1. **No.**

   FP01812195

2. **Title**

   Investigation of the Effect of Smoking on the Sensitivity/Resistance to Infectious Diseases

3. **Period**

   2017-2018

4. **Summary**

   Smoking crucially affects human body and can be the triggers of several disorders such as respiratory diseases. Additionally, it has been recently revealed that smoking is closely associated with human homeostasis including intestinal flora and potently causes dysbiosis. Dysbiosis and can break the immno-homeostasis leading to affect the sensitivity/resistance to infectious diseases. However, the effect of the dysbiosis caused by smoking on the sensitivity and resistance to infectious diseases is unrevealed.

   Here we used HIV-infected humanized mouse as a model of chronic infectious disease and investigated intestinal flora by 16S rRNA sequencing. Through the bioinformatics analyses of the 16S rRNA sequence data, we revealed that the family Enterobacteriaceae is predominant in the intestinal flora of HIV-infected humanized mice. As our findings correspond to the previous observations in HIV-infected individuals, these results suggest that our experimental system using humanized mice and HIV is an ideal platform to investigate the effect of human-specific pathogenic virus infection on intestinal flora leading to dysbiosis. By using this platform, we will investigate the effect of smoking on the sensitivity/resistance to virus infection which is closely associated with intestinal flora and vice versa.