1. **No.**

   FP01812204

2. **Title**

   Development of biosensor for detecting structural chage of nicotine acetylcholine receptor associated with drug binding

3. **Period**

   2017-2019

4. **Summary**

   The authors aimed to develop a biosensor that detects the structural change of the protein due to the binding of the ligand by introducing an environment-responsive fluorescent substance into nAChR. In order to introduce a fluorescent substance using the modular method for the affinity labeling (MoAL method) developed in our laboratory, we have synthesized various ligand catalysts with hexamethonium and decametonium that bind to nAChR. We labeled nAChR using these ligand catalysts and clarified the following: (1) the labeling progressed with these ligand catalysts in high yields, (2) from the results of inhibition experiments and control experiments, the labeling proceeds via specific binding between the ligand and nAChR, (3) this reaction proceeds in a time-dependen.