# 【LGS Report: Oversea Training 2018 （La Jolla, San Diego, USA）】

| | |
|---|---|
| Date | August 28 – September 2, 2018 |
| Name | Yuriko Yamazaki |

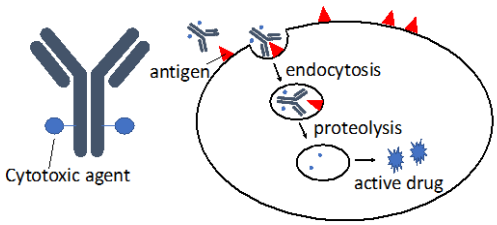

【Summary】

As an oversea training of LGS, we visited San Diego, one of the most famous places for academia and biotech companies in the world. On the first day, we visited Kyowa Kirin pharmaceutical Research (KKR), which is a sub branch of Kyowa Hakko Kirin currently focusing on developing biologic drugs. This company has a great advantage for creating new therapeutic biologics by having interactive connection with La Jolla Institute for Allergy and Immunology that shares the same building with KKR and we learned the ideal model of academic-industrial collaboration. On the second day, we visited BioLegend, which is the leading global company famous for fine qualified antibodies for the basic science. We met the CEO and employees, and learned the company's challenging spirit to always improve themselves to the top level. At the University of California at San Diego (UCSD) school of medicine, we were given a brief review of various fields of medical research which they are engaged in, and inspired by highly equipped facilities and passionate faculty members. We realized how UCSD has become such excellent university within short period. On the last day, we went to Tanabe Research laboratories and learned their current business model focusing on antibody drug conjugate and bispecific antibody approaches. Through them we knew the strength of relatively small size of company that enables quick decision-making, specialization and interactive communication among employees and managers. This trip became the best opportunity for us to know the latest technology in medical research and to broaden our carrier plan from academia to biotech companies.


At Tanabe research laboratories

【Important content】

At Tanabe research laboratories, we learned about antibody drug conjugate (ADC). In developing ADC, a cytotoxic agent is conjugated with antibody which specifically targets an antigen on the surface of cancer cells. After attaching to the cancer surface, the ADC is internalized into cell by endocytosis and the drug is cleaved by lysosome to be active form. A challenging point of developing ADC is to find an ideal antigen that is specifically expressed on cancer cells. This system has dramatic difference from the current cancer chemotherapy which in general targets all the host cells and thus serious side effects are inevitable. We learned this ADC is a potential drug for future targeted therapy for cancer.




ADC

【Development of your research activities】

Through this training, I again realized this is the era of biologics. All the pharmaceutical companies we visited focus on biologics and it is expected to be future standard medicine since they are safer and more efficient than current small molecule drugs in general. I think the knowledge of pathophysiology is increasing in importance, as it is crucial to know the target of biologics.

My research is associated with immune system on atopic dermatitis and the ultimate goal is to reveal the mechanism of this disease. Through this program, I learned the latest pharmaceutical technologies and knew how the basic medicine is applied to practical therapy. This lesson was significant for me to review the goal of my research and how I should apply the outcome of research to .the clinical knowledge.