laboratory is accredited | Accreditation body |
|--|--------------------|
| VN test | KOLAS |
| HI test | KOLAS |

20. Does your laboratory maintain a "biorisk management system" for the pathogen and the disease concerned?

Yes

According to the KOLAS, the biorisk were managed in APQA.

TOR9: SCIENTIFIC MEETINGS

21. Did your laboratory organise scientific meetings related to the pathogen in question on behalf of WOAH?

No

22. Did your laboratory participate in scientific meetings related to the pathogen in question on behalf of WOAH?

No

TOR10: NETWORK WITH WOAH REFERENCE LABORATORIES

23. Did your laboratory exchange information with other WOAH Reference Laboratories designated for the same pathogen or disease?

Not applicable (only WOAH Reference Laboratory designated for the disease

24. Are you a member of a network of WOAH Reference Laboratories designated for the same pathogen?

Not applicable (Only WOAH Reference Laboratory designated for the disease)

25. Did you organise or participate in inter-laboratory proficiency tests with WOAH Reference Laboratories designated for the same pathogen?

Not applicable (Only WOAH Reference Laboratory designated for the disease)

26. Did your laboratory collaborate with other WOAH Reference Laboratories for the same disease on scientific research projects for the diagnosis or control of the pathogen of interest?

Not applicable (Only WOAH Reference Laboratory designated for the disease)

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOAH Reference Laboratories for the same pathogen?

No

TOR12: EXPERT CONSULTANTS

28. Did your laboratory place expert consultants at the disposal of WOAH?

No

29. Additional comments regarding your report:

Yes

In 2022, it was difficult to visit and invite personnel from WOAH member countries due to the continuous situation of COVID-19. Instead, the reference labs in APQA provided web-semiar to WOAH member countries. In addition, when it comes to JEV vaccine, 5 biologic companies in South Korea have been produced JEV vaccine and supplied them to pig farms. Also my lab has been working on JEV vaccine related research project since January 2022. Therefore, it is expected that new JEV and Getah combination vaccine for animals will be developed at the end of 2023.