AbroadOfficial trip report form (Student) Submission date: 2014/08/11

Name,	**Zhifu Shan**
Laboratory,	Laboratory of Veterinary Hygiene
Year (Grade)	DC2
Destination	Asia Pacific Prion Symposium (APPS) 2014. The venue of this year is at International Convention Center, Jeju Island, Korea.
Period of trip	2014/07/05-2014/07/08
Purpose of trip	Attending the APPS2014 and making a poster presentation on my research.

Summary of activities

Asia Pacific Prion Symposium (APPS), formerly the Prion Symposium，was established in 2011, which aims to be a platform for prion and prion disease researches in the Asian Pacific region, facilitating the international exchange of information. Every year, APPS has nearly 100-120 participants from Japan, Korea, China and Austrilia, as well as some invited speakers all over the world.

This year, APPS 2014 was organized by Hallym University, supported by National Research Foundation of Korea andheld at International Convention Center inJeju (Fig1 & 2). The conference included special lectures, sessions on hot topic, and oral presentation from 10 selected posters that was presented during the two days. Various aspects of prion research were discussed including pathogenesis, diagnosis, clinical issues and many other topics.

In this APPS 2014, I made a poster presentation -High throughput detection of PrP^{Sc} from prion-infected cells without PK treatment: cell-based ELISA for novel screening method for anti-prion compounds (Fig 3). During the poster session, I explained my study to researchers who are interested in my poster, some of them asked questions. For instance, one of the researchers asked how much percentage of proteinase K sensitive PrP^{Sc} can be detected in my experiment. I did not analyze the amount of proteinase K-sensitive and resistant PrP^{Sc} that can be detected by cell-based ELISA, but I was attemping to resolve this question if proteinase K-sensitive PrP^{Sc} is detected by cell-based ELISA using mAb 132. So I explained him that I was struggling to confirm the detection of proteinase K-sensitive PrP^{Sc} but I had not obtained good results to date. At the moment, the biggest problem is that many cells were disappeared after proteinase K treatment. One of the ways to solve this problem is to use a harder fixation condition.

However, it may reduce the sensitivity of PrP^{Sc} detection by mAb 132 because stronger fixation is expected to affect the following denaturation step by GdnSCN to expose epitope for mAb 132 on PrP^{Sc}. So I am trying to find an optimum condition for the fixation and following denature treatment. I also read some other posters in different prion-studying field and talked with their authors. For example, one author explained me the biological characteristic of two PrP^{Sc}-specific monoclonal antibodies-mAb 6A12 and 8D5 that recognized N-terminal region of PrP andcross-reacted with PrP^{Sc} from various animal species and prion strains, but they cannot reduce PrP^{Sc} levels or neutralize prion infectivity. After hearing this, I throught although N-terminal structure of PrP^{Sc} may not associate to prion infectivity, it is still a possible region for specific detection.

Prion experts from around the world shared their current cutting-edge works to all the people in Special Lectures and Hot topics. For instance, Professor Mabbott talked about the influence of aging and inflammation on oral prion disease pathogenesis, professor Ma showed his results including the roles of cofactors in forming an infectious prion, the relationship between in vitro self-perpetuating PrP conformation and in vivo prion infectivity, and whether synthetically generated prions are able to replicate in peripheral lymphoid tissues and cause prion disease in wild-type mice via intraperitoneal route. All the presentations are on different fields of prion, and they produced a more open view for me to understand of prion.

There are ten Oral Presentations from young researchers in this APPS 2014. After listening, not only I got information from their studies but also learned the skills of making English presentation. I felt that making an intelligible slide with logical thinking and confident explaination for results, are essential for a good presentation, and I will pay attention to these sections for my future presentation preparation.

During APPS 2014, I got more information on other prion studying field, for example, the medical care in humans in Asian Pacific region. Moreover, I believe this symposium deepen my understanding and broaden my view for prion studying.

Finally, this trip of APPS 2014 was meaningful for me to think deeply and broadly about prion. I really thanks for Professor Horiuchi to give me this

precious opportunity, thanks for LP officers for my trip, I also thank all members of the APPS 2014 officers for the warm hospitality.

Fig 1. International Convention Center inJeju

Fig 2. Lecture room for APPS 2014

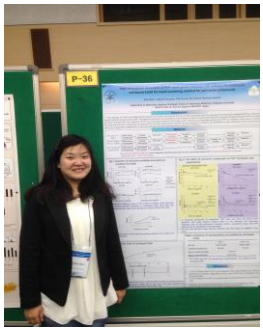

Fig3. My poster presentation

Approval of supervisor	Institution・Official title・Name: 印

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