

(Abroad • Domestic) Internship report form (Student)

2015.07.01 (Year/Month/Day)

Name	Delgermurun Dugar
Laboratory	Pharmacology
Year (Grade)	3 <sup>th</sup> year
Internship institution	Department of Internal Medicine and Pharmacology, School of Veterinary Medicine, Mongolian University of Life Sciences (MULS)
Internship period	Internship period: 01/06/2015 - 15/06/2015 (Departure Date from Sapporo: 30/05/2015, Arrival Date in Sapporo: 18/06/2015)
Purpose	Goal of my internship abroad course is to prepare an educational and research environment at MULS to facilitate my future works in Mongolia.

This report should be submitted within 2 weeks after you return to Japan.

- The reason why you chose this institute

After graduation, I am going to work at MULS. Then I make up my mind to endeavor the improvement of veterinary education as a counterpart of JICA Project for Strengthening the Capacity for Human Resource Development in the Field of Veterinary and Animal Husbandry. I am going to take charge of the education and research of heavy metal measurement in environment and animal products, etc. For this purpose, I need to facilitate the academic education and research at MULS by utilizing an atomic absorption spectrophotometer (AAS) which has been introduced by JICA.

- Result of the activity (about 800 words, provide photos, tables and figures that clearly show the activities during the period)

I worked at School of Veterinary Medicine, Mongolian University of Life Sciences (MULS) for 2 weeks under the internship abroad course. During this internship, I did following works according to the program.

### 1. To learn how to operate the AAS

Recently, environmental poisoning in Mongolia is one of the big problems; for example, air pollution, heavy metal poisoning, and plant poisoning, adversely affect health of humans and animals. Therefore, MULS plans to study environmental contamination, especially heavy metals poisoning in Mongolia. For this issue, I prepared research environment at MULS under the internship abroad course. Cadmium (Cd) is a naturally occurring heavy metal that is also emitted as a part of industrial pollution. I tested standard solution of Cd by AAS and constructed standard curve of Cd (Fig 1). I also tested Cd standard 7 days after preparation of solution and obtained highly reproducible results (Fig 2).

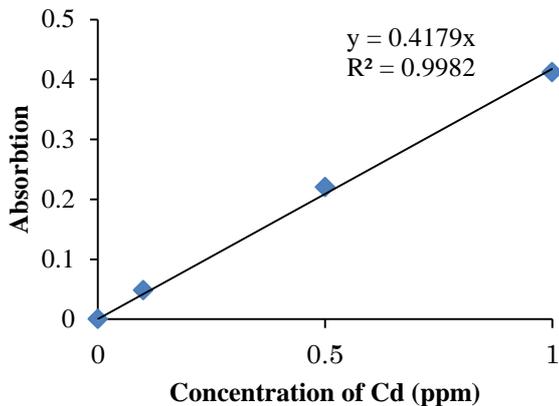


Fig 1. Standard calibration curve of Cadmium (Cd)  
(Immediately after preparation of sample)

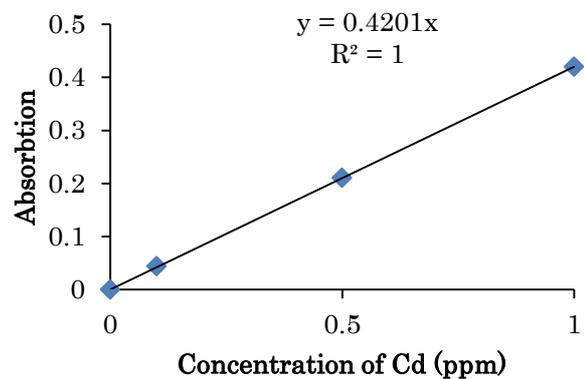


Fig 2. Standard calibration curve of Cadmium (Cd)  
(Seven days after preparation of sample)

## 2. Meeting

We organized a meeting about Mongolian environmental contamination, its research process and our future work of this study. This meeting was one of the aim of my internship abroad course to prepare an educational and research environments of MULS.

Participants:

G. Lkhamjav, Professor, Department of Internal Medicine and Pharmacology, School of Veterinary Medicine, Mongolian University of Life Sciences (MULS)

P. Bolormaa, Professor, Department of Internal Medicine and Pharmacology, School of Veterinary Medicine, Mongolian University of Life Sciences (MULS)

Shigeo Ito (JICA expert), emeritus Professor, laboratory of Pharmacology, Department of Biomedical Sciences, Hokkaido University

S. Ganzorig, Project advisor, Project for strengthening the capacity for human resource development in the field of veterinary and animal husbandry (VEP), JICA.

B. Batzorig, Veterinarian, Head of Department for Environment Induced Animal Disease Diagnosis and Surveillance, State Central Veterinary Laboratory of Mongolia

D. Uranchimeg, Veterinarian, Head of Department for Environment Induced Animal Disease Diagnosis and Surveillance, State Central Veterinary Laboratory of Mongolia

D. Delgermurun, Ph.D student, laboratory of Pharmacology, Department of Biomedical Sciences, Hokkaido University

In this meeting, we have decided near future plans as follows.

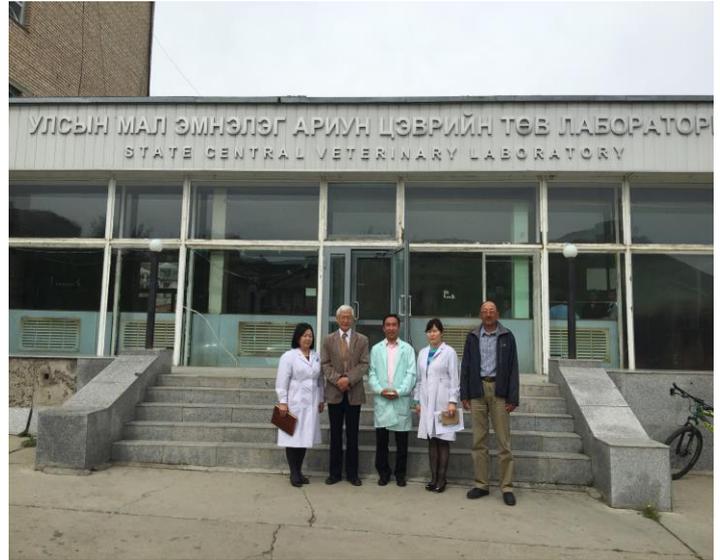
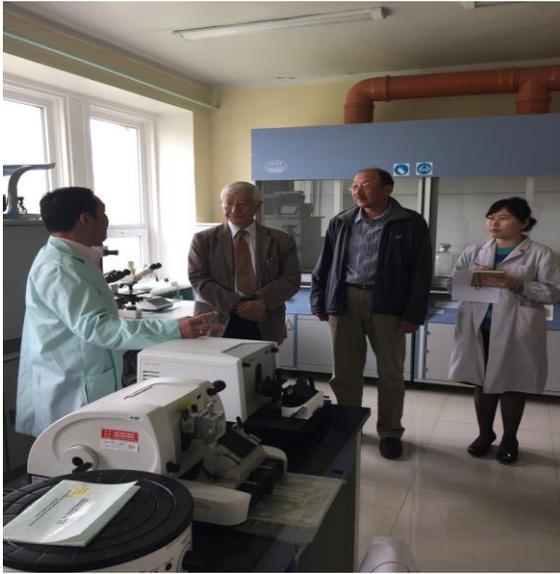
1. We will develop the research field of environmental contamination. To address this issue, the researchers at School of Veterinary Medicine, MULS will cooperate with researchers at Head of Department for Environment Induced Animal Disease Diagnosis and Surveillance, State Central Veterinary Laboratory of Mongolia and Head of Department for Environment Induced Animal Disease Diagnosis and Surveillance, State Central Veterinary Laboratory of Mongolia, and JICA project.
2. We will establish the system of measurement for heavy metals in animal products, soil, water and plant. In School of Veterinary Medicine, MULS, the atomic absorption spectrophotometer (AAS) that we now have can measure heavy metals in soil and water but not in the biological samples, therefore we have plan to get some additional equipment for this study.
3. We need to educate and train researchers for this study.
4. We also need to strengthen the cooperation of MULS with Research institutions to study the environmental poisoning in Mongolia.



Meeting at MULS

### **3. Visit to State Central Veterinary Laboratory**

I visited to the laboratory of the natural environment cause disease diagnosis and monitoring section, State Central Veterinary Laboratory in Mongolia with Professor Shigeo Ito.



State Central Veterinary Laboratory

#### 4. Lectures for students at MULS

Professor Shigeo Ito (JICA expert) gave lectures to students of School of Veterinary Medicine, MULS twice. I spend with Professor Shigeo Ito and translated the lectures from English to Mongolia. This work was one of the aim of my internship abroad course to improve educational environments at MULS .



- What do you think the impact of the activity will have on your further research, student life and career path?

- My knowledge about heavy metal poisoning in Mongolian environment have been improved, and I have learned some methods of examination of heavy metals in samples by using an atomic absorption spectrophotometer (AAS). This activity became the basis of my future study.

- I am going to work at MULS after graduation. Therefore, this activity of internship course is directly connected to my future career. Improvement of my scientific skills and establishment a relationship with the stuffs at MULS and JICA have produced quite positive impact for my further career path.

- Advice for your junior fellows

Approval of supervisor	Institution • Official title • Name Hokkaido University, Associate Professor, Ken-ichi Otsuguro 印
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- ※1 Send the electronic file to the Leading School section, International Affairs Office, also submit the original print out with seal of supervisor to the Leading School section, International Affairs Office.
- ※2 Attach a copy certificate of the content of internship activity that is prepared by the counterpart at the internship institution (any form with a signature of the counterpart).
- ※3 The Steering Committee of the Leading Program will first confirm the content of this report and report will be forwarded to the Educational Affairs Committee for credits evaluation.

Submit to : Leading School section, International Affairs Office

Ext: 9545 e-mail: leading@vetmed.hokudai.ac.jp