1. **No.**

   FP01812182

2. **Title**

   Effects of nicotine upon chronic inflammation in the progression of kidney diseases.

3. **Period**

   2016-2018

4. **Summary**

Smoking provides pleiotropic effects on inflammation. The study using clinical samples from the patients with kidney diseases revealed that MRP8 monomer appeared only in the urine of CKD patients but not in the serum nor in the urine of healthy subjects, which distributed in a certain pI. High-resolution LC-MS/MS determined MRP8 as a most redundant protein in a monomer spot cut out from the 2D-PAGE. We are now investigating the most suitable condition purifying the enough amount of protein to determine the modification. Further study will be warranted to examine the role of MRP8 modification associated with smoking. In the latter half period, the effects of nicotine on local glomerular inflammation in diabetic nephropathy were examined. Exosomes extracted from mesangial cell-cultured medium under high-glucose condition effectively induced NFκB activation in a dose-dependent manner. Nicotine ameliorated the inflammation induced by exosomes in macrophages through the inhibition of uptake of exosomes in macrophages, at least partly. It might be helpful to develop novel strategy against the pathogenesis of chronic inflammation.